An Address

ON

ACIDITY.

Delivered before the Reading Pathological Society

BY JAMES F. GOODHART, M.D. ABERD., LL.D.,

CONSULTING PHYSICIAN TO GUY'S HOSPITAL.

GENTLEMEN,—After thinking over many subjects upon which I might address you I at last decided to take up the—shall I say hackneyed?—subject of acidity. I have chosen it with some reluctance because I have on other occasions and in other places introduced it into addresses although not in the dominant way which I propose to myself on the present occasion. But I do not find that the opinions which I shall advance (they are not mine only or originally) are as yet, at any rate, generally accepted, and *yet I believe them* to be true. Everyone who holds a pronounced opinion of any kind is always sure that he is right and that everyone else is wrong, and I should not be surprised if a majority of my hearers this evening stood in this relation to me of "everyone else" This, at any rate, may serve to rouse your interest.

Now there are several kinds of acidity. I may say that I am going to treat my subject from an entirely clinical standpoint. The complaint, for example, is often made that this or that individual has such an acid taste in the mouth; another lot of complainants will tell you that they cannot take anything acid; another group will assert that such-and-such articles of food, maybe even common articles of diet, will turn *acid*. As to these perverted tastes or sensations I am really not able to give you any information as to their cause, nor can you, I expect, do any better for me, for although both patient and practitioner are too often satisfied with ascribing such a state of things to the *liver* I am not clear that such an ascription helps one much, and still less so that it is *correct* But if *you suffer from acidity*, it practically means for all of us that it is uric acidity, and it is of uric acidity alone that I intend to speak to-day. I will begin by giving you the notes of a case that I was able to observe under unusually favourable circumstances, for the patient was much interested in his multitudinous symptoms and active-minded enough to record them intelligently.

A man between 50 and 60 years of age, apparently in excellent health, a hard worker, and a most abstemious liver—for he drank nothing alcoholic and lived largely on milk foods, of which he had always been fond and digested excellently—was taken suddenly, perhaps after exposure to the poison of influenza, with a general tenderness of some bad teeth, which chopped about in a most erratic way, being now in this tooth and now in that, the affection leaving one point completely when another was attacked. Within a day or two he was awakened suddenly in the night with a feeling of extreme distension under the diaphragm; there was no pain, but the distension was so great that he felt as if he must burst and his breathing was hampered. The attack passed off within a few minutes and he went to sleep, not, however, before he had noticed that his toothache had suddenly and completely gone. Two days later a similar seizure occurred of a more severe character, leaving behind it a soreness in the epigastrium, but with this exception—it, like the previous attack, vanished never to return He now began to have profuse night-sweats, chiefly associated with sudden uncontrollable panics, which would wake him up suddenly between 2 A M. and 3 A M. and render him absolutely sleepless for the rest of the night. He then noticed for the first time that he was passing a quantity of uric acid in his urine, entirely confined to the urine first passed on rising in the morning. As there was still a considerable amount of soreness in the epigastrium resulting from the nocturnal attack he dieted himself for many days, exclusively on toast-and butter, milk, junket, bread-and-milk, custard and rice puddings, but the uric acid in his urine (expressed as obvious sand) became more and more abundant, and seemed to coincide in this respect with increasing nervous depression He now had another freak, and for a few days had a "paroxysmal toothache," as he described it, in his *chest*. Every few minutes throughout the day and night, when awake to notice it, he had a momentary twinge of pain behind the sternum, associated with a sudden glow or flush over the head. This was apparently angina-like in its character, but there was not the least disturbance of the heart's action, and walking and even climbing hills made not the least difference in its coming or going. This condition would last perhaps 24 hours or so and then cease, leaving him particularly well, and after two or three recurrences it ceased altogether, to be replaced by a similar sort of pain in the abdomen, which for many weeks kept him in a state of great discomfort and distress, being associated, as it was, with a horrible feeling of "gone-ness" in the epigastrium and so much hyperæsthesia of the intestine that the slightest peristalsis seemed to become obvious and discomforting. Added to this he had obstinate constipation, quite foreign to his habit, and any attempt to counteract this instead of bettering matters added greatly to his discomfort.

Weir Mitchell, in his latest book "Characteristics," makes one of his puppets express the opinion that no man dies triumphant with disease below the diaphragm, and I am sure that my patient would endorse this statement; for although he is not dead, the misery and dejection that accompanied the exaggerated consciousness of the workings inside his abdominal casket were often extreme. Several interesting observations, as it seems to me, were made by my friend. He did not consider that there is any *continuous* peristalsis in the intestine. It appeared to him that the propulsion onwards of the food is accomplished in shifts. For from two to three hours after food there was rest in the abdomen; then on came the pain and discomfort. Thus if there were three meals there were three shifts and the absence of any one meal was likely to delay the arrival of the coal at the mouth of the pit.

The intestine would appear to be an organism of the most methodical habits, whether these be unduly active or unduly sluggish. We all know that this is so from clinical experience. A lady came to me the other day with that early morning looseness which so often exists in the nervous from say 5 or 6 A M. to 11 A.M., and then ceases for the remainder of the day. It had existed for a year or more. I have seen several cases, male and female, where this had gone on for years and had become a distinct handicap to the pleasure of living, and yet it is well nigh impossible to cure it, for it is clearly a faulty habit of the sensori-motor centres.

The patient also noticed that, for him at any rate, there was no average as regards the quantity of the alvine output. On some days there was much but on others little. So, also, on some days there were pellets, sometimes bullets or larger, sometimes tape strings, and so on He was always, in fact, receiving unpleasant suggestions as to the condition and amplitude of his vitals until he accepted the axiom that I gave him to do as the dog does—he never looks behind him. By this he established the *fact that the import of these* diurnal variations is very much what the mind makes them and that they are no absolute guide to the state of the viscera which puts them forth.

But these are digressions. During all this time the patient was keeping to a milk diet and the uric acid output, although varying and most energetically so, was nevertheless not obviously influenced by the diet, and inasmuch as he did not improve a *volte face* was ordered and a meat diet was substituted for much of the farinaceous food hitherto taken. He now had meat twice and even three times a day. All green vegetables were excluded from the diet because for the time being they seemed to cause flatulence and more discomfort, and he was allowed only a small quantity of fluid at his meals for a similar reason. From this time he gradually increased the quantity of food taken, until he ate much more largely than he had ever before done, and he also took on and off for two or three days at a time, a glass of port wine at 11 A.M. and beer or cider for dinner. Under this *régime* all the uric acid sand disappeared from the urine and he recovered his health. Since then he has continued to live much more freely than he had ever before done in the matter of meat, he eats less starchy food, takes an occasional glass of beer or cider—a thing he had not done for years—and he keeps well. One other point may be mentioned, although it is too large to be dealt with here—it is that he was distinctly not so well if he indulged in any brisk exercise.

Now, I have given this case in detail because it seems to me, first, of interest in itself, and, next and more particularly for my present purpose, because of the conditions under which gravel appeared in the urine. In itself it is worthy of note because here was a man of by no means what would have been called a 'nervous' temperament, who suddenly passed into a condition, possibly from overwork, possibly from influenza, in which he became the sport of neuralgias, now in the teeth, now in the head, now in the thorax, or in the stomach, the intestine or the diaphragm. And I suppose that *insomnia may be considered* a similar condition, for it is an unnatural alertness of brain cells which ought to be paroxysmally sluggish I do not doubt that the case is what most men would unhesitatingly call a case of uric acidity or irregular gout. It has all the characteristics of that affection—the neuralgic type of the disease, the rapid substitution of one neuralgia for another, of one nerve-storm for another, and the rapid change from a feeling of perfect health to that of positive gloom. And I would have you particularly to note that it occurred in a man who could hardly be living on a diet less calculated to produce uric acid according to usually accepted doctrines. He was a small eater and his diet was mostly milk, milk puddings, bread-and-butter, vegetables, and fruit. Meat would hardly on an average have supplied two ounces to his daily diet, yet uric acid appeared in quantity. He dieted himself still more rigorously, to the practical exclusion of meat and for a time even of fish, and he got worse instead of better, and so he remained for several weeks, rest notwithstanding, until, indeed, he commenced to live more generously and particularly so in the matter of meat and stimulants. It therefore opens up the questions which I want to discuss of uric acid and acidity and the treatment, if any, that best befits it

Now, of course the strictly chemical theory of acidity is this—that it is a mere question of chemical equations and combination. So much C and H and N and O are put in and so much C and H and N and O are given out in some or other form, and therefore excess of nitrogenous products taken in will lead to excess of nitrogenous products being given out; and therefore those articles of diet which give an excess of nitrogen will above all offend in this way. Thus it is said that meat is the chief offender in the production of uric acid, and that uric acid or one of its congeners getting into the blood poisons the tissues and so produces all the multiform symptoms—nervous, hepatic, renal, cardiac, and so on—which are ascribed to it in such truly liberal fashion.

Now, I am not here to-night to say that this is not true I am here to contend that it is only very roughly true. True, perhaps, in the same sense that the artist's preliminary sketch in charcoal is to the finished picture as it hangs upon the walls of the Academy I should call this the view of pure chemistry; but then our problem lies not merely in chemistry, but in *animal chemistry*, and that is a very different, or at any rate less demonstrable and certain, matter. And thus it is that clinical experience has to be taken into account; and in giving, as it does, a more comprehensive view, adds, unfortunately, much to our difficulty of forming positive opinions. And in this regard I want you to think for a minute of how living a thing is uric acid. I should call it one of the most fickle of animal products. Remember how paroxysmal it is; that it will alternate in some so that at one time there shall be a highly acid and uric acid urine and at another a *feebly* acid, or neutral, or even alkaline, liquid containing phosphates. And, curiously enough, just as I have written this there comes into my room an old friend who has been long troubled with acidity and who has to my knowledge often passed uric acid, but who after a course of waters has lately been passing a neutral urine and on one occasion has passed an appreciable quantity of sugar—that is, 20 grains to the pint. So that he fitly comes in to link on my previous statement with the remark which I have next to make—that the passage of sand will often alternate with the passage of sugar, and particularly so with the glycosuria of the declining decades of life.

Then, again, uric acid will appear in the urine in quite remarkable fluxes in the course of chronic renal disease. I have several times, too, seen a fatal attack of renal disease *begin*, as one is obliged to say—although possibly not accurately so, for acute disease too often begins in pre-existing chronic change—by the appearance of a quantity of uric acid in the urine, and this has subsided to give place to a load of albumin. The occurrence of uric acid in the urine is well known in the early stages of chronic renal disease, and this may well be taken to suggest, as some have suggested, that the appearance of uric acid in the urine at *any* time is an indication of defective action on the part of the kidney. And, indeed, I see little reason to take exception to that view, but even if it be so we yet need to know what it is that *makes* the kidney defective, not only in those in whom by reason of age and other causes defect might naturally be expected, but even at all periods of life, from early infancy to old age—what it is that regulates function in this way so that at one hour one may say uric acid is *poured* out and at another has vanished like a dream. And does not this so frequent occurrence of uric acid in the urine, surely almost as common in young children—not uncommon even in babies—as in adults of all ages, suggest the consideration of the question, can an occurrence of such frequency be such a harmful thing after all? May we not rather be inclined to feel that it is no more at any rate than a fit of bad temper that needs no treatment by heroic measures unless the circumstances are exceptional? And, indeed, this interpolation to some extent suggests the answer that I should give to the reason of the appearance of this stormy petrel of pathology.

I am sometimes asked the reason of the fact that pain is often so much worse at night than in the daytime and that without the cause ceasing the pain will yet vary from time to time, and the reasonable answer seems to be because all function, even life itself, is but an interrupted current. We look, we hope, we pray for the future to disclose that *continuous* existence in which the hour of depression, of pain, of loneliness, of void shall no longer be the necessary complement of energy, of *bien être*, of oneness and fulfilment. And so I think about uric acid; its vagaries of appearance seem to me to be much better explained by some perverted or ill-regulated physiological processes behind it, than by that of untimely or ill-judged stoking. I must add, too, that we know that the properties of uric acid are not poisonous, for it exists in excess or is produced in several diseases without any symptoms of "acidity" And the clinical picture of cases tells the same tale, for with what body do they come? One has been already narrated

Take now the last case that has come before me—the case of a man who has lived a hard and anxious life and who has seen many physicians. He tells me that he has always been highly strung—a beautiful picture, or poem, or music, would always move him to tears. He is restless and fidgety beyond control; sometimes he is quite beside himself. His urine from time to time contains a quantity of uric acid; at others, and particularly after what he calls his storms, he passes the low specific gravity water so well known and which Dr. Haig has shown is so often associated with the formation of uric acid. Bodily this man is in a very fair state of nutrition, but he is wearing out unquestionably in his nervous textures, and one may suspect also in others, for he has one of the most marked conditions of arcus senilis that I have ever seen. Still, so far as the working of his individual organs go there is no evidence in any of his other functions that they are at present really defective.

Take yet another case, within the last few pages of my note-book—that of a little girl, aged eight and a half years. She has grown enormously and far beyond the size for her age. She is morbidly excitable and is subject to uncontrollable fits of screaming. Anything exciting will send her off, both things she takes pleasure in and wants to do as well as those that are distasteful. She is always "so tired." She is constipated and her urine often contains a copious deposit of red sand. The case seemed to me purely one of an excitable nervous system made worse by the exhaustion engendered by a period of inordinate growth.

Here is another case of a woman, aged 52 years. All her people are gouty and one sister died from gout The patient has been subject at times to attacks of insomnia for several years and for one of them she came to me. She has a heavy giddy feeling in the back of the head and spine; her head feels alive; she has fits of melancholy at one time and of excitement at another. She has had a lot of domestic worry lately, and she attributes all her trouble now existing to that. She is a woman of fullish habit and is said by her medical attendant to be fond of the good things of this life, but on careful inquiry I cannot ascertain that she is at all a heavy or gross feeder and she takes only a tablespoonful of whisky twice a day at her meals. To eliminate all doubt as to the matter of food and drinks I cut off all whisky, and ordered light foods only, but although she was a little better she did not permanently improve and uric acid was still as abundant on occasions in her urine as ever. Then a little fresh worry occurred and she was as bad as ever, her head going wild, and when it did, so her stomach would go wild also, and she would have attacks of what she called "epigastric bouleversement." After a little while she got a definite attack of gout, whereupon she had a spell of slight betterment and then she relapsed into her old state again. She has been dieted carefully and has, I believe, paid strict attention to orders, for she is terrified at her attacks and would go through any misery to get rid of them. She has also had many remedies including waters but without much obvious effect upon the course of her disease. She now wants to undergo a thorough course for the gout, although there can be no doubt that she has already tried more than once that favourite prescription, but she is still a convinced believer in her acidity, and wants to carry out again that plan which promises so much and achieves so little.

One more case I must give. It is that of a man 47 years of age, at the top of the tree in his profession—a position which has been achieved by continuous hard mental work and in spite of the fact that there has not been a day in all the 20 years that he has not loathed his "trade," as he calls it. He came to me because of a bitter taste in his mouth which he put down to "acidity," created, as he supposed, by a pint of claret taken daily at dinner. He has lately lost weight because he has had an unusual degree of strain and stress of work. He is spare and dark. His stomach is easily upset, he is sick easily, and he has to get up at night to pass his urine. I had a long talk with him, for he was a most interesting man and I am sure that he is a most careful liver, his diet being chiefly milk and milk food. He thinks that he has created his "acidity." He is rather great on acidity, but he takes most sensible views of it and is fully confident that the bed rock of his ailment, as the Americans say, is his overwork. Still he wants to "get this acid out of him" and asks about piperazine and all the latest drugs which are supposed to perform this service for cracked, crabbed and suffering humanity. He has a chronic lumbago about which I am not altogether happy, particularly as his radial arteries are rather thick and when lying down flat his impulse is in the sixth space outside the nipple. But the sounds are natural and his urine although 1024 and containing uric acid is free from either albumin or sugar. This is a case where the urine sometimes contains phosphates and sometimes uric acid in excess. I gave him no medicine as all physic upsets him, but advised more meat and Contrexéville water in the place of so much milk stuff, and, best of all, a long and absolute holiday. He said on leaving me, "By the bye, I *must* have a little sweet," and I said, "*By all means*, a little won't hurt you."

And talking of this case reminds me that only the other day there came to me a young man who also was an adept at acidity. He was of course a highly nervous fellow, full of all sorts of fads and fancies, but what particularly amused me was that he complained of a pain in his side which was *not* acidity, "it was something quite different from that." This was so precise a statement on what is usually most indefinite, that I at once dropped upon it hoping thereby to obtain information on the position of the manufactory of acidity. But, alas! no, the comparison of the two pains had exhausted the descriptive power of my friend, and as all he could tell me about the pain with which he compared it was that he feared it was due to some carbon that had got down into his lungs from his habit of inhaling tobacco smoke, which he has given up for many months, the pursuit of the subject did not promise any adequate return for more expenditure of time.

I will not weary you with any more cases. You all know them as well as I do, for these patients come into your rooms one after the other and surely the day of a busy medical man seldom passes without one or more coming within his ken.

How do we treat these cases? Now, I have been interested in this question many years, so I am not speaking hurriedly, and I have come to be certain that in the majority of cases of uric acidity it is scarcely a matter of diet at all. But this is not the common opinion. I shall probably do this meeting no injustice when I estimate that the majority, probably the large majority, when a man is found to be passing uric acid look upon it as a matter of diet *exclusively*. I want you all to go back upon your experience, to put away all that you have read and seen through other people's spectacles, and to observe again afresh and then to answer the question, Is it so?

While I was thinking over this address a medical man came to me about a relative and while we were waiting or talking this gentleman introduced the subject of his own health—I think it came out in relation to the matter of the family tendencies of his relative. He told me that he was nervous, but what concerned him most was that he had "a lot of uric acid floating about in the system," as he expressed it. He had gone into the matter very *thoroughly*; he had read everything, had tried every remedy that had ever been suggested, and had tried all sorts of systems of treatment, and he had come to just the same conclusion as I have done—that he could not tell what determined the production or appearance of uric acid, but he did not think that he had got much help from diet.

I have notes of another patient, a most intelligent woman, who had seen many people for uric acid and she asked me, bluntly, if I knew what led to the formation of this product, and when I said I did not know she said, that she had made careful observations on herself for some long time, and that she had come to the conclusion that it was impossible to say why the product appeared. She was certain that it had nothing to do with diet, and she was sure that in her case the catamenial period *had something to do* with it.

The very vagaries of its appearance are enough to make us pause and inquire into the reality of this dietetic theory. In one group it is this or that form of liquor. One man will tell you that he never can touch champagne lest he have gout, which for the most part means what we call irregular gout—that is, uric acid gravel in the urine—and various aches and pains in his fingers and toes or in his neck or his back. In another case it is a glass of hock that is the poison (it is always a single glass, mind you), or of sherry, or of beer. With another long list of sufferers sugar is the fatal thing, or potato (I suppose because it is a typical starch). I think it can be only a small part of civilised society that ever touches a potato. It, indeed, must be a very inferior class of article to judge by the scorn which so frequently accompanies the statement, "Of course, I never touch potatoes." With others, in similar fashion, it is meats that are tabooed. "I never touch butchers' meat" is equally commonly heard, and I have sometimes wondered why the poor butcher should be so commonly conjugated with his meats in this chorus of universal disapprobation. I might, of course, go on all day, for the full enumeration of the various articles of diet that now and again have been associated in the minds of patients with uric acid; indeed, so many are they, that I often say that I have only met with two articles of diet which I have never known to be complained of, and these are toast—no! I beg its pardon, I should have said "well torrified bread" (which is, I suppose, not toast but cinders)—and the other article is whisky.

We cut out of the diet sheet all red meat. But why only red meat? Surely, it is very inconsistent to reject this alone of all the nitrogenous products which are supplied to us. Why not exclude fish and fowl and eggs and all the vegetable albumins? These things are allowed because they contain less extractives. But is this rule so universal as we make it? Emphatically no. Stomachs are very individual organs—some oh! so touchy; others wonderfully obliging. I have several times been surprised to find an individual stomach when desperately ill craving for a slice of bacon, and what is more to have received its master's commands, obeyed them, and to have derived no hurt from its indulgence. Now, *a priori* one would certainly think that few things could be more indigestible than the meat of bacon, because it has not by any means always been *fat* bacon, it has been *fried* bacon. And I have always supposed that the reason why so much of civilised humanity indulges in it, especially at breakfast, is because a sort of intuitive consciousness has come upon it that the stomach is more ready to cope with the indigestible at a time when it is fresh from its nocturnal rest. But if sick stomachs find themselves equal to bacon, surely it behoves us to think twice before we deprive so capable a servant of the delights of a nice piece of juicy red meat. My own opinion is that there is nothing more digestible or void of offence in any way, and, as I have said before and got hauled over the coals for it, I care not whether it be beef or mutton or pork, only in the latter case I should bar the attribute of redness, for reasons, however, other than digestibility. Personally I have great doubts whether the chicken that we are all so fond of ordering to an invalid is any more digestible than mutton or beef, though as regards our present subject I suppose it may be taken as proved that it ranks lower in the scale of urea-forming products than do beef and mutton.

And then as regards vegetable albumins, what I have just said accords with my own experience, as I do not doubt that it accords with yours, for it is impossible to be otherwise than sure that in children (who are, of course, seldom large meat eaters) it is not those who are fed fully on meat who especially pass uric acid crystals; and you do no good by cutting them off all meat, as is very commonly done. Over and over again I have seen children deprived of all meat because of the passing of uric acid, and parents in a state of great anxiety, as if some dreadful disease were sapping the vitals of their offspring, but there is seldom anything to be alarmed at or that calls for any serious change in their habits of life. Such children are, I think, often pallid, pasty-looking, and usually want some little attention to their diet, in the manner in which it is eaten, and in their general hygiene, but that is all, and it is generally the better plan to increase their meat (plain cooked, roast or boiled; not beef-tea or beef extracts or jellies, to which parents often fly between meals in poor-looking children), make them drink more water, and diminish correspondingly the quantity of starch food taken. That is the practice which I have carried out for a long time and I have never seen reason to regret it. Regulate the diet all round, as the late Sir William Roberts wisely said; it is not the fault so much of any special food. Children will pass uric acid even upon an excess of milk.

And I think that perhaps we can see that all this is reasonable enough if we remember what is the state of the case as regards glycosuria, for the formation of uric acid and the formation of sugar seem to me to run on somewhat parallel lines. Nothing seems more sure in medicine or physiology than this—that you may remove *all* the sugar from the *intake* and that you will still get sugar in the *output*. Or, to take the less precise field of clinical experience, in the glycosuria of old people you will get many a case where the exclusion of sugar from the diet seems to make very little difference as to whether sugar appears in the urine or not. I have a case of this sort vividly before my mind now. This old lady is inordinately fond of sugar and it is impossible to keep her away from things that contain it, but it makes very little difference. Sugar is absent for long times together and then, without evident reason, it re-appears. The same thing holds with the diabetes of younger folk, for although you can diminish the output very largely, the disease is yet paroxysmal or fitful and the quantity of the output will not very accurately accord with the intake. I assert that it is exactly the same for uric acid. Over and over again have I seen people dieted up to the extreme point of misery—and if you have as yet no idea how miserable a rigid diet makes you, try it at once for a month and see; you will be a much better practitioner at the end of the month than you were at the beginning—and they were yet passing uric acid crystals almost by the spoonful.

It seems to me, therefore, clear that if you could absolutely exclude urea-forming products from the diet sheet you would yet find the human economy turning out uric acid, and although you might reduce the capital quantity in some cases, you could not do even that in everybody. In other words, uric acid is an *ash*, common to the many metabolic processes going on in the body. In this process and in that of the many taking place, re-arrangements of the elementary or primary combinations are constantly going on, new conjugations are formed, and the required elements are also stolen from the stockpot if they cannot be obtained from, so to speak, a legitimate current supply, by such other elements as are in a state of hunger and yearning. It is important to bear in mind, too, that there may be two opposite metabolic defects, but there is the defective metabolism of want of supply as well as the defective metabolism of excess and you may induce a uric acid excess as well by the one as by the other.

Who is there who cannot remember, when he thinks back on what he has seen, of the many times there has come before him a spare, wan, anxious man or woman, a martyr to headache, to indigestion, to constipation, to gravel, to melancholy, whose every organ seemed to have been created for the sole purpose of exasperating its master, so full was he or she of the misdeeds of the one and the other. And who can doubt that in these the pathology is not one of excess?—the whole bearing of the patient forbids such a possibility. These people have almost invariably dropped out of the dietary one food after another because it was indigestible or because it produced gravel, yet, starved as they are, the uric acid still appears in the urine. The whole head is sick and the heart faint, and this is what is the matter with these people, whether you call it gout or acidity or any other name, and what most of these people want is a good fat chop and a glass of stout. "Oh, but that would never do; it would give me a bilious attack," as if, granting that their forecast is correct, a bilious attack occasionally would represent a tithe of their present misery.

It always seems to me that we see things in medicine far too much with the eyes of other people than with our own, and thus all treatment coming from authority tends to become stereotyped. There is surely a good illustration of this in diet sheets; you can hear it from patient after patient as they come before you. I have a diet sheet now before me for persons suffering from gravel which has received the imprimatur of one of our most able physicians. I am willing to admit that it is not a bad one as diet sheets run, but let us look into it for a minute. And first of all it is a printed one. That, of course, means that Dick, Tom, and Harry all get the same if suffering from gravel. Can I have any stronger corroboration of my contention that gravel is made a sort of, shall I say, demoniacal possession and that it cometh not out of us but by prayer and fasting? But I want to drive home to night that Dick's gravel and Tom's gravel and Harry's gravel are three separate devils most probably, and that while prayer, which would, I should hope, include repentance, might be good for one and fasting for another, by the time you had arrived at your third case you certainly ought to be ordering stout and oysters or any other renovating dish that you might personally believe in. I protest with all my might against the absurdity of humanity being made to run in common grooves like this, and on such a very personal matter, as the food we eat. Well, then, of course, from what I have already said, my three poor friends being afflicted with that terrible disease "the gravel" must avoid eating sugar in every shape or form. And for what reason? I suppose the compiler had in his mind that sugar goes to form glycocine, and glycocine is the material out of which uric acid is formed. Whether this be the case, whether this be even a fair statement of the case, I will not be sure, for I am professedly treating the question from the standpoint of every-day practice only; but if it be so I should still hold that, after all, sugar is not a poison, and this wholesale condemnation of a wholesome article of food can hardly be other than a fad. By all means cut off sugar on good reason shown for this or that individual; but I know this, that there is many a gravelly one who can take sugar in moderation as an article of food and not be a bit the worse for it. Nay, more, there are some of the "gravelly" who cannot do without sugar. "Oh, let me have a little sweet," as my patient said. I see it stated in the Life of Sir John E. Millais that Rogers the poet took a parental interest in him and that he used to say to his footman, "Put three lumps of sugar into Mr. Millais's tea," when poor Mr Millais visited him; "he ought to like sugar, he is too thin." Rogers, although eccentric, was a wise man; and oh! my hearers, those of you to whom this appeal comes home do reflect that there are some of us who triumph over old age in our liking for sugar, and why have you got your knife into it so? Let me tell you in your own interest that if ever you are called in to attend me, and you cut me off my sugar I will promptly go and see a consulting physician without telling you, and come back and call in your most bitter rival. What more can I say to show how strongly I feel on this excellent food-stuff?

I see that fat stands next on this list of "dreadfuls," and for the same reason, I suppose, its glycocinic leanings, but the wisdom of this exclusion seems to me to be cancelled by the allowance of butter in the "may eat," and the exclusion of cream amongst the drinks. And here I am in for another crusade. I am not exaggerating in the least when I say that people come into my room one after the other to tell me that their medical attendant has told them never to touch fat. There can be no doubt about it that there is a routine order abroad never to touch this material. I will not say that it is specially to persons who pass uric acid that it is given—it is mostly to those who are said to suffer from their liver. Well, we are each of us entitled to our own opinion, and I do not want to tread roughly upon the cherished opinions of anyone; all I want to be sure of is, that they are your own opinions and not those of some, perhaps brilliant, teacher passed on and assimilated without correction by your own thought and experience. But even then I want you to think the matter over once more and to give it another trial. And when the next poor sufferer, with, perhaps, a liver, or what not, tells you that he never takes fat and that cream would make him bilious, just gently murmur that even infants can digest cream easily and that it is really a most excellent food for the liver. And so it is, and so is good olive oil, but it generally happens that when I order it, as I often do—for it is much more palatable than cod-liver oil—and by the bye it is a funny thing that when the liver depends so much for its substance on fat that all fat should be taken from the food in case the liver should be upset,—whenever I order it, I say, the patient holds up his hands in horror at the suggestion because his medical attendant has forbidden it. There are several other articles excluded that cause me much wonder; such are herrings and eels (the latter being one of the most tender and delicate of foods if properly cooked), but I must pass on to my third crusade, and this has to do with the "may drink."

Now in this list there is nothing to take exception to, except that it is not hinted that it is at least *possible* that the person who passes gravel may be the better without any alcoholic beverage. He is told that he may have a little light wine—Moselle, Hock, Chablis, Sauterne, or cider in small quantities. But in ordering, or rather permitting, light wines and nothing else this diet sheet surely does not follow the usual routine of the profession. As a rule, the profession forbids all wines of every sort and tells the patient to drink whisky. And as I have said before, although often professing the greatest possible dislike to it, he yet drinks it with astonishing facility. There can be no possible mistake about this. I have had ample opportunities of forming an opinion and I say that people hardly ever drink beer now; they are frightened at nearly all wines; so that they run like sheep after the last new white wine that the fashionable medical man of the time orders them, and most of them eventually discard all wines and take—on the whole and with few exceptions—very complacently to whisky. Again I ask, Can a routine treatment of this kind, a routine prescription which I am persuaded must often come tumbling out of the mouth of the prescriber without any thought, be fitted to Dick and Tom and Harry indiscriminately? What can there be of harm in a glass of good light wine or in a glass of light beer that is not present, only more so, in spirits? Mind, I am not holding a brief for either the one or the other, but I am quite sure that if a man requires any stimulant at all—a matter he must decide by experiment for himself, for I maintain that no medical man can tell him—he will often be the better for a glass of wine, than he will be for the now commonly substituted whisky. And in nothing more than this, does the question of the individuality of disease come in. What a man drinks, if he passes uric acid, is, in my opinion, a much more important matter than what he eats. A large number of those suffering from acidity had better take no alcoholic liquor of any kind; others are better for some. It should always be a most moderate quantity. To many champagne seems to be a poison, to others it is the most wholesome wine, and they drink it year after year and do well upon it. Some, again, do well upon port, although this is an exceptional thing, but claret and the lighter wines are the more generally useful. I do not think there can be any doubt that there are some who cannot digest wine and yet who do require some little stimulant to get through their work, and for these whisky or brandy well diluted comes in as a valuable help. I am not objecting at all to its well-considered use in such cases as these; what I am objecting to is that a glass of good wine should be so universally discarded and ever so much more alcohol taken in the shape of whisky. And, moreover, this prescription of the medical man is changing the habits of the people. We used to drink beer, we now drink whisky; and I am sorry to say that this is the case for the young men as well as the old. The young men in our large towns will often confess to three or four glasses of this strong and, to them, poisonous drink in the course of the day without having the least idea of the harm that is accruing to them. And I think we medical men are largely responsible for this state of things. We tell everybody to drink whisky. A well-known medical man in Brussels came to see me the other day and he was asking about his drinks. He told me that he had got some very good wine, but that he found over here that we all ordered whisky and that it was whisky everywhere. Even the waiters at hotels and dinner-parties brought you a whisky-and-soda almost before you had asked for it. And he was not far from the truth. People are told to drink whisky because, forsooth, it is the purest spirit, and young and old are drinking it. My idea about drinks is, first consider whether you would not be better without anything and, that decided in the negative, then let the young man drink his beer, the middle-aged his wine, and the old man his toddy. I am, of course, talking of the daily habit. An occasional glass of anything hurts nobody, even if it should make one think he has a pain in his great toe on the next morning.

Thus far it will have been gathered from what I have said that uric acid is not a product to be eliminated so much as to be prevented, but the results of sending patients to foreign spas are often striking and would seem to traverse my contention. You send a man to Contrexéville, for instance, and he passes large quantities of uric acid while there, and he comes back feeling light as air. Far be it from me to deny the benefit that is often obtained at such places, I send too many away on errands of this kind to so belittle mine own honesty. But before accepting straight off the explanation that the uric acid is *extracted* as a matter of depuration from the blood or tissues, a philosophical inquiry must at least consider the possibility of other causes. Years ago I remember paying a visit with a friend to some aniline dye works, and there I saw that, amid abounding commercial prosperity, the manufacturer was overwhelmed with pitch. And here also it is possible—I pray that the magicians of hydrotherapy may forgive me for such a heresy,—it is possible that, like other by-products of commercial success, uric acid may be manufactured on the premises, so to speak, and that there are specimens of it that ought to be labeled "Made in France" or "Made in Germany." In the daily manipulation of many urines, year after year, I have often been struck by the sensitiveness that this fluid displays to the addition of foreign constituents. There is many a man, for instance, who notices that he is passing uric acid because he happens to micturate into some cold urine or perhaps passes urine of one specific gravity into urine of another specific gravity; a specimen of this kind in a nervous observant man might easily lead him to suppose that he was risking the formation of stone in the kidney or bladder and that it was necessary to undergo a course of treatment for it, but I am sure that it is passed in solution, and I am indebted to Dr. Luff's most interesting and instructive Goulstonian Lectures on the Chemistry and Pathology of Gout for what seems to me the probable explanation of the phenomenon. Dr. Bence Jones, he writes, was the first to show that the amorphous urate deposit yielded to water a soluble moiety consisting of true biurate and left a sediment consisting of pure uric acid.[1] Winter work gives one quite a different view of urines from that given by summer work. It is one of the small bothers of work in cold weather that materials crystallise out so much more readily and thus convey false impressions, and this both with and without reagents. It is one of the drawbacks of the ferro-cyanide test for albumin that the preliminary acidification with citric acid so often clouds the fluid with an amorphous deposit and which does not always readily clear with heat, as it is said it always does. I think that it is possible, too, that mucus in the urine has something to do with this sensitiveness or otherwise to reagents and I have always thought that Dr. W. M. Ord's observations upon the rôle of mucus in the formation of urinary calculi are of great clinical interest.

But to return to waters and their effect upon uric acid. I have often been struck, as many of you must have been, and amused besides, with the fact that the medical men at spas almost invariably say to their patients, "The good does not come at once, you may even be worse before you are better; you must await the 'bye-and-bye,' and you will require to come again for two or three years to get the full benefit of our waters." Yes, these gentlemen have the most canny way of eating their cake and having it. Nevertheless, what they say is true. We all know that it frequently happens that a man goes to waters to get rid of his uric acid and he has a bad attack of gout directly his course is over, or mayhap when it is half through. I have been told by those who have been at Contrexéville that they have passed, not uric acid but oxalates; some, as I have already noted, have passed phosphates, and it is also the fact that the first effect of the waters is to reduce one to a state of absolute limpness and enervation. It is most difficult to understand this if there be any real depuration. This one would suppose should start and go on progressively. But it is not so, many patients are at first much deranged in their digestion by the treatment, and are, I should say, in the very ideal condition for making and passing a good output of uric acid.

---

[1] The Pathology of Gout, p. 65.

Then, too, some of the uric acid that is passed is probably washed or dissolved out of the passages. There is nothing more common in the post-mortem room than to see the kidney studded over with minute deposits of uric acid, and I am firmly convinced—for I think I have seen evidence of it clinically—that free water-drinking performs an even more difficult task than that of flushing out sand from the passages, viz., that it softens and disintegrates small calculi. I daresay that we have some of us seen small calculi passed after this treatment has been perseveringly adopted, and I once made a post-mortem examination in a case that had been undergoing this treatment, and the stone was found soft and sabulous, so that it could be crushed to powder under the finger. To be fair, I suppose it is possible that the unbeliever might say that the stone was in course of formation, not of softening, but I think the probabilities were the other way. This point is surely worth insisting upon in these days of energetic surgery. Not long ago a friend of mine came to me with well-marked renal colic. I put him on the water cure and told him to drink it for some months, but he was a nervous, plucky, excitable fellow, and as his attacks of pain recurred he decided to be cut. He was cut and no stone was found, and three or four days after he passed his stone per vias naturales.

But although the human body is often astonishingly accommodating, it cannot be but that a sudden change such as the introduction of five or six pints of saline water, must necessitate some complicated adjustments in its arrangements, and there are likely to be other results in addition, and too often in place of, the mission on which we send it. Ah! there lies the whole crux of medicine, or of the treatment of disease, rather. These teeming kilns, each busy with its own work, although linked to each other in one whole, the body corporate, will each go its own way and our special purpose is too often dissipated in the doing.

There are, of course, other most important conditions to be considered in estimating the value of water proper—for instance, what a Turkish bath does, with the delicious sense of languor that follows it and the brightness and freshness that come after; this is often exactly reproduced by a course of waters. Then there is the change of scene, of climate, and of diet. These are very important factors, but they are on the surface, and I need not dwell on them. And while I am on the subject of water-drinking it may not be inapposite to say that the question of hard or soft water if taken freely, is probably not an unimportant matter to the standard of health. There is a common belief abroad, I think, that hard drinking waters are detrimental to health and I am very much inclined to take that view myself. But unfortunately it is one of those questions, like that of climate, which are exceedingly difficult to obtain precise facts about. Still, if it be true, as many think, and the history of goitre seems to prove, that there are dangers in the habitual use of hard waters, it at any rate may go to suggest that copious libations of any waters impregnated with saline products may possibly also lead to detrimental results from too indiscriminate use.

But I must be drawing to a close. In doing so, let me summarise a little, for I fear that my thoughts have tumbled out somewhat disjointedly. My contention is that uric acid is a common product that may well be considered as the ash resulting from the workings of our many-chambered kiln, and that the fault, if fault there be, lies not in the ash, or even in the coal from which it is produced, but in the driver, or in this case the driving power, that should regulate the process of combustion. And though this sounds vague, as indeed in the present state of our knowledge it is, it does not necessarily follow that it is any the less true. The uric acid passer invariably presents to you a problem to be unravelled, and each case a problem more or less distinct and separate from every other. In one case the cause may be the visceral sluggishness that is the common outcome of nervous exhaustion; in another, the hereditary condition, whatever it be, that determines gout, and which certainly works out its mission independently of any dietetic indiscretions, for how often we hear the lament from such, "Well, I never earned it." In another, it may be a great or sudden shock, a great anxiety, an exhausting attack of illness; in another some early defect of the kidney; in another case perhaps all we can say is that it appears to be the first indication of the growing old, and of the failure of the organism to accommodate itself sufficiently rapidly to various changes of its environment, whether they be climatic or dietetic or what not, which is one of the chief distinctions between healthy youth and age. These are the things that determine the verve of our several organs, and these, therefore, are the prime movers in the production of uric acid. No doubt all these things are wanting in precision and tangibility, but they are none the less the causes of disease. To wash out a mere chemical product might seem a much easier matter and what is called a good working hypothesis, but what about results? Well, there we shall no doubt agree to differ. For myself I cannot but think that had it not been for our eagerness to get hold of something to "treat," the uric acid theory that is dominant at the present day would never have become the fetish that it has.

One of the weaknesses of our profession is this, that we incline to do too much, and in so doing over-treat disease. It is our virtue rather than our fault, for if there be any vice from which as a profession we are free it is that of the mercenary spirit, and this in spite of a certain letter that appeared in the *Times* lately. But, as you all know, the public will have physic for every ailment. We are eager to cure disease as quickly as possible, and so we often come to look too anxiously upon what are hardly more than physiological deflexions. I have often thought that we might with advantage cull a leaf out of the book of clerical customs and from time to time go into "retreat" as they call it. We might then have time to pause in the treatment of detail and to take a broad survey, each of us, of the teachings of our own experience.

Do not you find, you my hearers who have come to middle age and passed it, that one of the chief pleasures of your position is that of having a firmer conviction of the self-righting power of the human body? Let it alone; give it time, rest, freedom, fresh air. It must be so. For I hear it said on all sides of the ripe and mellow go-aheads of but a few years ago, by their juniors the go-aheads of to day, how much less active they are than they were when they began to make their names. Yes; they now wait and watch. Alert still, but with a more chastened judgment that is well worth study. And surely this tells us that their experience has taught them to take an ampler view of the buoyancy and tenacity of life; that they have seen that many of their earlier efforts were petty interferences with greater power that tends almost inexhaustibly towards health, and "trusting the larger hope" they have shed off the immaturity of meddlesomeness.

A Clinical Lecture

UPON

INTERNAL DERANGEMENTS OF THE KNEE-JOINT (POPULARLY CALLED "SLIPPED CARTILAGE"), BASED UPON A SERIES OF 200 CASES.

Delivered at St. George's Hospital

BY WILLIAM H. BENNETT, F.R.C.S. ENG.,
SURGEON TO THE HOSPITAL; JOINT LECTURER ON SURGERY IN THE MEDICAL SCHOOL; MEMBER OF THE COURT OF EXAMINERS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, &C.

GENTLEMEN,—Some of you probably recollect having seen me operate a few days since upon a patient in the Fitzwilliam Ward who was generally supposed to be suffering from the results of a displaced semilunar cartilage in the right knee. The operation, however, showed that the symptoms were not due to that cause but arose from an abnormal fold of synovial membrane connected with the ligamentum mucosum which from time to time became nipped between the bones. The occurrence of this case gives me the opportunity, for which I have been for some time waiting, to call your attention to the condition of the knee joint—for clinical purposes indifferently styled "internal derangement," "displaced semilunar cartilage," or "subluxation"—which is not only interesting in itself, since its comparatively common occurrence brings it under frequent observation in practice, but is also well worthy of that careful consideration which is especially desirable in conditions in which, from long familiarity, the respect which naturally attaches *to accepted traditional views leads to* their adoption at times without much critical inquiry. Some of the conclusions in respect to diagnosis and treatment to which I shall refer in the following lecture will, I fear, be found to differ from some of the views commonly held; they are, however, the outcome of the careful study of 200 consecutive cases.

ANALYSIS OF THE CASES.

The total number of cases in the series numbered 200 (182 males and 18 females); these included only such as presented the characteristic symptoms under discussion, all cases *which could be classified under the head of* "loose bodies" commonly so called being excluded. The ages of the patients varied from 13 to 62 years. The left knee was affected in 133 cases and the right in 57. The inner side of the knee was the seat of the symptoms in 155 cases and the outer side in 45 cases. 98 cases were seen after the first attack and 47 after the second; in the remainder the number of attacks occurring before the patient came under observation varied from three to 22. With the exception of 20 cases, which were too far advanced, all were at first treated by temporary rest, massage, and exercises; of these 112 were cured, 83 without the use of any support or other apparatus; in 39 temporary support was necessary for times varying from three months to one year. In no case in which the rest and massage treatment was commenced after the third attack was sufficient improvement effected to enable the patient in the absence of opera*tion to entirely dispense with the use of support of some* kind, but in a certain proportion of these the support was only used as a precaution under special circumstances. The cases in which a support was used permanently (being worn either continuously during the day only or at various intervals) amounted to 58; of these, the treatment commenced after the first attack in 25, after the second attack in 18, and after three or more attacks in 15. Three patients declined treatment altogether. Operation was performed in 27 cases (all males); of these, the semilunar cartilage was at fault in 15 only; of the remaining 12 the causes of the trouble were small pedunculated bodies in four instances and abnormal folds of synovial membrane springing from or near the ligamentum mucosum in eight. In the 15 cases submitted to operation in which the semilunar cartilage was involved the left knee was affected in 12; of the other operation cases seven occurred in the left knee and five in the right.

It is hardly needful to say that these cases do not represent my whole experience of this condition; I have, however, thought it well to confine my observations to this series as the cases coming under my notice prior to them were not observed with sufficient care to justify any definite conclusions, although the impressions they led me to form were practically the same as those resulting from the consideration of the series under notice now.

THE SYMPTOMS AND THEIR CAUSES.

The train of symptoms usually recognised as indicative of the lesion are precise enough—*viz.*, *sudden pain with or* without a sensation of something having slipped out of place in the joint, complete fixation or limitation of the power of extension of the leg upon the thigh at any angle between complete extension and a point half way to semiflexion, followed by effusion into the joint with tenderness over one or other semilunar cartilage. These symptoms may occur apparently spontaneously during some normal movement or may result from a violent wrench or blow; speaking generally, rotation movement of the leg upon the thigh is a prominent factor in their causation. Relief may follow almost immediately from spontaneous reduction of the displaced or nipped structure or it may be effected by reduction by manipulation.

In some cases, principally the slighter ones, which for reasons to be stated are of extreme interest, manipulation not only fails to give relief but may cause an increase of the symptoms. It is not infrequently stated that in marked cases of displacement of the semilunar cartilage the structure can be felt upon palpation, but I venture to think that these cases must be very few in number; it is often possible to feel some fulness along the line of the cartilage, but I believe it is, as a rule, merely the swelling from blood extravasation with or without inflammatory exudation, and I am sure that the existence of thickenings of this kind is no certain sign of displacement of the cartilage. In fact, so far as I know, the only *positive sign of the lesion being a displaced cartilage* is the occurrence of a deficiency, upon comparing opposite limbs, felt above the head of the tibia on the affected side in consequence of displacement of the cartilage freely inwards. Projecting thickenings are no evidence of cartilage displacement, since any loose body fixed between the bones may give rise to exactly the same abnormality in outline. It is a matter of common knowledge that although the train of symptoms in these cases is so precise and clear, the causes to which they are due are by no means always the same and may be classified as follows: (1) displacement of a semilunar cartilage; (2) the nipping of folds or threads of synovial membranes between the bone ends; and (3) loose or pedunculated bodies in the joint. To these three commonly recognised causes I venture to add (4) bruising of the peripheral edge of a semilunar cartilage and its attachments without displacement or necessarily loosening, the immediate result of the lesion being a local effusion of blood (subsequently reinforced by a certain amount of inflammatory exudation) a portion of which insinuating itself between the bone ends acts as a foreign body. To this condition I have heard no allusion made nor have I met with any mention of it in surgical literature. It is, however, I believe, the cause of the train of symptoms in the majority of the milder cases of so called "slipped cartilage." It is quite curable by proper treatment, whilst if neglected or improperly managed at first, it leads to some of the most intractable cases of the graver sort.

In order to make my reasons for this belief clear it is necessary to refer to the following elementary points. The essential symptom in all these cases is, as everybody knows, the fixation or at all events limitation in the movement of the joint resulting from the existence of foreign material between the bone ends. If the foreign substance be a portion of a semilunar cartilage, loose body, or fold of synovial membrane the symptoms are very pronounced, but they disappear at once after reduction has been effected, whether the reduction occurs spontaneously or is brought about by manipulation, the movements of the joint being at once recovered. The only positive evidence of successful reduction lies in the ability to extend the leg upon the thigh without resistance as completely as in the sound limb; anything short of this is held to show that some mechanical obstacle in the way of foreign material between the bones still exists. Unless my experience is exceptional it must have been noticed by others in the majority of cases of the milder sort in which the limitation of movement is only slight that although the symptoms are precise enough the limitation in the extension of the leg cannot be rectified by manipulation, however carefully it may be carried out; "reduction" of the "displaced" material cannot, in fact, be accomplished. Not only does the inability on the part of the patient to completely extend the limb remain unchanged by the manipulation, but it will be found that even under an anæsthetic it is impossible to completely straighten the limb. It is true that if the patient whilst anæsthetised be laid on his back the limb can be put practically straight if firm backward pressure be made *upon the front of the knee* but *upon the removal of the* pressure the knee immediately springs forward, leaving the limb bent to the same degree as before it was straightened in the manner indicated. The failure of attempts at reduction in these cases is due not necessarily to any want of skill in the manipulation but to the fact that there is nothing present which in the ordinary sense is reducible. In spite of the apparent intractability of these cases at first they invariably recover completely if properly treated and do not recur. The important point to note in their progress is this: the recovery of complete extension is *gradual*, never sudden as is the case when a foreign body has been withdrawn from between the bones. *In these* cases the symptoms arise I believe, from the swelling due to bruising and laceration about the peripheral margin of the semilunars and their attachments without displacement, the gradual recovery of free movement being due to the slow absorption of the effused products. The gradual way in which the normal state is regained is in itself enough to negative the existence of anything like a foreign body in the ordinary sense of the term, between the bones, and the nature of the treatment by which recovery is brought about, added to the absence of any tendency to recurrence in properly managed cases is strongly corroborative of this contention. Additional evidence of a very positive sort is afforded by two of the cases treated by operation in the series now under consideration; these two cases were for practical purposes alike; it is therefore sufficient for my present object to give the details of only one of them.

A soldier, about 32 years old, after a wrench of the left knee, suffered from the usual train of symptoms associated with "slipped cartilage"—i e, sudden pain, tenderness over the internal semilunar cartilage, and inability to straighten the limb completely at the knee. Attempts were made by an onlooker to "put the knee in," but without success. The patient, however, continued to get about with a partially stiff limb, and shortly afterwards, no proper treatment having been adopted, he was ordered on active service. With the knee in the condition indicated he with difficulty got through a campaign of some months' duration; from time to time after some strain or injury an acute sudden attack of pain, followed by effusion into the joint, occurred. I saw the patient about six months after the original injury; during the whole of this time the leg had never been completely extended upon the thigh. There was slight effusion into the knee with some increase of local heat; the knee was slightly flexed and could not be extended either by the patient or by passive movement. Over the middle of the internal semilunar cartilage was a spot of acute tenderness; a little fulness was also distinctly felt. From this tender spot the acute pain which followed upon any strain or other injury always started. After the treatment which I shall presently describe the knee had nearly regained by degrees its natural state, extension being almost complete, when unfortunately another strain reproduced the old condition. Subsequent attacks of the same kind followed and it was evident that unless the abnormal state could be cured by operation service in the army must be abandoned. I therefore operated with the usual precautions. The parts about the base of the semilunar cartilage inside the capsule of the joint over the tender area were swollen and infiltrated with blood (some of long standing) and exudation products. The cartilage itself was not detached and clearly could never have been displaced. Before removing the affected parts an attempt was made to straighten the limb, the capsule of course being freely open, without success. After the removal of the swollen tissues, including the portion of cartilage involved, the limb immediately fell into a perfectly straight position. A portion of the swollen mass which could be seen lying between the bones at the posterior part consisted of partly organised old blood-clot. The cartilage itself was hardly recognisable at first in the centre of the mass removed, as it had entirely lost its ordinary aspect and resembled more than anything else, both in appearance and to the touch, a piece of sodden felt; in front and behind this the cartilage differed but little from its usual anatomical characteristics. Creeping over the articular cartilage of the internal condyle for a distance of at least half an inch was a delicate layer of pink granulation tissue beneath which the cartilage was eaten away. From the general aspect of the case it was manifest that the condition, if left to itself, must have developed sooner or later into pulpy disease of the knee-joint. The altered cartilage having been removed and the bones cleared of old blood-clot and exudation tissue the wound was closed in the usual way. The progress of the case was naturally tedious and altogether caused me more anxiety than any other case of the same kind with which I have up to the present time had to deal; the final result was good and the patient rejoined his regiment in about four months.

In the other case, less advanced than the one just detailed, the condition of the parts and the appearance of the cartilage were precisely the same.

In two other cases in which a displaced semilunar cartilage had been long neglected the structure presented the same sodden, felt-like appearance. This felt like condition seen in some of these cases is of considerable interest, as it shows without doubt, I suppose, that the cartilage must either have been completely crushed at the time of injury, had become changed in consequence of subsequent inflammatory processes, or had become altered in consequence of constant grinding pressure to which it had been subjected. Of this peculiar change in the semilunar cartilage I find no mention in the authorities I have been able to consult, but I am informed by an eminent surgeon that he has met with cases of the kind. The recognition of this bruising and laceration about the semilunar cartilage without displacement as a cause of the symptoms commonly associated with "slipped cartilage" is of considerable moment in the treatment of such cases, as will presently be seen.

TREATMENT.

This may be conveniently considered under three heads: (1) the treatment by temporary rest, massage, and exercise; (2) the treatment by the use of apparatus; and (3) the operative treatment.

1. *The treatment by temporary rest, massage, and exercise.*—The views of surgeons with regard to the best method of treating these cases naturally differ. In the present lecture I propose merely to give the details of the measures which in my hands have proved the most successful. The first indication obviously in every case is the replacement of the structure apparently dislocated, if reduction has not already been effected either spontaneously or by manipulation prior to the patient coming under observation. The desirability of using an anæsthetic in attempts at reduction must depend partly upon the nature of the case and partly about the disposition of the individual concerned. The actual mode of procedure in attempting reduction it is superfluous to describe here. In exaggerated cases—i e., those in which there is complete fixation or great limitation of extension movement—reduction must be effected by repeated efforts if a single attempt fails; in the slight cases (those which I venture to classify as bruised or lacerated cartilage and attachments) it will be found that the power of complete extension cannot be suddenly restored by any manipulations. In such cases, a thorough attempt at reduction, if need be under an anæsthetic, having been made without restoring the complete extension movement at the knee-joint, no repetition of the attempt should be made since there is nothing to replace. The failure to appreciate this fact, resulting in repeated futile attempts at replacing the structure which is supposed to be displaced, has been the cause of some of the worst cases of traumatic arthritis of the knee-joint with which I have had to deal. The immediate treatment of all cases, whether they are those in which movement has been restored spontaneously or by manipulation, or whether they be of the kind in which some slight flexion exists in spite of attempts at reduction, is complete temporary rest by fixation of the joint on a light splint, a compress of warm water, or, as I prefer, since it is more soothing, one of hot lotio plumbi cum opio, being kept continually applied. The period during which this rest is maintained varies from four days to a week, the time, in fact, which is usually occupied in getting rid of the effusion into the joint. The less the joint is subjected to movement until all effusion has disappeared the better is the chance of a perfect result finally. I am certain from my own personal experience and from what I see and hear of the results of the practice of others that nothing militates against a successful end in these cases so much as the use of exercises, passive or in the gymnasium, immediately after the injury; it is, in fact, in my opinion, quite the worst practice that can be adopted, since the commencement of exercises immediately as is recommended by some, is, I have no doubt, at least as bad as the opposite extreme in which a limb may be crippled by being kept at rest too long.

Although no movements of the joint should be commenced until all effusion has gone massage of muscles and joint *without movement* cannot be commenced too soon; not only does the early massage expedite the disappearance of the fluid more than any other means, but it seems to check, if not to altogether prevent, the rapid muscle waste, and, most important of all, it greatly obviates *the tendency to flaccidity of the capsule of the joint which is such a fruitful cause of failure in these cases.* Nothing is more striking, I think, than the rapidity with which the muscles of the thigh and, to a less degree, those of the leg waste if left to themselves in this injury. In my cases, therefore, from the first during the temporary rest the limb is subjected to thorough massage without knee movement daily and if the circumstances admit twice a day. Upon the disappearance of the effusion, which in well-managed cases is rarely later than a week from the time of the injury, exercise by passive movement is commenced, *care being taken that no rotatory motion is imparted to the* *leg*—the avoidance of rotation is the essential point in these early movements; in the gymnastic treatment this cannot be with certainty achieved. The rotation movements which are inevitable in the voluntary exercises commonly prescribed directly bring about a looseness of the cartilage in the cases which originally are merely bruises or lacerations of attachments only, and in those which originally were displacements they tend to produce recurrence of the condition more certainly than any other means. It would be easy to give many examples in illustration of this point, but the one which follows will suffice.

A soldier, aged 42 years, had an undoubted displacement of the left internal semilunar cartilage; this was replaced soon afterwards by the practitioner who was at first consulted and the ordinary exercises of the gymnasium were at once prescribed. At the end of a week the displacement recurred; the pain was intense, complete extension being impossible; reduction was attempted but apparently without success, as no change in the condition of the limb followed. The exercises were continued and as much walking as possible was recommended. Six weeks later I saw the patient, the leg was then considerably flexed and could not be extended by manipulation, the knee was distended and the pain on walking was acute. Rest for a fortnight with massage without exercise removed the fluid and reduction occurred spontaneously whilst turning in bed. Recurrent attacks followed and ultimately I removed the portion of the semilunar cartilage concerned. Not more than half an inch of the anterior end was detached and I am strongly of opinion that if the case had been treated upon the lines which I recommend no operation would have been necessary. The object of the temporary fixation and massage is first of all to remove the fluid and secondly to allow the loose portion of the cartilage to fall back and adhere in its normal site which, with the help of the surrounding inflammation which almost always follows to some extent, it will generally do. The passive movement without rotation, whilst it does not disturb in any way the process of refixation, prevents any troublesome adhesion in the joint itself.

It is interesting, perhaps, to mention here with reference to what has just been said about the effect of inflammation in the refixation of a loosened cartilage that, so far as my experience goes, the cases in which the inflammation following immediately upon the injury is somewhat acute show less tendency to recurrence of symptoms, when the condition is adequately treated, than those in which the immediate inflammation is very slight or non-existent, which, if my view of what occurs is correct, is precisely what would be expected. At the end of a fortnight pedal exercises may be freely used, the massage being continued, and at the end of three weeks from the date of injury the patient, who has up till then been walking with a "stiff leg," begins ordinary walking exercise. The time during which the massage must be continued varies in different cases from three weeks to six months or possibly more. The time for its cessation is determined by the condition of the thigh muscles and of the *capsule of the joint*. Speaking generally, it may be said that *in no case* can it be considered safe to dispense with the treatment if the thigh muscles remain wasted or if the capsule is lax, the latter condition, which is practically dependent on the former, being the more important, as the lateral movement or "wobbling" of the joint which is associated with it is directly conducive to recurrence of the trouble in the articulation.

The importance of restoring the proper tone or tension of the capsule of the knee-joint in these cases is, I believe, not sufficiently appreciated, nor do I think the means of effecting this end are altogether a matter of common knowledge. It is too commonly known, I suppose, to need emphasis here that the normal tension or "tone" in the capsule of the healthy knee is greatly dependent upon the muscles in the thigh proper which send expansions to it, notably the quadriceps extensor. A factor, however, of prime importance in this matter is one which, judging from the way in which the treatment of these cases is frequently conducted, is not always held in sufficient esteem—I mean the ilio-tibial band, the elastic tension of which is upheld by the gluteus maximus and the tensor fasciæ femoris. It will be found in the majority of, if not in all, cases like those now under discussion, when the knee capsule is very lax and the lateral movements of the knee are excessive, that there is marked wasting of these two muscles. Although much attention is generally paid to the wasting of the quadriceps extensor and to attempts at the restoration of its normal condition I do not remember having seen attention called to the wasting of the muscles connected with the ilio-tibial band. The practical importance of this point to which I particularly wish to direct attention is this. In attempting the restoration of the normal tension of the knee capsule by massage and exercises the treatment must not be limited to the obviously wasted muscles in the thigh—the quadriceps extensor, for example—but should be applied with equal vigour to the muscles connected with the ilio-tibial band, the gluteus maximus, and the tensor fasciæ femoris. The method which I have given in detail is that which I have come to believe to be best for the management of the cases now in view if a cure in the true sense is aimed at. I am well aware that in many instances the method must be too expensive and possibly from the patient's point of view too tedious to be practicable. Such cases should be managed with as little modification of the plan described as circumstances allow, the essential points of the immediate treatment—viz., temporary rest for the joint and avoidance of rotation movement—being especially borne in mind.

2. *Treatment by the use of apparatus.*—On this head little requires to be said. No support or apparatus of any kind should be employed unless absolutely unavoidable; moreover, the use of instrumental support of any kind in the case of a patient whose treatment has been commenced immediately after the receipt of the original injury must, excepting in a few special circumstances, be held to be sure evidence of the failure of the treatment primarily adopted. It cannot be too strongly emphasised that the use of artificial supports always tends to render permanent the wasting of the thigh muscles to an extent which varies in degree with the kind of instrument employed. The cases in which the use of supports is justifiable are limited as follows: (1) cases in which for unavoidable reasons the rational treatment cannot be carried out; (2) cases in which the rational treatment fails to restore the normal tension of the knee capsule or those in which abnormal lateral mobility remains to any marked extent in spite of the treatment; and (3) cases in which recurrent attacks of semilunar displacement have occurred frequently, operation having been for some reason rejected. When the symptoms point with reasonable certainty to the existence of a loose body other than a displaced cartilage the use of a support is obviously useless, operation being the only method which offers a prospect of relief. In the event of the use of a support being, for sufficient reasons, decided upon it is of importance that it should be constructed on proper principles; all the ordinary "knee caps," whether of elastic or inelastic material, are to be avoided, as, whilst they do not in any sense provide the means for acquiring the desired end, they tend more than any other contrivance to increase and perpetuate the wasting of the thigh muscles.

The object to be attained by artificial support is the prevention of rotation of the leg at the knee—to reduce, in fact, as much as possible the knee to the condition of a true hinge; in the manufacture of these instruments this salient point is the principal factor to be kept in view. It is too often *thought that a truss or pad may be made, by the pressure* of which a semilunar cartilage can be kept in its proper site. A moment's consideration will show that this is impracticable, especially in the face of the fact that in these cases of loosened semilunar cartilage the displacement is generally inwards towards the articulation—a direction upon which an external pad could by no amount of ingenuity be made to bear. All that can be accomplished by properly devised instruments is the gripping of the head of the tibia with a view to the prevention of rotation, and I am acquainted only with two appliances which reasonably effect this purpose, one being complicated and expensive, whilst the other is comparatively simple and inexpensive. So far as the effect is concerned I do not know that the one is better than the other. The small spring "trusses" sometimes supplied are entirely useless.

THE OPERATIVE TREATMENT.

With regard to the propriety of the removal of displaced or loosened semilunar cartilages there appears even now to be some divergence of opinion, for whilst some surgeons, the majority I suppose, think removal the only practical plan of treatment in certain cases, others adopt the opposite extreme and incline to reject the operation altogether; indeed, some appear to think it an unjustifiable mutilation. For my own part I believe that no operative measures in these cases short of removal of the offending cartilage is efficient and there is no doubt that if necessary the cartilage can be removed with advantage; indeed, in some cases its removal affords the only possible means of providing a workable joint, and I have certainly seen no reason to believe that any defect in result after operation arises from the mere absence of the cartilage. At the same time I am of opinion that the percentage of cases in which operative measures of any kind are necessary in cases presenting the recognised train of symptoms should be very small indeed if the original treatment has been properly managed. Under any circumstances, I am sure that operative measures should, speaking generally, be postponed until all other treatment has failed to satisfy the patient. If the original treatment is rationally conducted I further believe that operations in these cases would be found to be limited for the most part to the removal of pedunculated bodies and synovial folds. The semilunar cartilages would rarely require operative interference.

The fact that it is practically impossible, excepting in those unusual instances in which the cartilage can be felt to be absent from its normal site, to determine what is the real cause of the trouble in these cases without opening the joint renders exploratory operations in intractable cases obviously desirable, but having regard to the large percentage of cases which are curable without operation the explorations should in my opinion be reserved for (1) cases in which non operative measures have conclusively failed to cure or sufficiently modify the symptoms to satisfy the patient; (2) cases in which general flaccidity of the joint, as shown by an abnormal amount of lateral movement upon manipulation, is in excess of the other symptoms. (I have already indicated the important part which this flaccidity plays in the ultimate result of the treatment of these cases and the strongest indication for exploratory operation is afforded, in my opinion, by progressive looseness of the joint generally; it is at the same time well to note that these loose joints, especially if the lesion involves the semilunar cartilage, are those in which the tendency to defective results is strongest); (3) cases of expediency in which an early attempt at relief is urgently called for by special circumstances, such, for example, as may be the case of a soldier or any person in the public services to whom the persistence of a physical defect may entail the relinquishing of his career, or in the case of gymnasts and the like; and (4) grossly neglected cases in which from long-continued inflammation the joint has assumed the aspect of pulpy disease. Such cases are, however, rare and, indeed, in the true sense are outside the category both clinically and from the operative aspect of those now being discussed.

The reasons for restricting operative treatment to such a comparatively small number of cases are the following: 1. The vast majority of these cases are, I believe, curable by the means already indicated, and of the remainder many, although not curable in the true sense, can with or without suitable apparatus be made of so little inconvenience that the majority of patients are too well content with their condition to submit to the inconvenience, accidental risk, and expense of an operation the result of which may, after all, be disappointing. 2. The operative measures necessary for dealing with these cases when the semilunar cartilage is the structure at fault cannot be regarded as entirely free from risk. It is, I believe, a fact that although opening the knee-joint for the removal of loose bodies or synovial folds is rarely, if ever, followed by anything but uneventful recovery in competent hands the removal of a semilunar cartilage is by no means so free from subsequent trouble as is generally imagined or as would be concluded from a perusal of recorded cases, and I cannot but believe that if the results of all the cases operated upon in London in the course, say, of any five consecutive years could be forthcoming the general estimate of this operation would be lower than it at present is. Although up to the present time I have had no disaster after opening the knee-joint with the exception of one instance in which direct septic infection occurred from accidental causes entirely beyond my control in a case not included in the series now under consideration because it was of a different kind, I must admit that two of the present cases were the cause of much anxiety. The temperature charts of these cases are appended; no suppuration occurred and no active measures were necessary, but it would be idle to deny that during the periods covered by the charts these patients were in a somewhat critical condition so far as the utility of the joint (and perhaps the integrity of the limb) was concerned. It is at the same time noteworthy that the results of these cases ultimately proved to be the most perfect of the series of those subjected to operation. Under any circumstances, however, the risks are, of course, comparatively small and mainly accidental, but they are, I submit, sufficient to merit consideration in the discussion of the *pros* and *cons* of this operation, which I venture to think is occasionally too lightly undertaken. 3. The results of operation are not always perfect. Apart from cases in which failure is complete—viz., those which end in a completely stiff joint or possibly the loss of the limb—there is undoubtedly a certain percentage of failures from (1) recurrence of the symptoms and (2) partial stiffness of the joint. Of the general proportion of these failures it is of course impossible to acquire accurate knowledge; but in my series of *removal* of the semilunar cartilage recurrent symptoms occurred in one and some slight limitation of movement in one, whilst in the two cases in which the cartilage was *fixed by sutures* the symptoms recurred in less than a year from the time of operation.

Fig. 1.

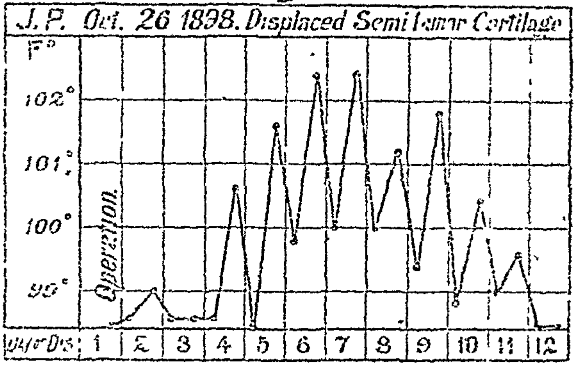
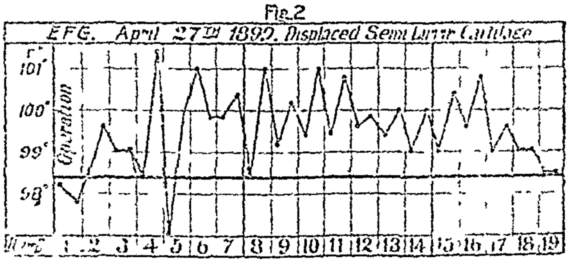


Fig. 2



It is conceivable that it may be submitted, and indeed I have heard it suggested, that in exaggerated cases even if a stiff limb results after operation the patient's condition is not only no worse but really better than before; admitting, for sake of argument, that this may be so in some cases it cannot be urged that the result is anything but failure in the case of an operation performed with the express object of providing a normal joint. To deliberately produce by operation a stiff limb may in some of the cases be proper enough under certain circumstances, but to regard a stiff limb as a satisfactory result of an operation performed with the sole object of giving a freely moveable joint is hardly rational.

With regard to the method of operating I have found the vertical incision (converted, if necessary, into an L-shape) all that is requisite to give access to the part and I confess that I am at a loss to understand the reason for the extensive transverse incision, including of course the division of the patella, which is now advocated by some. The operation performed in this way seems to be unnecessarily severe and must, *cæteris paribus*, tend to interfere more with the subsequent perfection of the joint than the simple longitudinal incision could possibly do. Moreover, so far as I have seen, no very extensive exposure of the joint is necessary in these cases; the localised symptoms indicate very clearly the seat of the trouble which is readily accessible through a moderate incision. In the case in my series in which after removal of the offending structure recurrent symptoms occurred it was suggested that the recurrence was due to some fold having escaped notice in consequence of the exposure of the joint cavity having been insufficient, but at the second operation it was clear that this was not the case, as the cause of the recurrent symptoms was a growth of tissue into the joint from the line of the division of the synovial membrane at the previous operation

There can, I think, be no doubt that the success of the operation depends more upon the management of the case before and after the treatment than upon any special method of operating The following plan of management will, I believe, be found to produce the best results, it was followed in all the cases now mentioned excepting that in which some limitation of movement occurred The patient is kept in bed for a week prior to the operation, daily massage without passive movement is used, and no thought of operation is entertained until all fluid in the joint has disappeared To operate in the presence of fluid in the joint is, I am sure, quite unjustifiable After the operation, unless pain or other unforeseen conditions are contra indicative, massage of the limb generally above and below the knee is commenced, the dressings, of course being left undisturbed Gentle passive movement of the patella in order to prevent it becoming in any way fixed, one of the most important points in the subsequent progress of the case, is commenced not later than on the fourth day the outer dressings being if necessary removed daily for this purpose At the end of a week passive movement of the knee is generally commenced and can as a rule in ordinary cases be carried out by the patient the splint being removed for a short time daily To the constant use of skilled muscle massage I attach great importance for reasons already discussed in connexion with flaccidity of the joint capsule, upon the presence or absence of which depends to a very large extent the failure or success of the case In connexion with the progress of the cases after operation, when the semilunar cartilage itself is dealt with, an interesting point is afforded by the variability in the course of the cases during the first week which in the majority is unattended by pain or discomfort of any kind, there being neither effusion nor other objectionable development On the other hand, pain with or without effusion in some cases is intense the temperature at the same time perhaps rising to a serious degree I have rarely, I think, seen more severe pain than that suffered by one of my patients although the joint did not become tense and the temperature did not reach a higher point than 99 2° F In two other cases the pain was extreme indeed almost intolerable; in each of these some tension of the joint arose, the effusion in each commencing at some time during the third day The bulk of this pain seemed to be due to, or at all events to be greatly increased by, muscle spasm or cramp both in the leg and thigh which could only be relieved by gentle smooth massage, during which the patient would often fall asleep It is perhaps worthy of note that the cases in which these apparently unfavourable symptoms developed produced ultimately the most perfect results which I have had, the joints in all being finally perfectly normal in every sense of the word This effusion coming on several days after the opening of the joint must, I assume, be due to inflammation, and I am inclined to think that a certain amount of inflammation, provided, of course, that it subsides before harm is done is advantageous, as it is, I submit, not unlikely that the inflammatory process may tend to fix any loose parts in the operation area which in the absence of inflammation may by reason of their looseness give rise to recurrent symptoms In this connexion it is significant that of all my cases the one which made the most rapid and perfect progress so far as absence of discomfort was concerned was that in which recurrent symptoms followed upon the removal of the anterior two thirds of the left semilunar cartilage

In conclusion it is fair to allow that, having regard to the admitted comparatively slight risk of these operations and the impossibility of determining with certainty the conditions at fault in the majority of these cases without opening the joint, it may be with reason submitted that a more rational plan than reserving the operation as a last resource or at all events postponing it until other means have failed would be to first perform the exploratory operation and then proceed with the treatment indicated by the circumstances revealed. My objections in this connexion are mainly two In the first place, I do not think that the measures at our disposal are sufficiently certain to admit of the performance of these operations with entire impunity, and in the second place I cannot admit that the possibility (thanks to the antiseptic system) of operating without risk other than that which may be regarded as accidental is in itself any justification for the performance of operations in cases in which there is certainly a good chance in the majority of attaining the end in view without operative interference This latter aspect of the question is, I believe worthy of special consideration at the present time when I cannot help feeling that the tendency to reduce the practice of surgery to what is little more than a mere handicraft is somewhat too strong

---

THE HISTOLOGY AND PREVENTION OF BLACKWATER FEVER

(With Coloured Illustration)

By W H CROSSE, M R C S Eng , L F P S Glasg ,

CONSULTING MEDICAL OFFICER TO THE ROYAL NIGER COMPANY

The disease called blackwater fever has caused, and is still causing such serious loss of life in tropical West and East Africa that any information upon the subject cannot fail to be of interest especially at the present time when the countries in these regions are being rapidly opened up Blackwater fever or hæmoglobinuric fever I have previously defined[1] as "a febrile disease of malarial type characterised by hæmoglobinuria jaundice and vomiting" As bearing upon the histology of this disease a description of a case which came under my notice, and which I was enabled to examine post mortem, may perhaps add something to our knowledge

A man aged 26 years had resided in the Niger territories for 16 months, this being the first time he had been out of England He came of a neurotic stock but had been passed as sound in England His work, that of a clerk, necessitated a considerable amount of exposure, both during the heat of the day and the chill of the evening. He was very "slack" in his care of himself—that is, he often went out into the sun without using a sufficient protection for his head, and if his clothes became wet either through free perspiration or actual wetting he often neglected to change them at once He was a heavy smoker, but in other things was quite moderate As the result of his "slackness" he frequently took chills, and as his work lay altogether on the lower 300 miles of the Niger territory, where mosquitoes abound, he was doubtless frequently bitten by them He took quinine only when he felt that he needed it and not at all regularly. About six weeks after his arrival in the territories he had his first attack of malaria and from that time he had an attack about every month Some of these attacks were probably relapses rather than fresh infections For two or three days before he was laid up with what proved to be his last illness he had been cold, but he kept to his work. On the day following that on which he really laid up he complained of nausea There was much fever and chilliness, his skin was noticed to be yellow, and his urine was "porter like He was put on board a launch and was brought a day s journey down the river to me When I saw him he was deeply jaundiced, his urine was hæmoglobinous, and he was suffering from persistent vomiting, the vomit being markedly green in colour The urine rapidly diminished in quantity and the patient died on the sixth day after the hæmoglobinuria first set in , the vomiting persisted to the end, and was accompanied by a most distressing hiccough and by some dyspnœa and pain in the limbs Pieces of the various organs were obtained, and these have been cut and stained by my friend, Dr T G Stevens, to whom I am indebted both for the descriptions and for the illustrations

Histological Examination of Organs

Kidney —Sections were cut in paraffin, stained with Ehrlich s hæmatoxylon and counterstained with "Licht

---

[1] Blackwater Fever Transactions of the Epidemiological Society 1898 99

Grün." The sections do not show any very advanced change; there is, however, some necrosis of the epithelium of the convoluted tubules and Henle's tubes. The necrosis is superficial only, filling the lumen with granular débris. The nuclei of the necrotic cells do not stain well, they seem to be fewer in number, and are breaking up. There is no interstitial change and the glomeruli are unaffected. There are no hæmorrhages or deposition of pigment. The changes described are consistent with an early parenchymatous nephritis.

Liver.—Sections were cut in paraffin, stained with Ehrlich's hæmatoxylin and counterstained with "Licht Grün." The sections show very conspicuously the pigmentation of the hepatic cells. The pigment is distributed fairly evenly in all parts of the lobules. The granules of pigment vary somewhat in colour from pale yellow to brown or almost black. The pigment is contained in the general protoplasm of the hepatic cells, not in the nuclei. In the capillaries are to be seen endothelial cells also containing similar pigment and pigmented leucocytes. In addition to this pigmentation the capillaries between the hepatic cells are dilated throughout the section. The capsule of the organ is thickened. There is no increase of connective tissue in the substance of the liver.

Spleen.—Sections were cut in paraffin and stained with Ehrlich's hæmatoxylon. The sections show a widely spread and advanced degree of fibrosis. The capsule and trabeculæ are much thickened and fibrous and devoid of nuclei. The stroma of the pulp tissue is considerably increased. Scattered throughout the section are seen masses of pigment of varying size and colour, the colour being bright yellow or brown to almost black. The pigment is apparently in leucocytes and also lies free among the cells. The larger masses of pigment are found in the Malpighian bodies. The smaller vessels have a very marked thickening of their sheaths; the walls are degenerate and have very few nuclei; the lumen is much reduced or even obliterated.

Cerebrum.—Sections were cut in paraffin and stained with borax methylene blue. The sections show no definite changes; there is no deposition of pigment. The vessels appear to be normal. Owing to the long maceration in spirit which probably on account of climatic conditions on the Niger was not absolute, the capillaries of the cerebrum have no complete blood corpuscles in them, but only some granular débris. Under these circumstances it is, of course, impossible to demonstrate the malarial parasite which in these cases is said to be found in the capillaries of the brain. About a dozen sections in all were examined, but no satisfactory corpuscles were found.

It will be seen that so far as one can see the above sections show nothing that cannot be found in the tissues of a patient who has had several attacks of malaria. It would appear, however, that it is possible for a patient to have had malaria many times and yet show no pigmentation of any organ except the spleen. In two of the cases of blackwater fever published by Koch[2] he states that both patients had repeatedly suffered from fever which reacted to quinine; in one only the spleen showed pigment granules and in the other he states: "The deposit of pigment in the endothelium of the spleen and liver, so characteristic of malarial disease, was likewise lacking."

Before discussing the prevention of this disease it will be necessary to say—even at the expense of repetition—something concerning its cause. Last December Mr. W. C. C Pakes and I[3] suggested that blackwater fever bore to malarial fever a similar relation to that borne by hyperpyrexia to rheumatic fever. I should like in the first place to examine Koch's cases. 1. It is strange that, although Koch inquires, "Therefore how can one still assert that blackwater fever is caused by malaria parasites?" in all his cases which have so far been published, in the *Journal of Tropical Medicine* there is a definite history of previous malarial attacks. 2. In all the cases except No. 7, where the patient had taken quinine, he took it because he felt unwell. In Case 7, although the patient felt well on the morning upon which he took the quinine, he had had intermittent fever for the preceding few days. 3. The cases of hæmoglobinuria published by Tomaselli which were caused by quinine did not, so far as I can make out, resemble blackwater fever in any other respect than in that of the presence of hæmoglobinuria. 4. If blackwater fever is, as Koch maintains it is, an intoxication by quinine no case of the disease could occur unless the patient had taken quinine. But I have already published a case[4] where the patient had no quinine until he had developed well-marked blackwater fever. 5. Koch concludes that "the lack of parasites in more than half of all cases, and the omission of the relapses would alone suffice to prove that blackwater fever itself cannot be malaria, but that it is pretty frequently associated with malaria." The lack of parasites during and subsequent to an attack of blackwater fever is of course well known, but I cannot see that any of these cases were examined for parasites *before* the attack of blackwater fever. The absence of relapses is to my mind very inconclusive since he makes no mention of the time during which they were under observation or of their surroundings during that time. It is not at all rare to find that a patient may be quite free from relapses of malaria for many months—in fact, there seems to be no doubt that some cases undergo a spontaneous cure. In short, I see no reason yet to modify the view which we suggested—that it is a complication of malaria. I quite agree to describe the condition as an intoxication, but of malarial origin.

The following case which I have recently had under my care is of great interest chiefly from the reason that I saw the patient before the attack of blackwater fever commenced.

A man, aged 22 years, had been to West Africa twice; during his first stay he had an attack of blackwater fever and he was quite recently invalided home for the same complaint. He arrived home in bitter weather and came to see me as he had felt unwell and chilly for two or three days, but during this time he did not lie up. I took several specimens of his blood and examined them. Some of the specimens were stained with carbol-thionin blue and others with eosin methylene blue. The hæmatozoa, which were fairly numerous were seen to be in two stages. All but two were about one-third of the diameter of the red disc in size, circular, oval, or in the shape of a signet ring and without pigment. The discs were not enlarged and the portions not occupied by the parasite took the eosin stain well. The two above mentioned were larger, occupying about two-thirds of the area of the disc (which, however, was not enlarged), with irregular edges and with several granules of pigment scattered throughout the hæmatozoon. On the same evening he went to a theatre, but feeling very ill went home, where upon his arrival he vomited. In consequence of finding parasites in his blood nine grains of the hydrobromate of quinine were taken by him after his return from the theatre. He had taken no quinine for at least a week prior to this dose. On the following morning he looked slightly jaundiced and vomited bile-stained mucus. At noon he passed some very dark-red urine which was collected. At 3 30 he again passed dark-red urine and at 8 P.M. the urine had become normal in colour. Specimens of his blood were again taken. The urine was examined for me by Mr. Pakes who reported as follows. Specimen 1, collected at noon: Albumin, large amount; sugar, absent; and bile, present. The colour was due to the presence of hæmoglobin—not methæmoglobin—and the urine gave a very strong urobilin band. Under the microscope hyaline and granular casts were found as well as some renal epithelium. Spermatozoa were very numerous and there were a very few red blood discs. Specimen 2, collected at 3.30: This specimen was practically identical with No. 1. The red colour was certainly hæmoglobin. There were perhaps rather fewer casts and rather more red blood discs, but the difference was only slight. Specimen 3, collected at 8 0 P.M.: Albumin, faint trace; sugar, *nil*; and bile, *nil*. No hæmoglobin band could be found, but the urobilin band was still very marked. Microscopically neither red blood discs, casts, renal epithelium, nor spermatozoa could be found. On the following day the patient had a slight relapse of the hæmoglobinuria and he felt somewhat chilly. I therefore gave him more quinine and he rapidly improved. Three days later specimens of blood were taken, and also six days later. The specimens of blood taken whilst he actually had blackwater fever and those taken three and six days later were examined both by myself and by Mr. Pakes, but we failed entirely to find either amœboid or crescent parasites.

---

[2] An account of these may be seen in the Journal of Tropical Medicine 1899.

[3] Transactions of the Pathological Society, 1898 99.

[4] Transactions of the Epidemiological Society, 1898-99.

The precautions necessary for the prevention of blackwater fever may be therefore divided into two classes: (I.) Those necessary for the prevention of malaria; and (II.) those necessary for the prevention of blackwater fever in malarial subjects.

I.—THE PRECAUTIONS NECESSARY FOR THE PREVENTION OF MALARIA.

Since Ross's discovery that the mosquito is one of the causes of the spread of malaria it becomes necessary to take precautions against being bitten by mosquitoes. In malarious countries swampy land should be avoided as much as possible and houses should be built at a distance from the haunts of the mosquito. Mosquito-breeding pools and puddles should be filled up and drained or treated with kerosine or other oil, as has been suggested. In the part of Nigeria where I resided to do this efficiently would be an almost hopeless task, for, firstly, in the delta regions the rainfall is enormous, the land is only slightly raised above high-water mark, and it is frequently submerged; it is also intersected by a perfect network of creeks, streams, and puddles and is covered with a jungle so dense that native paths are only made and kept open with very great difficulty. In such a country even the most heroic measures would avail little. Secondly, as the land for hundreds of square miles is only slightly raised above high-water mark drainage obviously would be exceedingly difficult. Thirdly, any treatment of the mosquito-breeding pools with kerosene in regions like those forming the delta of the Niger would involve the expenditure of fabulous sums and Herculean labour. For these and other reasons very little can be done in the way of destroying mosquitoes by the above methods except in the immediate neighbourhood of European houses.

It seems to me that perhaps the only way in which we can hope to stamp out the mosquito is by introducing into the countries which it inhabits some animal which is inimical to it. A statement made to me by Lord Bennet appears to be worthy of mention here as possibly indicating the means which might be adopted. He says: "In the western States of America and in Canada there is a red parasite which destroys mosquitoes and almost exterminates them about the middle or end of July. The parasite is well known both in Ontario (away from towns) and in Washington State. I have found the parasite as early as the beginning of June." Doubtless there are many who are capable of giving us definite information as to the nature and habits of this parasite, if parasite it be. If therefore those who can will give us this information we shall be able to judge as to whether it would be possible or advisable to introduce this or some similar parasite into malarious regions. In addition to the well-known general precautions I should add that I consider the regular administration of quinine to be most important. My own custom has been to give five grains each day.

II.—THE PRECAUTIONS NECESSARY FOR THE PREVENTION OF BLACKWATER FEVER.

The prevention of blackwater fever in malarial subjects resolves itself practically into two points which I shall only briefly mention in this paper. 1. The general care of health. Chills, wettings, and exposure during the heat of the day should be avoided. Quinine should be regularly taken to eradicate the parasite and so prevent relapses and to cure fresh infections. Arsenic, iron, and other drugs which help to prevent or to cure anæmia should be taken. Patients should be moved from specially unhealthy localities. Special attention should be paid to proper housing and clothing and to the regular use of mosquito curtains. Any other illness—e.g., dysentery—should be cured as quickly as possible. Strict moderation should be observed in regard to alcohol, &c.; suitable food, which should include plenty of fresh vegetables, and a pure water-supply are of importance. Depressing drugs (such as antipyrin) should be taken with caution and should in no wise be taken in the place of quinine. As frequent visits as possible should be paid to non-malarious districts or countries. 2. Return to a non-malarious climate. When it is noticed that a man is becoming anæmic and debilitated by the fevers which he gets and by the conditions under which he lives, then he should be sent to a non-malarious climate for a protracted holiday. A place should be selected which is a suitable one for the patient to go to. Recently several cases of blackwater fever have occurred in men who have arrived in England in bitterly cold weather, and I think that some of these patients might have escaped had they been sent in the first instance to Grand Canary or Madeira.

Dover-street, Piccadilly.

THE SO-CALLED DANGER FROM THE USE OF BORIC ACID IN PRESERVED FOODS.

BY DR. OSCAR LIEBREICH.

IN a thorough investigation on the action of borax and boric acid I have not been able to demonstrate that these two bodies are included in the so-called toxic-acting substances in so far as they act through absorption from the intestine. My researches show that the misleading and frequently disseminated statements to the contrary are at present without foundation. This preliminary question must naturally be settled before the hygienic and legal aspects of the subject can be taken up—as to whether, and in what quantities, it is allowable to use these two substances as preservatives for articles of food. These questions are too often regarded, not from the purely scientific standpoint, but in the light of their value in the interest of political and agrarian parties in different countries. This is shown by the frequent republication of old and quite inconclusive investigations, particularly by the daily *press*, statements which are likely to mislead both legal and public opinion. It is not my intention to enter now into my investigations on this subject. These will appear in the *Vierteljahrsschrift fur Gerichtliche Medicin* and will shortly be published by Churchill in pamphlet form. The reason for my again taking up these questions is an article by Dr H. E. Annett on Boric Acid and Formalin as Milk Preservatives which appeared in THE LANCET of Nov. 11th, 1899 (p. 1282). It would be quite sufficient only to criticise this investigation, but it seems advisable also to make some introductory observations.

In the first place Dr. Annett cites the following from the report of the committee of the Local Government Board: "There is no doubt that boric acid if taken in large quantities would be injurious to health, but we have not sufficient information to show whether such such minute quantities as are generally added as preservatives would be regarded as having that effect, and more exact information is wanted before it can be decided whether a process which *prima facie* may be regarded as intended to prevent the loss of valuable foods must be held to be prohibited by law." Dr. Annett adds: "*It is remarkable that that 'sufficient information' on the action of minute doses of 'preservatives' habitually taken after the lapse of a period of almost 10 years is still not forthcoming.*" Dr. Annett is quite right. It is indeed strange that during 10 years of experimental work, taken part in by a great number of investigators it has not been forthcoming, and that during these 10 years of experience of practising physicians there has not been forthcoming any instance of injury to health from the administration of small doses of borax and boric acid. Particularly so, in my opinion, for during this time a very excellent opportunity has been afforded for practical observation, because the use of boric acid in small doses has been very extensively resorted to. This gives evidence to the experimenter that the existence of an injurious influence of small doses could only be demonstrated with great difficulty, if indeed it exists at all. One would expect that Dr. Annett had succeeded in obtaining the required proof. However, this is not the case. He begins by enumerating the injurious effects of excessively large doses in animals and confuses these with therapeutic observations. In such a scientific criticism it would have been fairer not to have suppressed the facts that excessive doses administered by the mouth cause only passing harm in man and that the injection of excessive doses of borax and boric acid in the body cavities of patients produces distinct intoxication and even death. This is well known and not to be wondered at; but from this latter fact no conclusion can be drawn as to their toxicity when administered through the stomach and intestine, for the purpose of forming a judgment on the use of small quantities for the

Grün." The sections do not show any very advanced change; there is, however, some necrosis of the epithelium of the convoluted tubules and Henle's tubes. The necrosis is superficial only, filling the lumen with granular débris. The nuclei of the necrotic cells do not stain well, they seem to be fewer in number, and are breaking up. There is no interstitial change and the glomeruli are unaffected. There are no hæmorrhages or deposition of pigment. The changes described are *consistent with an early parenchymatous* nephritis.

Liver.—Sections were cut in paraffin, stained with Ehrlich's hæmatoxylin and counterstained with "Licht Grün." The sections show very conspicuously the pigmentation of the hepatic cells. The pigment is distributed fairly evenly in all parts of the lobules. The granules of pigment vary somewhat in colour from pale yellow to brown or almost black. The pigment is contained in the general protoplasm of the hepatic cells, not in the nuclei. In the capillaries are to be seen endothelial cells also containing similar pigment and pigmented leucocytes. In addition to this pigmentation the capillaries between the hepatic cells are dilated throughout the section. The capsule of the organ is thickened. There is no increase of connective tissue in the substance of the liver.

Spleen.—Sections were cut in paraffin and stained with Ehrlich's hæmatoxylon. The sections show a widely spread and advanced degree of fibrosis. The capsule and trabeculæ are much thickened and fibrous and devoid of nuclei. The stroma of the pulp tissue is considerably increased. Scattered throughout the section are seen masses of pigment of varying size and colour, the colour being bright yellow or brown to almost black. The pigment is apparently in leucocytes and also lies free among the cells. The larger masses of pigment are found in the Malpighian bodies. The smaller vessels have a very marked thickening of their sheaths; the walls are degenerate and have very few nuclei; the lumen is much reduced or even obliterated.

Cerebrum.—Sections were cut in paraffin and stained with borax methylene blue. The sections show no definite changes; there is no deposition of pigment. The vessels appear to be normal. Owing to the long maceration in spirit which probably on account of climatic conditions on the Niger was not absolute, the capillaries of the cerebrum have no complete blood corpuscles in them, but only some granular débris. Under these circumstances it is, of course, impossible to demonstrate the malarial parasite which in these cases is said to be found in the capillaries of the brain. About a dozen sections in all were examined, but no satisfactory corpuscles were found.

It will be seen that so far as one can see the above sections show nothing that cannot be found in the tissues of a patient who has had several attacks of malaria. It would appear, however, that it is possible for a patient to have had malaria many times and yet show no pigmentation of any organ except the spleen. In two of the cases of blackwater fever published by Koch[2] he states that both patients had repeatedly suffered from fever which reacted to quinine; in one only the spleen showed pigment granules and in the other he states: "The deposit of pigment in the endothelium of the spleen and liver, so characteristic of malarial disease, was likewise lacking."

Before discussing the prevention of this disease it will be necessary to say—even at the expense of repetition—something concerning its cause. Last December Mr. W. O. C. Pakes and I[3] suggested that blackwater fever bore to malarial fever a similar relation to that borne by hyperpyrexia to rheumatic fever. I should like in the first place to examine Koch's cases. 1. It is strange that, although Koch inquires, "Therefore how can one still assert that blackwater fever is caused by malaria parasites?" *in all his cases which have so far been published*, in the *Journal of Tropical Medicine* there is a definite history of previous malarial attacks. 2. In all the cases except No. 7, where the patient had taken quinine, he took it because he felt unwell. In Case 7, although the patient felt well on the morning upon which he took the quinine, he had had intermittent fever for the preceding few days. 3. The cases of hæmoglobinuria published by Tomaselli which were caused by quinine did not, so far as I can make out, resemble blackwater fever in any other respect than in that of the presence of hæmoglobinuria. 4. If blackwater fever is, as Koch maintains it is, an intoxication by quinine no case of the disease could occur unless the patient had taken quinine. But I have already published a case[4] where the patient had no quinine until he had developed well-marked blackwater fever. 5. Koch concludes that "the lack of parasites in more than half of all cases, and the omission of the relapses would alone suffice to prove *that blackwater fever itself* cannot be malaria, but that it is pretty frequently associated with malaria." The lack of parasites during and subsequent to an attack of blackwater fever is of course well known, but I cannot see that any of these cases were examined for parasites *before* the attack of blackwater fever. The absence of relapses is to my mind very inconclusive since he makes no mention of the time during which they were under observation or of their surroundings during that time. It is not at all rare to find that a patient may be quite free from relapses of malaria for many months—in fact, there seems to be no doubt that some cases undergo a spontaneous cure. In short, I see no reason yet to modify the view which we suggested—that it is a complication of malaria. I quite agree to describe the condition as an intoxication, but of malarial origin.

The following case which I have recently had under my care is of great interest chiefly from the reason that I saw the patient before the attack of blackwater fever commenced.

A man, aged 22 years, had been to West Africa twice; during his first stay he had an attack of blackwater fever and he was quite recently invalided home for the same complaint. He arrived home in bitter weather and came to see me as he had felt unwell and chilly for two or three days, but during this time he did not lie up. I took several specimens of his blood and examined them. Some of the specimens were stained with carbol-thionin blue and others with eosin methylene blue. The hæmatozoa, which were fairly numerous were seen to be in two stages. All but two were about one-third of the diameter of the red disc in size, circular, oval, or in the shape of a signet ring and without pigment. The discs were not enlarged and the portions not occupied by the parasite took the eosin stain well. The two above mentioned were larger, occupying about two-thirds of the area of the disc (which, however, was not enlarged), with irregular edges and with several granules of pigment scattered throughout the hæmatozoon. On the same evening he went to a theatre, but feeling very ill went home, where upon his arrival he vomited. In consequence of finding parasites in his blood nine grains of the hydrobromate of quinine were taken by him after his return from the theatre. He had taken no quinine for at least a week prior to this dose. On the following morning he looked slightly jaundiced and vomited bile-stained mucus. At noon he passed some very dark-red urine which was collected. At 3 30 he again passed dark-red urine and at 8 P.M. the urine had become normal in colour. Specimens of his blood were again taken. The urine was examined for me by Mr. Pakes who reported as follows. Specimen 1, collected at noon: Albumin, large amount; sugar, absent; and bile, present. The colour was due to the presence of hæmoglobin—not methæmoglobin—and the urine gave a very strong urobilin band. Under the microscope hyaline and granular casts were found as well as some renal epithelium. Spermatozoa were very numerous and there were a very few red blood discs. Specimen 2, collected at 3.30: This specimen was practically identical with No. 1. The red colour was certainly hæmoglobin. There were perhaps rather fewer casts and rather more red blood discs, but the difference was only slight. Specimen 3, collected at 8 0 P.M.: Albumin, *faint trace; sugar, nil; and bile, nil.* No hæmoglobin band could be found, but the urobilin band was still very marked. Microscopically neither red blood discs, casts, renal epithelium, nor spermatozoa could be found. On the following day the patient had a slight relapse of the hæmoglobinuria and he felt somewhat chilly. I therefore gave him more quinine and he rapidly improved. Three days later specimens of blood were taken, and also six days later. The specimens of blood taken whilst he actually had blackwater fever and those taken three and six days later were examined both by myself and by Mr. Pakes, but we failed entirely to find either amœboid or crescent parasites.

---

[2] An account of these may be seen in the Journal of Tropical Medicine 1899).

[3] Transactions of the Pathological Society, 1898-99.

[4] Transactions of the Epidemiological Society, 1898-99.

The precautions necessary for the prevention of blackwater fever may be therefore divided into two classes: (I.) Those necessary for the prevention of malaria; and (II.) those necessary for the prevention of blackwater fever in malarial subjects.

I.—THE PRECAUTIONS NECESSARY FOR THE PREVENTION OF MALARIA.

Since Ross's discovery that the mosquito is one of the causes of the spread of malaria it becomes necessary to take precautions against being bitten by mosquitoes. In malarious countries swampy land should be avoided as much as possible and houses should be built at a distance from the haunts of the mosquito. Mosquito breeding pools and puddles should be filled up and drained or treated with kerosine or other oil, as has been suggested. In the part of Nigeria where I resided to do this efficiently would be an almost hopeless task, for, firstly, in the delta regions the rainfall is enormous, the land is only slightly raised above high-water mark, and it is frequently submerged; it is also intersected by a perfect network of creeks, streams, and puddles and is covered with a jungle so dense that native paths are only made and kept open with very great difficulty. In such a country even the most heroic measures would avail little. Secondly, as the land for hundreds of square miles is only slightly raised above high-water mark drainage obviously would be exceedingly difficult. Thirdly, any treatment of the mosquito-breeding pools with kerosene in regions like those forming the delta of the Niger would involve the expenditure of fabulous sums and Herculean labour. For these and other reasons very little can be done in the way of destroying mosquitoes by the above methods except in the immediate neighbourhood of European houses.

It seems to me that perhaps the only way in which we can hope to stamp out the mosquito is by introducing into the countries which it inhabits some animal which is inimical to it. A statement made to me by Lord Bennet appears to be worthy of mention here as possibly indicating the means which might be adopted. He says: "In the western States of America and in Canada there is a red parasite which destroys mosquitoes and almost exterminates them about the middle or end of July. The parasite is well known both in Ontario (away from towns) and in Washington State. I have found the parasite as early as the beginning of June." Doubtless there are many who are capable of giving us definite information as to the nature and habits of this parasite, if parasite it be. If therefore those who can will give us this information we shall be able to judge as to whether it would be possible or advisable to introduce this or some similar parasite into malarious regions. In addition to the well-known general precautions I should add that I consider the regular administration of quinine to be most important. My own custom has been to give five grains each day.

II.—THE PRECAUTIONS NECESSARY FOR THE PREVENTION OF BLACKWATER FEVER.

The prevention of blackwater fever in malarial subjects resolves itself practically into two points which I shall only briefly mention in this paper. 1. The general care of health. Chills, wettings, and exposure during the heat of the day should be avoided. Quinine should be regularly taken to eradicate the parasite and so prevent relapses and to cure fresh infections. Arsenic, iron, and other drugs which help to prevent or to cure anæmia should be taken. Patients should be moved from specially unhealthy localities. Special attention should be paid to proper housing and clothing and to the regular use of mosquito curtains. Any other illness—e.g., dysentery—should be cured as quickly as possible. Strict moderation should be observed in regard to alcohol, &c.; suitable food, which should include plenty of fresh vegetables, and a pure water-supply are of importance. Depressing drugs (such as antipyrin) should be taken with caution and should in no wise be taken in the place of quinine. As frequent visits as possible should be paid to non-malarious districts or countries. 2. Return to a non-malarious climate. When it is noticed that a man is becoming anæmic and debilitated by the fevers which he gets and by the conditions under which he lives, then he should be sent to a non-malarious climate for a protracted holiday. A place should be selected which is a suitable one for the patient to go to. Recently several cases of blackwater fever have occurred in men who have arrived in England in bitterly cold weather, and I think that some of these patients might have escaped had they been sent in the first instance to Grand Canary or Madeira.

Dover-street, Piccadilly.

THE SO-CALLED DANGER FROM THE USE OF BORIC ACID IN PRESERVED FOODS.

BY DR OSCAR LIEBREICH.

IN a thorough investigation on the action of borax and boric acid I have not been able to demonstrate that these two bodies are included in the so called toxic-acting substances in so far as they act through absorption from the intestine. My researches show that the misleading and frequently disseminated statements to the contrary are at present without foundation. This preliminary question must naturally be settled before the hygienic and legal aspects of the subject can be taken up—as to whether, and in what quantities, it is allowable to use these two substances as preservatives for articles of food. These questions are too often regarded, not from the purely scientific standpoint, but in the light of their value in the interest of political and agrarian parties in different countries. This is shown by the frequent republication of old and quite inconclusive investigations, particularly by the daily press, statements which are likely to mislead both legal and public opinion. It is not my intention to enter now into my investigations on this subject. These will appear in the *Vierteljahrsschrift für Gerichtliche Medicin* and will shortly be published by Churchill in pamphlet form. The reason for my again taking up these questions is an article by Dr H. E. Annett on Boric Acid and Formalin as Milk Preservatives which appeared in THE LANCET of Nov. 11th, 1899 (p. 1282). It would be quite sufficient only to criticise this investigation, but it seems advisable also to make some introductory observations.

In the first place Dr. Annett cites the following from the report of the committee of the Local Government Board:—"There is no doubt that boric acid if taken in large quantities would be injurious to health, but we have not sufficient information to show whether such such minute quantities as are generally added as preservatives would be regarded as having that effect, and more exact information is wanted before it can be decided whether a process which *primâ facie* may be regarded as intended to prevent the loss of valuable foods must be held to be prohibited by law." Dr. Annett adds: "It is remarkable that that 'sufficient information' on the action of minute doses of 'preservatives' habitually taken after the lapse of a period of almost 10 years is still not forthcoming." Dr. Annett is quite right. It is indeed strange that during 10 years of experimental work, taken part in by a great number of investigators it has not been forthcoming, and that during these 10 years of experience of practising physicians there has not been forthcoming any instance of injury to health from the administration of small doses of borax and boric acid. Particularly so, in my opinion, for during this time a very excellent opportunity has been afforded for practical observation, because the use of boric acid in small doses has been very extensively resorted to. This gives evidence to the experimenter that the existence of an injurious influence of small doses could only be demonstrated with great difficulty, if indeed it exists at all. One would expect that Dr. Annett had succeeded in obtaining the required proof. However, this is not the case. He begins by enumerating the injurious effects of excessively large doses in animals and confuses these with therapeutic observations. In such a scientific criticism it would have been fairer not to have suppressed the facts that excessive doses administered by the mouth cause only passing harm in man and that the injection of excessive doses of borax and boric acid in the body cavities of patients produces distinct intoxication and even death. This is well known and not to be wondered at, but from this latter fact no conclusion can be drawn as to their toxicity when administered through the stomach and intestine, for the purpose of forming a judgment on the use of small quantities for the preservation of food. We are aware that many substances are harmless in the intestinal canal if swallowed, but that if injected subcutaneously or into the body cavities they act as poisons. Further, Dr. Annett states that the most eminent authorities of this country, who by means of THE LANCET Special Sanitary Commission on the Use of Antiseptics in Food of 1896 published their opinions on the question of food preservatives, were unanimously of opinion that the use of antiseptics in food was injurious to health. Reference to the columns of THE LANCET convinces me that this statement is totally inaccurate It is only necessary to cite the words of two authorities. Professor Halliburton[1] says: "I and all of us are continually taking such food (especially milk treated with boric acid) without any appreciably bad results." And Professor Bradbury[2] says: "I am disposed to think that the presence of small quantities of salicylic, boric, or benzoic acids, in sufficient quantities to preserve it is not injurious to health." The conclusion of THE LANCET itself was as follows: "As will be seen from these communications there is considerable diversity of opinion as to whether antiseptics in the quantities used for preserving food are injurious to health, and also whether legislation could satisfactorily deal with the subject, although on the whole the conclusion appears to be not altogether unfavourable to the use of preservatives with certain restrictions. The majority agree in one thing, and that is that should the practice be tolerated it should be placed under some control, so that, for instance, where the addition of antiseptics is practised it should be notified to the purchaser. Very few of our correspondents, it is important to note, are able to quote cases within their experience of injury to health having been caused by preservatives in food."

One can be certain that if medical men of the standing of Dr Lauder Brunton and others had been able to satisfy themselves that the small quantities of antiseptics necessary possessed even a trace of injurious influence they would at once have concluded it was altogether better to entirely forbid the preservation of food. From the researches of this commission it can also be inferred that the authorities referred to held that it was better to preserve food with these small and non-injurious quantities of antiseptics than that any section of the public should be obliged to eat decomposing food, regarding the injurious nature of which no doubt exists. Dr. Annett quotes Binswanger also incorrectly. More extensive quotation would have clearly shown that as the result of his investigations Binswanger held that small doses of boric acid exercised not only no injurious action but so little action whatever that it was practically inert. These misquotations have already been corrected in my pamphlet, but it seems to me necessary to refer to one more important point.

Dr. Annett himself draws attention to the fact that the only direct instance of the injurious action on man of boric acid when added to milk is that recorded by Dr. A. R. Robinson[3] and referred to by Dr. Annett in the following words: "Five of the seven inmates of a certain house became suddenly ill after partaking of blancmange which had been made from milk of the previous day, to which, as was confessed, the dairyman supplying it had already added boric acid and to which the cook had added a further quantity to preserve it over-night. Nine fowls fed liberally with the blancmange became ill, five dying." From such a description it is not possible to form any idea as to what the nature of the illness of the inmates was One may pass over the question as to what symptoms were exhibited by the hens, and what were the appearances that would have been present in the post-mortem examination (which was not made), and I put to Dr. Robinson the question if he has not observed, after blancmange, after ice, and particularly after milk, similar sudden illness without any boric acid having been present. It is not uncommon for illness to ensue if food has been kept in vessels in contact with metal, as in the case of blancmange often occurs. But the first question for a sanitary officer to settle was the mode of preparation of the blancmange. In the cookery books of different nations the ingredients are stated as follows: Milk or cream, bitter almonds, sugar, gelatin, vanilla, lemon peel, and bay laurel leaves. From this it is evident that it is not impossible that things may have been present which are known to afford opportunities for poisoning to occur. Vanilla is often such a cause, and the possibility for poisoning even by prussic acid exists through an excess of bitter almonds being used. The bitter taste of these is by no means a protection to the people partaking of the food, for the laurel leaves and lemon cannot only conceal this, but the combination with bitterness may also add an extra flavour. Also the milk may have already been poisonous before the addition of the boric acid, and it is well known that boric acid only prevents the further formation of toxic bodies without destroying those already existing. Of not one of these possible contingencies has Dr. Annett taken any account and it is now impossible to determine whether any of these same factors were present. One can, however, through investigations on hens, prove Dr. Robinson's assertion that the boric acid contained in the blancmange was the cause of the illness of the people and of the hens is without foundation. It should have been Dr. Robinson's work to investigate this and show whether hens can be poisoned or not by feeding them on blancmange to which boric acid has been added before he alarmed the world by making public so startling an assertion. For this purpose it was only necessary to clear up the whole question by so simple an experiment as the following.

I placed nine fowls for several days on ordinary *corn*-feeding, and observing that one showed some signs of respiratory trouble it was discarded and the following investigation was carried out on the remaining eight. On the first day one litre of milk and six grammes and five decigrammes of boric acid and 200 grammes of maize-flour were made into a thick porridge, which was equivalent to one ounce and 16½ grains in one gallon. This corresponded to a blancmange, and on it the hens were fed. On the second day they received the same feeding, and on the third day half of the same feeding. In three days the hens had each received about two grammes, or 30 86 grains, without any disturbance in health being noticeable. Their eagerness to eat corn was in no way diminished. On the twelfth day seven of the hens at 1 P M. received 10 pills, each containing 0 05 gramme of boric acid—i e., each received 0·5 gramme, or 7·72 grains. At 3 P M. the same dose was repeated, so that every animal had received one gramme, or 15 43 grains. The eighth hen received 50 grammes of sweet almonds. On the thirteenth day no appearance of illness had manifested itself, and on the sixteenth day the fowls appeared perfectly well.

From this it is fully proved: (1) that if blancmange be prepared with milk and boric acid added even in such excessively large quantity as 6 5 grammes in a litre (or one ounce and 18½ grains in a gallon) it is not poisonous, and further that boric acid itself in such large doses as one to two grammes (or 15 43 to 30 86 grains) exercises no toxic effect on hens; (2) that the toxic appearances observed by Dr. Robinson in the hens did not arise from boric acid; and (3) that Dr. Robinson has not succeeded in ascertaining the true cause of the sickness which affected the hens and the inmates of the house It is not necessary to state that my experiment on the hens has no other value than to prove Dr. Robinson's error.

Another point in Dr. Annett's article concerning the feeding of kittens requires to be gone into Such experiments are extremely serviceable to the inquiry, but in the present instance the experiments performed do not fulfil their intended purpose, viz., to prove the toxic effect of *small* doses of boric acid when given for a long time. All that these experiments prove is already known, viz., that animals finally succumb under the repetition of large doses. I regret the necessity for adversely criticising these experiments, nevertheless, it is not stated how much the kittens ate, and the experiments show that conclusions based on only two series of experiments are founded on insufficient data, since two of the kittens fed on milk containing 40 grains died earlier than any of those fed on milk which contained 80 grains. It is necessary in order to form a reliable judgment concerning the feeding of kittens to have a long series of experiments. As I have stated, the difficulty is here present that the data given are imperfect. They permit, however, of a conclusion being drawn. One comes to the following results. If we take a solution of 40 grains in the gallon, corresponding to the second series of experiments, then there are 2 592 grammes in 4·545 litres (i.e., in one gallon) or 0 57 gramme in one litre. However, in the data given by the experimenter it is not stated how much of the milk the kittens consumed It may have been a small quantity, say 100 cubic centimetres, which each kitten drank In this case the animal ingested 0 057 gramme or 0 88 of a grain of boric acid The mean weight of the kittens in the series was 408 4 grammes

---

[1] THE LANCET, Jan 2nd, 1897, p 59.

[2] Ibid

[3] Public Health, August, 1899

It must now be settled to what age in a child these three weeks old to four weeks old kittens are comparable If we accept that a man grows till he is 20 years of age and that a cat grows till it is two years old, then the kittens experimented on may be compared to children of from nine to 10 months old A child of this age has a weight of, it may be eight kilogrammes and 300 grammes, and corresponding to the weight of the kittens such a child would require to receive 1·13 grammes or 17 44 grains of boric acid To obtain this it would be necessary for a child to use one litre and 983 cubic centimetres of the milk consumed by the kittens (0 57 gramme of boric acid in one litre) But such a child at the very utmost could only partake of one and a half litres per day, which would contain 0 86 gramme, or 13 25 grains, of boric acid To make a general comparison with the experiments on the kittens since the child has a weight of eight kilogrammes and 300 grammes and the kittens of 408 4 grammes, the kitten ought to have received no more than 0 042 gramme of boric acid, and this quantity must be contained in 100 cubic centimetres This would correspond with milk containing only 0 42 gramme per litre or 29 45 grains per gallon, while as much as 40 grains per gallon was used in these kittens This difference of more than 25 per cent of the stated quantity of boric acid is very important, particularly when the treatment is continued over a long period According to this calculation, made in a very favourable light from the experimenter's standpoint, it is evident that Dr Annett is very far removed from having proved by his experiments that small quantities, if used for a long time, are poisonous for men and children

THREE CASES IN WHICH MOVEABLE KIDNEY PRODUCED ALL THE SYMPTOMS OF GALL STONES

BY T J MACLAGAN, M D EDIN, M R C P LOND,

AND

FREDERICK TREVES, F R C S ENG

CASE 1 —A woman, aged 35 years, a widow with no children, tall and of spare habit, consulted me [Dr Maclagan] in 1892. She had never had any serious illness, but for the last three years had suffered from occasional attacks of pain in the epigastrium, from indigestion and general loss of strength She was thin and not well nourished, her complexion was sallow, she was somewhat anæmic and had the expression of one who suffered a good deal She said that she was never quite well, had always more or less discomfort in the abdomen, and every now and then had an attack of severe pain—so severe as to make her call out These attacks lasted sometimes for an hour or two, sometimes for eight or 10 hours, and sometimes for a whole day. The pain was referred to the hepatic and epigastric regions The attacks had of late become more frequent as well as more severe; she seldom went a week without one and was getting worn out by them After the attacks she was generally slightly jaundiced for a few days She had consulted various physicians, some of whom regarded the pain as neuralgic and others thought that she had gall stones She underwent a course of treatment at Schwalbach without deriving any benefit from it She did the same at Carlsbad the following year From this she said she derived some benefit, but the excellent physician who looked after her there told her that she had a large gall stone in her gall bladder and that she would be no better till it was removed When I saw her first she had considerable discomfort but was not in pain There was tenderness on pressure over the epigastrium and at the edge of the left lobe of the liver; the gall bladder could not be felt The right kidney was very moveable and could be distinctly felt under the edge of the liver No other abnormality was found A week later I saw her in one of her attacks of pain She was suffering much, the pain being referred to the epigastrium and to the right of it. The pulse was quick and feeble and the temperature was 99 8°F, She was tender to the touch over the seat of pain and the gall bladder could be felt full and distended The least pressure over it caused considerable pain She had a dose of morphia and the pain passed off, leaving her slightly jaundiced for a few days It was some days before the abnormal tenderness on pressure disappeared A fortnight later she had another attack in all respects similar, and within the following three months she had five or six more During each attack the gall bladder filled up and after each she was slightly jaundiced for two or three days The kidney could always be detected under the border of the liver The character of the attacks and the symptoms produced all pointed to the presence of a gall stone in the gall bladder small enough to get into the cystic duct but too large to pass through it This was explained to the patient and an operation was recommended for the removal of the stone and fixing of the kidney Mr. Knowsley Thornton saw her with me and concurred in this view On May 5th, 1893, he performed the operation He first, by an incision in front, got at the gall bladder Nothing was found amiss with it The gall bladder and gall ducts were carefully examined but no gall stone was found, but behind it was felt a lump which turned out to be the right kidney The wound in front was closed by stitches The kidney was then reached by incision in the lumbar region and secured to the side by three silk sutures The wounds healed rapidly, the patient made a good recovery, and six weeks after the operation went to the country to recruit She remained well and has had no recurrence of her old symptoms

CASE 2 —The patient was a woman, aged 34 years, the mother of three children She had a history of having suffered from gall stones for five or six years On Nov 17th, 1892 I saw her with Dr J Smith of Windsor For two days she had been suffering from severe pain in the epigastric and hepatic regions pain which was kept down only by injections of morphia She was quite jaundiced, the temperature was 101° F, and the tongue was dirty The gall bladder could be felt full and distended, it was very tender, but as she was a good deal under the influence of morphia there was not much difficulty in examining it On the following day the pain abated and she was able to do without the morphia A gall stone was found by the nurse in the stool She remained jaundiced for a week or 10 days She consulted me again in 1893 She said that she had never really been well since I saw her in 1892 She was constantly having attacks of pain seldom going more than a week without one For the relief of these she took opium She was sallow thin and had a look of ill health There was tenderness on pressure over the epigastrium and the region of the gall bladder but no swelling or fulness The right kidney was very moveable and could be felt under the edge of the liver I dieted her, gave a mixture containing sulphate and bicarbonate of soda and enjoined a quiet life In 1895 she again consulted me for the same symptoms and received the same treatment I did not see her again till the spring of 1897 when she came to London to be under my care She told me that she was steadily getting worse, the attacks being more frequent and more severe, so much so that she seldom passed more than two or three days without having to take morphia for the relief of the pain She was thin, badly nourished, and slightly jaundiced There was tenderness on pressure over the epigastrium and over the region of the gall bladder, but no distinct fulness The right kidney could be felt as before under the liver and was very moveable Though no gall stone was found in the stools there seemed no doubt that every few days a stone was either passing or trying to pass She was getting worn out by the pain and though in time the gall bladder might empty itself this seemed too great a risk to run I explained the circumstances to the patient and to her husband and recommended an operation for the removal of the stones Mr. Treves saw her with me and quite concurred both in my view of the case and in the advisability of operating The patient was suffering so much and her life was such a burden to her that she readily assented On May [illegible] 1897 the operation was performed Mr Treves had better tell this part of the story —" Immediately the abdomen was opened the gall bladder presented It was very much enlarged and was fully distended It was readily emptied by pressure and was found to be free from gall-stones as were also the biliary ducts. There were no adhesions. On examining the neck of the gall-bladder the kidney was encountered. Its upper end was actually lying on the cystic duct and the gland had to be displaced before the ducts could be examined. There was no evidence that the disturbance of the peritoneum attending the moveable kidney had led to such a mobility of the duodenum as could produce a kinking of the duct. The condition discovered definitely suggested that the kidney pressed directly upon the biliary passages. The gall-bladder was not opened and the abdominal wound was closed. An incision was then made in the loin and the kidney—which was very moveable—was secured by three silk sutures. The fact remains that the patient was cured of attacks of hepatic colic attended by jaundice by the fixing of her right kidney." The patient made an excellent recovery and went to the country six weeks after the operation. She has had no return of pain and now, two and a half years after the operation, remains well. She has gained in flesh and looks the picture of health. I accidentally met her two years after the operation and did not recognise her at first so much had her appearance changed for the better.

CASE 3.—A woman, aged 34 years, the mother of two children, of spare habit, had suffered for three or four years from indigestion, pain in the epigastrium, and symptoms of biliary catarrh. At times she had attacks of pain in the epigastrium and the region of the liver. During these attacks the gall-bladder could generally be felt more or less distended, and after each she was slightly jaundiced. The right kidney was moveable and could be felt under the liver. She improved at times under treatment, but never got well. During the winter 1897-98 matters got worse. Attacks of pain were more frequent as well as more severe. She lost flesh and was persistently slightly jaundiced. In the interval between the attacks there was more or less tenderness on pressure over the epigastrium; during them this tenderness was more marked, and, in addition, the gall-bladder could be felt full and distended, and was very tender. There was usually a slight rise of temperature. The diagnosis formed was that the gall-bladder contained a gall-stone which was small enough to enter the cystic duct but too large to pass through it. I had the advantage of having the opinion of Sir William Broadbent and of Mr. Treves, who both took the same view. It was decided to go on treating her medically in the hope that the stone would yet pass. She seemed to improve a little. In July, 1898, she went to Harrogate for a course of waters which seemed to do her much good. From there she went to America, where she spent the winter of 1898-99. There she got much worse, was constantly laid up with attacks of pain the same as before, only more severe. There the physician who attended her, Dr. Kinnicut of New York, treated her for gall-stones. She returned to London in April, thin, slightly jaundiced, and much worn by suffering. She was scarcely ever free from pain and every few days had a severe attack calling for the use of morphia. The gall-bladder could now always be felt; during an attack it was very tender and could be felt, to use Mr. Treves's simile, "like a small banana" in the abdomen. The right kidney was still displaced and very moveable. After watching her for a few weeks I felt that I was not justified in temporising any longer. The gall-bladder was so permanently distended and so tender that the patient ran the risk of acute inflammation and suppuration there. Again Sir William Broadbent and Mr. Treves saw her with me. They quite agreed that there was distinct risk in allowing matters to go on and that the gall-bladder should be opened and the stone removed. The patient and friends readily consented and the operation was performed by Mr Treves on June 30th, 1899. Again, as in the last case, no stone was found. What was found Mr. Treves shall describe. "An incision was made in the upper part of the right semilunar line. The gall-bladder presented and was not less than four times its normal size. It was opened by an incision made in the fundus. A considerable part of the body of the gall-bladder was adherent to the great omentum. The bladder was emptied and I introduced my forefinger. On reaching the neck of the gall-bladder I encountered a tumour which pressed upon that part and which was very readily felt through the anterior wall of the viscus. An examination with the disengaged hand showed that the 'tumour' was the upper end of the right kidney. There is no doubt whatever but that the kidney was directly pressing upon the cystic duct. No gall stones were found. The opening in the gall-bladder was closed by a double line of sutures and the abdominal wound was also closed. A second incision was made in the loin, and the right kidney, which was very moveable, was secured by three silk sutures. In this, as in the previous case, attacks of hepatic colic, attended by some jaundice, were cured by suturing the right kidney." The patient went on well without any drawback for 12 days, when she was suddenly seized with great oppression of breathing, urgent cough, and bloody expectoration due to pulmonary embolism. She gradually recovered from this. The cough which persisted for some time was most unfortunate for the abdominal wounds, but notwithstanding it all went well and she left London for the country on August 8th, rather less than six weeks after the operation. Now, four months after it, she has a look of health, has a good colour, has gained considerably in flesh, and has had no return of her old pain. The only thing complained of is some pain and discomfort in the right side and extending down towards the groin. This no doubt is due to the stitches in the kidney and the drag on them.

The point of these three cases—the point which is specially desired to bring before the profession—is that all the symptoms of gall-stones—attacks of hepatic colic followed by jaundice—may be produced by pressure on the bile ducts by a displaced right kidney. In each of these three cases the symptoms were exactly those produced by gall-stones; and that the symptoms were due to that cause was the diagnosis formed by all the physicians and surgeons who saw them. *In not one of them was a gall-stone found.* In each the symptoms were due to the same cause, the pressure on the bile ducts of a displaced kidney, a pressure which was, from the nature of the disturbing cause, not continuous but occasional and intermitting—so mimicking exactly what occurs in gall-stones. In Cases 1 and 3 the pressure was on the cystic duct and the jaundice therefore was less marked and the pain probably less severe; in Case 2 the pressure was on the common duct and the jaundice more marked in consequence. It is to be noted, too, that this patient was said once to have passed a gall-stone which was found in the stool.

Literature.—Murchison thus enumerates the causes which may produce jaundice by pressure on the bile duct from without: (1) tumours projecting from the liver itself; (2) enlarged glands in the fissure of the liver; (3) tumour of the stomach; (4) tumour of the pancreas; (5) tumour of the kidney; (6) post-peritoneal or omental tumour; (7) an abdominal aneurysm; (8) accumulation of fæces in the bowels; (9) a pregnant uterus; and (10) ovarian and uterine tumours (Diseases of the Liver, p. 336). There is no mention of moveable kidney. But this must be added to Murchison's list. The recognition of this agency as an occasional factor in causing jaundice is recent, and by no means generally accepted. But that it has to be accepted and dealt with as a clinical fact is demonstrated by the cases now recorded.

There is little literature on the subject, first because it is only of recent years that displacement of the kidney has had its clinical importance recognised, and secondly, because it is the still more recent advance in abdominal surgery that has demonstrated how serious a cause of disturbance such displacement may be. Dr. Hale White has recorded a case of jaundice caused by the pressure of a moveable right kidney on the bile ducts in which the jaundiced condition was cured by fixing the displaced kidney.[1] Dr. Cordier of Kansas has recorded a case of moveable kidney in which the gall-bladder was found to be distended and in which the patient was at times slightly jaundiced. "The enlargement of the gall-bladder could be made to disappear in a measure showing that there was not a permanent or complete obstruction of its duct. That no further mistakes be made in her case I made a small anterior opening over the gall-bladder and explored it and its duct for stones, but none were found. This incision was closed and the usual lumbar incision was made, and the moveable kidney was anchored with three silk sutures to the fascia and muscles. Since the operation all her gall bladder symptoms have disappeared, and her appetite, digestion, and assimilation have greatly improved, and she writes me that she feels better than she has done for years."[2]

The peculiarity of the three cases now recorded is that all the symptoms of gall-stones—recurrent attacks of hepatic colic followed by jaundice—were produced by the displaced kidney. But for the operation undertaken for the relief of these symptoms the true cause of the disturbance would not have been recognised. Before the days of modern abdominal surgery these patients would have gone on indefinitely, leading lives of suffering and misery, with the constant risk of more serious trouble arising. The demonstration of the true cause of the disturbance is due to modern surgical advance. The point to be accentuated is that hepatic colic and jaundice may be produced by the pressure on the bile-ducts of a displaced kidney.

---

[1] Brit. Med. Jour., vol. i., 1892., p. 223.

[2] American Journal of Obstetrics, 1896, vol. xxxiv., p. 532.

A CASE OF HÆMORRHAGIC ASCITES.

BY THEODORE FISHER, M.D., M.R.C.P. LOND.,
PATHOLOGIST TO THE BRISTOL ROYAL INFIRMARY AND PHYSICIAN TO OUT PATIENTS TO THE BRISTOL HOSPITAL FOR SICK CHILDREN.

THE case of hæmorrhagic ascites published by Dr. G. S. Middleton in THE LANCET of Nov. 11th, 1899, p. 1286, recalled to my mind the following case, a brief note of which may be interesting.

A woman, aged 38 years, a domestic servant, was admitted into the Bristol Royal Infirmary on Jan. 20th, 1898, under the care of Dr. A. B. Prowse, to whom I am indebted for kind permission to publish the case. Four weeks before admission after being out-of-doors one evening she had felt cold and could not keep warm even in bed. She had been more or less "chilly" from that time. Two or three days after the onset of the cold sensation some swelling of the abdomen was noticed. Pain in this region quickly supervened and there was occasional vomiting. The bowels were constipated. The motions at first were of black colour but later became yellow. The urine from the onset was high-coloured and turbid. On admission to the Bristol Royal Infirmary the patient's abdomen was very distended and measured 37 inches in circumference. General tenderness was present and the greater part of the abdomen was resonant, but shifting dulness was present in the flanks. There was nothing noteworthy in the physical signs of the heart and lungs. The urine was high coloured and there was abundant deposit of mucus and urates. Neither albumin nor sugar was present. The temperature was subnormal (97° F.). The abdominal pain continued. On the 22nd the bowels were moved four times and the motions contained much blood and mucus. The patient died suddenly on the 24th during a severe attack of abdominal pain.

At the necropsy the patient was found to be a stout woman with very distended abdomen and some œdema of the legs. The peritoneal cavity contained about 12 pints of deeply blood-stained fluid. The small intestine from the duodenum downwards was intensely congested and of a deep purplish colour. The congestion of the ascending colon was less marked and the transverse colon, descending colon, sigmoid flexure, and rectum were quite unaffected. There were numerous petechiæ dotted over the peritoneal coat of the congested intestines and in places thin flakes of exudation were present. The veins of the mesentery were greatly distended and full of blood-clot, none of which, however, appeared to be ante mortem. The veins running over the surface of the stomach were similarly distended and full of blood clot. The portal vein also was about double its normal size and was full of blood-clot of blackish-purple colour, like that present in the other veins. The divisions of the portal vein throughout the liver were also greatly distended. The hepatic veins were abnormally full but contained no ante mortem thrombi. There was nothing abnormal in the inferior vena cava. The mucous membrane of the stomach was free from congestion. The duodenum was injected, but the colour of its mucous membrane was pale compared with that of the jejunum and ileum. The congestion of these divisions of the small intestine was intense and a large quantity of blood was mixed with the fæces in their interior. The mucous membrane of the ascending colon was also congested but to a much slighter extent. The wide area of congestion in the small intestine was free from the sticky mucus seen covering patches of congestion present in acute enteritis. The mesenteric veins and arteries were opened but no ante-mortem thrombosis was present. Beyond the distension of the veins above mentioned the liver showed nothing noteworthy. It weighed 48 ounces. The spleen was enlarged, weighed 16 ounces, but was not softer than normal. There was nothing abnormal in the suprarenal bodies, pancreas, or kidneys. Both pleural cavities contained ten ounces of clear fluid. The trachea, bronchi, and lungs showed nothing noteworthy, but there was a very large congested lymphatic gland, of the size of a small hen's egg, situated below the bifurcation of the trachea. The heart and pericardium were free from disease. Cultures were taken by Dr. J. O. Symes from the spleen and from the enlarged lymphatic gland, but only the bacillus coli communis was found.

The congestion of the intestines followed closely the distribution of the superior mesenteric vein and I expected to find thrombosis of that vein. I was, however, disappointed; the superior mesenteric vein contained merely soft, dark post-mortem clot and the portal vein showed distension fully equalling in degree that of the superior mesenteric vein. Yet to the naked eye the divisions of the portal vein in the liver were free from ante-mortem thrombus, as were also the hepatic veins, which I have seen thrombosed alone, leading to great congestion of the liver. Neither bacilli nor other micro-organisms were seen in microscopic sections of the liver stained by Gram's method and with methylene blue and fuchsin, but the small divisions of the portal vein showed organising thrombi in their interior. Only one small piece of the liver was taken for histological purposes and the discovery of thrombi in one small area does not prove that they were present throughout the substance of the liver. But while such absolute proof is wanting it must be allowed that extensive thrombosis of the small divisions of the portal vein would in great measure explain the congestion of the small intestine and the ascites. Such thrombi, however, whether limited in extent or widespread, must have been merely one of the morbid evidences of more abstruse pathological factors. The failure to discover some definite micro-organism does not prove that it was not present. The history given by the patient of a "chilly" feeling at the onset suggests a rise of temperature, and a rise of temperature further suggests some acute or subacute infection, and it is reasonable to suppose that such infection, if present, took place by the alimentary canal through some article of food.

Clifton, Bristol.

A CASE OF MULTILOCULAR CYSTIC EPITHELIAL TUMOUR OF THE JAW; EXCISION OF HALF THE LOWER JAW; RECOVERY.

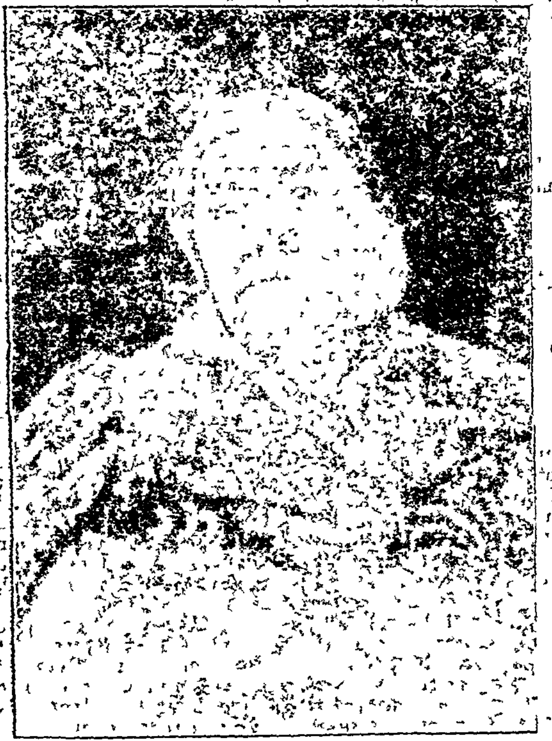
BY G. P. NEWBOLT, M.B. DURH., F.R.C.S. ENG.,
HONORARY SURGEON, LIVERPOOL ROYAL SOUTHERN HOSPITAL.

CASES of multilocular cystic epithelial disease of the jaw in which the tumour has attained a large size before removal are not very common. This case, therefore, may prove of interest to the profession.

A woman, aged 66 years, a widow, consulted me in August, 1897, regarding a tumour of the lower jaw of a cystic nature which she said had been growing for 20 years. A few days later, the patient being placed under chloroform, I laid open the cysts and gouged the parts freely, hoping that an operation of this kind might give her relief for some time. About January, 1899, however, there was a decided increase in the size of the tumour, and on May 15th she came into the Liverpool Royal Southern Hospital for removal of the growth (Fig. 1). On the 16th I removed the left half of the lower jaw with the tumour involving it. It was necessary to split the lip through, but I had very little difficulty in disarticulating the bone and the coronoid process came out with the growth intact, none of the cysts being opened. Hæmorrhage was profuse, but there was no difficulty in checking it. The wound was closed, a drain being left at the posterior angle. The patient made an excellent recovery and was able to be up and about the ward at the end of 10 days and the wound healed soundly in three weeks (Fig. 2).

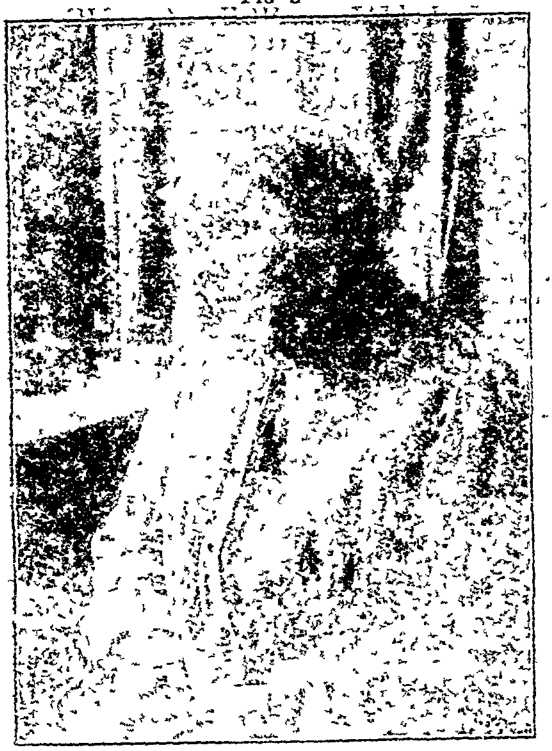
An examination of the parts removed showed that the tumour consisted of the left half of the lower jaw distended by cysts, which varied in size from a pin's head up to a large orange. One large cyst, projecting outwards formed the bulk of the tumour Its walls were made up partly of bony plates and partly of fibrous tissue, the interior being lined by a smooth, shiny membrane somewhat resembling the mucous membrane of the mouth. This large cyst communicated with other cysts, and across its cavity stretched fibrous bands, evidently the remains of a partition between it and some other cyst. The contents of the larger cysts resembled chocolate in colour and consistency, but in the smaller ones the fluid was clear and mucoid. The coronoid process of the jaw was hollowed out right up to its tip and the condyle was involved as far as the neck, so that it stood out like a button from the growth. The cut surface near the symphysis clearly showed that the growth originated in the central or cancellous portion of the jaw, distending the outer compact wall, and here was also some solid material which had not yet become cystic. The three teeth in the part removed were in the roof of a large cyst. On making sections of a small cyst which had thrown out a process I found that the cyst consisted of a wall of fibrous lamellæ lined on the inside by columnar epithelium. In the process of the cyst was more solid matter, and here I found masses of epithelial cells breaking down in the centre and forming cysts In cysts of the size of a hazel nut I found traces of epithelial lining, but in the largest cysts this had disappeared altogether. On the outside of the jaw near the teeth there was a solid portion of tissue which was made up of epithelium becoming cystic. An examination of the gum over the tumour showed that it was fairly normal, but at one point the epithelium showed signs of growing in. The tumour was therefore a multilocular cystic epithelial tumour.

FIG. 1.



Before operation.

FIG 2



After operation

After the gouging operation which I did on this case in 1897 I could find no traces of epithelium in the parts removed; but I had not at that time any of the solid portion of the tumour from the margin of the growth and I therefore drew erroneous conclusions concerning its nature It was not until the growth had broken through the bony wall of the jaw that the increase in size took place. The tumour then became painful from pressure on surrounding parts setting up severe neuralgia; there was also some pressure on the pharynx and difficulty in taking food. As the tumour had lasted 20 years some idea of the slowness of its growth may be gained. I could get no history of tooth irritation at the commencement of the disease. The microscopical sections show every stage from the mass of epithelial cells to the fully developed cyst.

Liverpool.

AN UNUSUAL CASE OF EMBOLISM IN THE FUNDUS OCULI.

BY H WRIGHT THOMSON, M B, C.M. GLASG.,
ASSISTANT OPHTHALMIC SURGEON, GLASGOW ROYAL INFIRMARY.

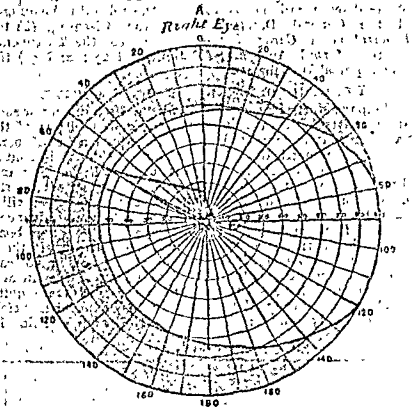
EMBOLISM of the central artery of the retina, is a lesion which, though not very common, is well known and very definite in its symptomatology and sequelæ. Embolism of a branch of the retinal circulation is, however, a very uncommon affection, as borne out by reference to text-books on ophthalmology. Thus Berry mentions having seen one case of embolism of a branch of the central retinal artery, and although he does not state which branch it was the progress of the case would indicate that it was not the macular artery which was affected, and Schobl[1] refers to several cases of macular embolism reported by Perls as occurring in the clinic of Hirschberg.

A young woman, aged 19 years, first consulted me at the eye dispensary of the Glasgow Royal Infirmary on May 11th, 1899, but in view of the advantages likely to attend indoor treatment I referred her to the ophthalmic department of the infirmary, where she was admitted under the care of Dr. A. Maitland Ramsay, to whom my thanks are due for permission to follow out and publish the case. The history was that three days previously the patient had been sitting at the window of a room and after rising and going to a dim corner she noticed on looking towards the fire that the sight of the right eye had become very much obscured. Her movements had not been sudden nor had she exerted herself in any way apart from rising and walking. There was no pain and the dimness of vision reached its maximum intensity instantaneously. She stated that for three years she had been troubled with attacks of transitory blindness of the right eye, occurring sometimes as often as two or three times a month They were but momentary in duration and recovery was always sudden and complete. They bore no obvious relationship to menstruation. As a worker at a tobacco factory her eyes were not subjected to any great strain and they were noted to be almost emmetropic. At the age of nine years she had suffered from chorea, and on examination of the chest there was found a rough ventricular systolic aortic murmur well propagated into the carotids which were visibly pulsatile. The urine cast an abundant sediment of urates. There was a trace of albumin present and microscopically a few epithelial casts were seen. Vision, as tested in the ordinary way, seemed reduced to perception of light, but on holding up a finger at a distance of one foot and directing the patient to look at the point she stated that she could not see the top part of it at all, but that the lower half was plainly visible. Examination with the perimeter revealed an area of absolute blindness, as shown in the chart. Owing to the limited area of the scotoma light perception in it was difficult to test accurately, but it certainly was much diminished, if not absolutely abolished. On ophthalmoscopic examination the optic disc was found to be œdematous, with its margin, except at the upper part, very indistinct. On the outer side the disc seemed to merge into a pale, almost white, slightly œdematous area, of shape and extent as shown in Fig. 2.

---

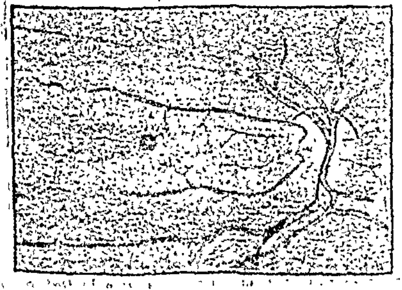
[1] Norris and Oliver's System of Ophthalmology.

FIG. 1.



The shaded area extending out from the centre of the chart represents the area of blindness in the field of vision.

FIG. 2.



Appearance of fundus when first seen. The area of lighter shading shows the extent of the ischæmia.

There was a circular, cherry-red spot in the macula. Its diameter was about one-fifth that of the disc and its deep red colour contrasted strongly with that of the normal fundus which extended right up to its temporal border. The macular artery emerging from the optic disc at a spot near its lower and outer margin was seen to divide at once into two branches, which, in comparison with those of the other eye, were small in size and embedded, especially the upper, in œdematous exudation. The retinal veins as a whole were distinctly engorged, while the arteries seemed to be of normal calibre. The patient was put to bed, an alkaline diuretic mixture was ordered, and three times a day she had $\frac{1}{100}$th of a grain of nitro-glycerine in capsule form. On May 11th she reported a slight improvement in her sight. The œdema of the disc had passed off and its outline was clear, but the retinal œdema was more marked than formerly. The retinal veins had increased in fulness. By the 15th—that is, eight days from the onset of blindness—the disc and retina were free of œdema and the area of former pallor hardly differed in colour from the surrounding fundus. The cherry-red spot could be seen, but only faintly. The macular arteries seemed to be of good size, with blood flowing through them. On the 25th, the seventeenth day of the illness, vision equal to $\frac{6}{60}$ was obtained by tilting the eye upwards. The macula was still a little red, but the fundus was otherwise uniform in colour. The disc was sharply and clearly defined and its temporal half was pale in colour. The nitro-glycerine was stopped. On the 30th the pallor of the disc was more marked, the macular arteries were still of good size, and the macular region was normal in appearance. On August 5th there was distinct atrophy of the temporal side of the disc. The patient reported several attacks of momentary blindness of the right eye. On Nov. 3rd, 1899, the following note was made: "Vision equal to $\frac{6}{60}$, but clearer than formerly. Fixation of any point is accomplished by turning the eye upwards through about four or five degrees. In this way J. 20 is read. She is quite able, however, to direct her eye straight on an object, but she only sees the peripheral parts of it. The pupils are equal and equally active. She experiences no inconvenience and is unconscious of her defect unless she covers the left eye. During the last five weeks she has had four attacks of transitory blindness and on one occasion the left eye was slightly affected. The general fundus appearance is normal and the only indication of former trouble seen is the atrophied condition of the temporal side of the optic papilla, sharply separated by a vertical line from the rose-coloured nasal half. The scotoma in the field of vision has remained of constant size."

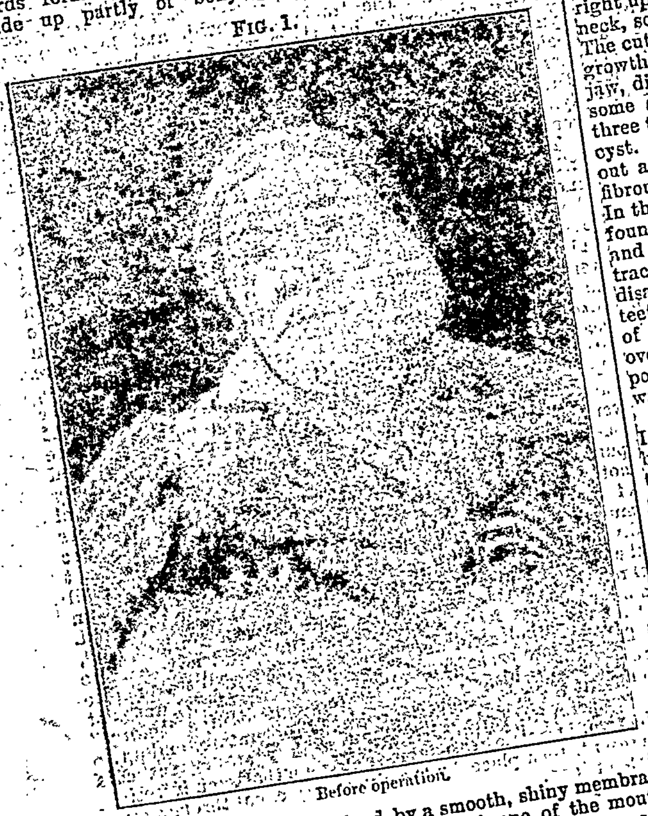
There can be no doubt that there occurred here a sudden and complete cessation of part of the retinal arterial circulation, and the typical appearance of the macula and the definite relationship borne by the ischæmic area to the course of the two branches of the macular artery clearly indicate it to have been the vessel affected. It is when we turn to the subjective symptoms that we meet with difficulty, for whereas the ophthalmoscopic appearance would lead us to expect in the field of vision an area of blindness having the shape of a **Y** lying horizontally with its base at the normal blind spot, there is found only an area corresponding to the macula and the part of the retina supplied by the terminal part of the inferior macular artery. In this connexion two cases reported by Clark of Columbus[3] are of much interest. In them it was the central retinal artery which suffered embolism, while the macular arteries—which were of deep origin, as in the present case—escaped. In each case, however, the area of remaining vision was triangular in shape with the apex at the point of fixation and the base to the temporal side—that is, roughly speaking, corresponding to the area of retina between the macula and the optic nerve entrance.

In seeking for an explanation of these apparent anomalies we must turn to the anatomy of the retinal circulation. With regard to the normal distribution of the arteries supplying the macular area one finds very varying statements, but the following shows the result of the examination of 100 eyes chosen indiscriminately. (The term "macular" artery is here used in reference to vessels which demonstrably reach the macular region and does not apply to the minute vessels which so commonly appear close to the margin of the optic disc and, passing horizontally outwards, seldom reach farther than half-way to the macula.) Macular arteries branch from the temporal arteries in 79 eyes; one macular artery branches from the central retinal artery in three eyes; one or both macular arteries appear near the margin of the disc in 15 eyes; and the common macular artery appears near the margin of the disc in three eyes. It is thus seen that most up to a large orange. One large cyst projecting outwards formed the bulk of the tumour. Its walls were made up partly of bony plates and partly of fibrous tissue, the interior being lined by a smooth, shiny membrane somewhat resembling the mucous membrane of the mouth. This large cyst communicated with other cysts, and across its cavity stretched fibrous bands, evidently the remains of a partition between it and some other cyst. The contents of the larger cysts resembled chocolate in colour and consistency, but in the smaller ones the fluid was clear and mucoid. The coronoid process of the jaw was hollowed out right up to its tip and the condyle was involved as far as the neck, so that it stood out like a button from the growth. The cut surface near the symphysis clearly showed that the growth originated in the central or cancellous portion of the jaw, distending the outer compact wall, and here was also some solid material which had not yet become cystic. The three teeth in the part removed were in the roof of a large cyst. On making sections of a small cyst which had thrown out a process I found that the cyst consisted of a wall of fibrous lamellæ lined on the inside by columnar epithelium. In the process of the cyst was more solid matter, and here I found masses of epithelial cells breaking down in the centre and forming cysts. In cysts of the size of a hazel-nut I found traces of epithelial lining, but in the largest cysts this had disappeared altogether. On the outside of the jaw near the teeth there was a solid portion of tissue which was made up of epithelium becoming cystic. An examination of the gum over the tumour showed that it was fairly normal, but at one point the epithelium showed signs of growing in. The tumour was therefore a multilocular cystic epithelial tumour.

---

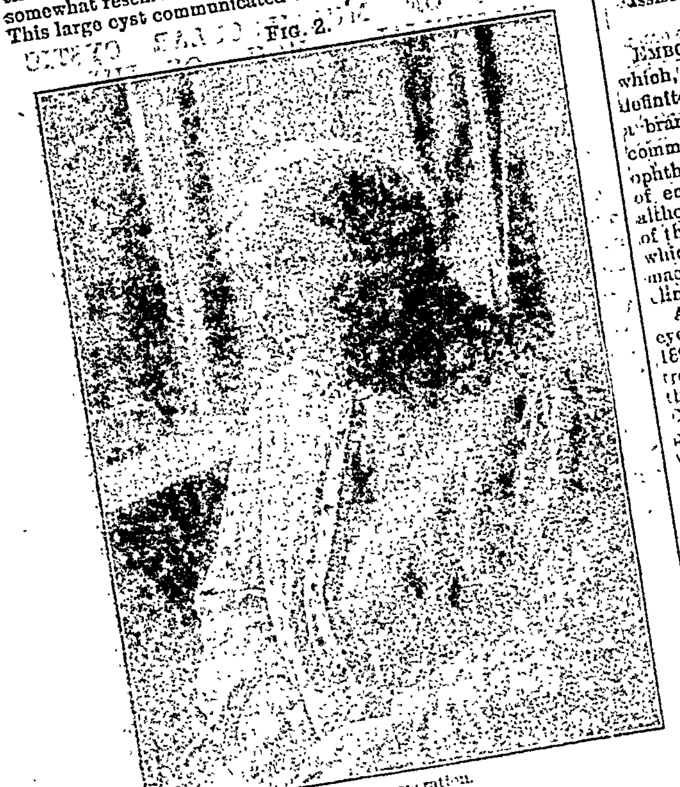
[3] Ophthalmic Review, vol. xvii.

FIG. 1.



Before operation.

FIG. 2.



After operation.

After the gouging operation which I did on this case in 1897 I could find no traces of epithelium in the parts removed, but I had not at that time any of the solid portion of the tumour from the margin of the growth and I therefore drew erroneous conclusions concerning its nature. It was not until the growth had broken through the bony wall of the jaw that the increase in size took place. The tumour then became painful from pressure on surrounding parts setting up severe neuralgia; there was also some pressure on the pharynx and difficulty in taking food. As the tumour had lasted 20 years some idea of the slowness of its growth may be gained. I could get no history of tooth irritation at the commencement of the disease. The microscopical sections show every stage from the mass of epithelial cells to the fully developed cyst.

Liverpool.

AN UNUSUAL CASE OF EMBOLISM IN THE FUNDUS OCULI.

BY H. WRIGHT THOMSON, M.B., C.M. GLASG.,
ASSISTANT OPHTHALMIC SURGEON, GLASGOW ROYAL INFIRMARY.

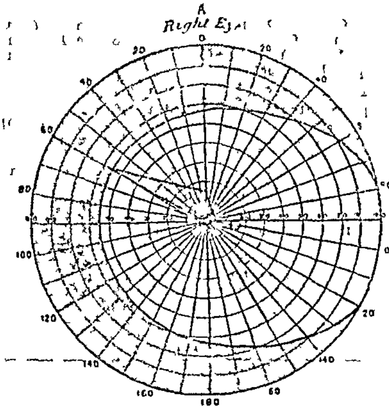
EMBOLISM of the central artery of the retina is a lesion which, though not very common, is well known and very definite in its symptomatology and sequelæ. Embolism of a branch of the retinal circulation is, however, a very uncommon affection, as borne out by reference to text-books on ophthalmology. Thus Berry mentions having seen one case of embolism of a branch of the central retinal artery, and although he does not state which branch it was the progress of the case would indicate that it was not the macular artery which was affected, and Schobl[1] refers to several cases of macular embolism reported by Perls as occurring in the clinic of Hirschberg.

A young woman, aged 19 years, first consulted me at the eye dispensary of the Glasgow Royal Infirmary on May 11th, 1899, but in view of the advantages likely to attend indoor treatment I referred her to the ophthalmic department of the infirmary, where she was admitted under the care of Dr. A. Maitland Ramsay, to whom my thanks are due for permission to follow out and publish the case. The history was that three days previously the patient had been sitting at the window of a room and after rising and going to a dim corner she noticed on looking towards the fire that the sight of the right eye had become very much obscured. Her movements had not been sudden, nor had she exerted herself in any way apart from rising and walking. There was no pain and the dimness of vision reached its maximum intensity instantaneously. She stated that for three years she had been troubled with attacks of transitory blindness of the right eye, occurring sometimes as often as two or three times a month. They were but momentary in duration and recovery was always sudden and complete. They bore no obvious relationship to menstruation. As a worker at a tobacco factory her eyes were not subjected to any great strain and they were noted to be almost emmetropic At the age of nine years she had suffered from chorea and on examination of the chest there was found a rough ventricular systolic aortic murmur well propagated into the carotids which were visibly pulsatile The urine cast an abundant sediment of urates There was a trace of albumin present and microscopically a few epithelial casts were seen Vision, as tested in the ordinary way, seemed reduced to perception of light, but on holding up a finger at a distance of one foot and directing the patient to look at the point she stated that she could not see the top part of it at all, but that the lower half was plainly visible Examination with the perimeter revealed an area of absolute blindness, as shown in the chart Owing to the limited area of the scotoma light perception in it was difficult to test accurately, but it certainly was much diminished, if not absolutely abolished On ophthalmoscopic examination the optic disc was found to be œdematous, with its margin except at the upper part, very indistinct On the outer side the disc seemed to merge into a pale, almost white, slightly œdematous area, of shape and extent as shown in Fig 2

---

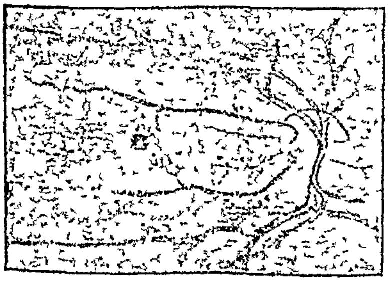
[1] Norris and Oliver's System of Ophthalmology.

FIG 1.



The shaded area extending out from the centre of the chart represents the area of blindness in the field of vision

FIG 2.



Appearance of fundus when first seen The area of lighter shading shows the extent of the ischæmia

There was a circular, cherry-red spot in the macula Its diameter was about one-fifth that of the disc and its deep red colour contrasted strongly with that of the normal fundus which extended right up to its temporal border The macular artery emerging from the optic disc at a spot near its lower and outer margin was seen to divide at once into two branches which, in comparison with those of the other eye, were small in size and embedded especially the upper, in œdematous exudation The retinal veins as a whole were distinctly engorged, while the arteries seemed to be of normal calibre The patient was put to bed, an alkaline diuretic mixture was ordered, and three times a day she had $\frac{1}{100}$th of a grain of nitro glycerine in capsule form On May 11th she reported a slight improvement in her sight The œdema of the disc had passed off and its outline was clear, but the retinal œdema was more marked than formerly The retinal veins had increased in fulness By the 16th—that is, eight days from the onset of blindness—the disc and retina were free of œdema and the area of former pallor hardly differed in colour from the surrounding fundus The cherry red spot could be seen, but only faintly The macular arteries seemed to be of good size, with blood flowing through them On the 25th, the seventeenth day of the illness, vision equal to $\frac{6}{36}$ was obtained by tilting the eye upwards The macula was still a little red, but the fundus was otherwise uniform in colour The disc was sharply and clearly defined and its temporal half was pale in colour The nitro glycerine was stopped On the 30th the pallor of the disc was more marked the macular arteries were still of good size, and the macular region was normal in appearance On August 5th there was distinct atrophy of the temporal side of the disc The patient reported several attacks of momentary blindness of the right eye On Nov 3rd, 1899, the following note was made "Vision equal to $\frac{6}{36}$, but clearer than formerly Fixation of any point is accomplished by turning the eye upwards through about four or five degrees In this way J 20 is read She is quite able, however, to direct her eye straight on an object, but she only sees the peripheral parts of it The pupils are equal and equally active She experiences no inconvenience and is unconscious of her defect unless she covers the left eye During the last five weeks she has had four attacks of transitory blindness and on one occasion the left eye was slightly affected The general fundus appearance is normal and the only indication of former trouble seen is the atrophied condition of the temporal side of the optic papilla, sharply separated by a vertical line from the rose-coloured nasal half The scotoma in the field of vision has remained of constant size "

There can be no doubt that there occurred here a sudden and complete cessation of part of the retinal arterial circulation, and the typical appearance of the macula and the definite relationship borne by the ischæmic area to the course of the two branches of the macular artery clearly indicate it to have been the vessel affected It is when we turn to the subjective symptoms that we meet with difficulty, for whereas the ophthalmoscopic appearance would lead us to expect in the field of vision an area of blindness having the shape of a **Y** lying horizontally with its base at the normal blind spot, there is found only an area corresponding to the macula and the part of the retina supplied by the terminal part of the inferior macular artery In this connexion two cases reported by Clark of Columbus[3] are of much interest In them it was the central retinal artery which suffered embolism, while the macular arteries—which were of deep origin as in the present case—escaped In each case however the area of remaining vision was triangular in shape with the apex at the point of fixation and the base to the temporal side—that is, roughly speaking, corresponding to the area of retina between the macula and the optic nerve entrance

In seeking for an explanation of these apparent anomalies we must turn to the anatomy of the retinal circulation With regard to the normal distribution of the arteries supplying the macular area one finds very varying statements but the following shows the result of the examination of 100 eyes chosen indiscriminately. (The term "macular" artery is here used in reference to vessels which demonstrably reach the macular region and does not apply to the minute vessels which so commonly appear close to the margin of the optic disc and passing horizontally outwards, seldom reach farther than half way to the macula.) Macular arteries branch from the temporal arteries in 79 eyes, one macular artery branches from the central retinal artery in three eyes one or both macular arteries appear near the margin of the disc in 15 eyes, and the common macular artery appears near the margin of the disc in three eyes It is thus seen that most commonly (79 per cent.) the macular arteries are offsets from the temporal branches of the central artery of the retina, but that in some cases (18 per cent.) they enter the fundus independently by an opening or openings in the optic disc near its temporal margin. Such marginal arteries are commonly called "cilio-retinal," and the recent anatomical researches of Elschnig,[3] who states their frequency at 7 per cent., go to prove that they always arise, directly or indirectly, from the circle of short ciliary arteries which surrounds the optic nerve.

---

[3] Ophthalmic Review, vol. xvii

When there is considered the great functional importance of the papillo-macular region and the infrequency of occurrence of cilio-retinal arteries it would seem not at all unlikely that in such cases there is present a supplemental arterial supply of retinal origin, ill developed, but capable of some extension when the necessity arises. If this be so, then in the present case the small branches of the central retinal artery have been sufficient to maintain the nutrition of all the area of retina affected, except the macula itself and a small strip extending downwards and outwards, till the re-establishment of the circulation in the vessel which had been temporarily occluded. The well-marked atrophy of the temporal side of the optic nerve shows that part to have been entirely dependent for nutrition on the cilio-retinal artery.

There will be noticed in the previous and subsequent history of the present case the frequent occurrence of attacks of transitory blindness of the right eye. Mauthner,[4] who had the opportunity of examining a patient while suffering from such an attack, found retinal ischæmia, and he explains the occurrence as being due to the temporary detention of a large embolus at the mouth of the central retinal artery, too large to enter, and soon carried on to enter a larger branch of the ophthalmic artery. Such an explanation seems readily applicable to this case, and all the more so that during the period of circulatory calm incident to hospital residence and treatment no such attacks manifested themselves. Further, it seems quite reasonable to suggest that the occlusion of the common macular artery was caused by the engagement at its origin in a ciliary artery of a large embolus which by the end of eight days was carried on to cause, it may be, embolism of a vessel freely supplied with anastomosis, and therefore giving rise to no gross symptoms.

To recapitulate, there occurred embolism of the common macular or cilio-retinal artery, the embolus being caught at its point of origin. Thus occlusion lasted eight days, during which time the nutrition of part of the retina involved was maintained by small branches of the central retinal artery and by the end of which time the embolus was carried further into the ciliary circulation.

Glasgow.

REPORT ON "HENPUYE" IN THE GOLD COAST COLONY.[1]

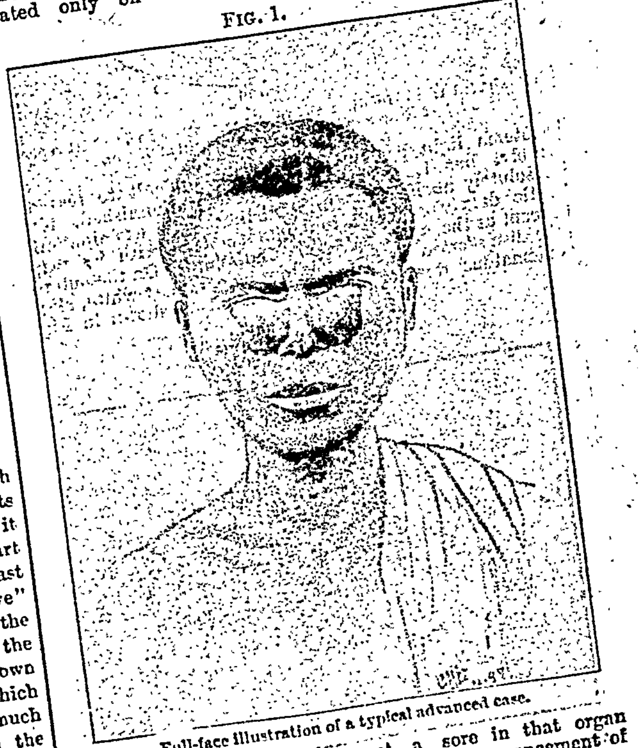
BY ALBERT J. CHALMERS, M.D. VICT., F.R.C.S. ENG.,
ASSISTANT COLONIAL SURGEON, ACCRA.

HENPUYE, or dog nose, is a disease frequently met with in the Gold Coast Colony and in certain portions of its Hinterland. The hideous deformity of the face which it causes is very striking to anyone who has lived in this part of West Africa. It is also known on the French Ivory Coast under the name of "goundu" or "anakhre," but "henpuye" is the native name (Appolonian) for the disease on the Gold Coast. The peculiar nature of the disease and the fact that, as far as I could find, very little was known as to its nature led me to make the inquiries which are now embodied in this report. I regret very much that I am unable to refer to original papers on the subject or to be certain that I have the full literature, but my excuse is that libraries do not exist in West Africa. The only references which I have met with are those mentioned in Dr. Patrick Manson's work on "Tropical Diseases" (page 594), and they are those of (1) Professor Alexander Macalister (Royal Irish Academy, 1882), (2) Surgeon J. J. Lamprey A.M.S., (*Brit. Med. Jour.*, vol. ii., 1887), (3) Dr. Henry Strachan (*Brit. Med. Jour.*, vol. i., 1894), and (4) Dr. Maclaud (Archives de Médecine Navale, 1895). It is by the kind permission of the Governor of this colony, Sir Frederick Hodgson, K.C.M.G., that I am allowed to publish this report. I am much indebted to Captain Armitage for his kindness in giving me information with regard to the different places in which he has noticed this disease in his travels, for drawing my attention to notes of the late Mr. Ferguson on the presence of the disease in Akim and Kwahu, and for making a painting of an advanced case of the disease; also to Dr. Henderson, the chief medical officer of the colony for many kind suggestion; and, lastly, to Mr. Crowther, draughtsman in the Public Works Department, for supplying me with a map of the colony and its Hinterland. The description of the disease will be divided into the following headings: (1) the General Description of the Disease; (2) the Description of Cases of the Disease; (3) the Treatment; (4) the Morbid Anatomy; (5) the Etiology; and (6) the Geographical Distribution.

THE GENERAL DESCRIPTION OF THE DISEASE.

Henpuye starts in a native of West Africa during or soon after an attack of yaws in which there is a history of the nasal mucous membrane being attacked as a small bony swelling symmetrically placed on either side of the nose. This swelling, which is generally oval with the long axis directed downwards and outwards, is attached to the nasal bones, the nasal process of the superior maxilla, and also to the superior maxilla in the more advanced cases. It is produced by the deposition of new bone under the periosteum on the external aspect of these bones and grows slowly in all directions. It in no way affects the mouth or the orbital or nasal cavities in any case which I have seen and the nasal ducts are quite unaffected. Rarely the growth is asymmetrical, being situated only on one side of the nose. Pain in the nose with the presence of a sore in that organ are the symptoms complained of at the commencement of the disease; later headache is sometimes felt and pain in the swelling during wet weather. As the growth becomes larger it seriously interferes with the sight by growing up in front of the eyes and even hiding them, but I have never seen it cause destruction of the eyeball (see Fig. 1). In

FIG. 1.



Full-face illustration of a typical advanced case.

---

[3] Loc. cit.

[4] Archiv für Augenheilkunde, Band xv., S. 23.

[1] Published by the permission of his Excellency Sir Frederick Hodgson, Governor of the Gold Coast Colony.

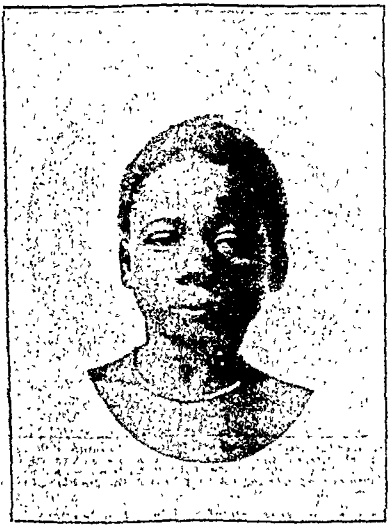
many cases the patient has to bend his head downwards in order to be able to see over the tops of the swellings. The skin over the tumour is normal and is freely moveable. The course of the disease is that the swellings may cease to grow at any period of their existence or may continue to grow for years—that is to say, they may remain quite small or may grow to be large lumps, in the latter case giving rise to the deformity and the interference with the sight, but I am unacquainted with any case in which they break down or ulcerate. Finally, the disease is much more common, in my experience, in men than in women.

DESCRIPTION OF CASES.

The following cases will be described: (1) slightly developed cases; (2) moderately developed cases; (3) an advanced case; and (4) an asymmetrical case.

Slightly developed cases.—CASE 1.—The patient, a boy of about 17 years of age, said that about seven years ago he noticed two small lumps on the nose which began after yaws in which there was a sore in the nose. They increased slightly in size, but soon ceased to grow and have been in their present condition for some years. He never felt any discomfort or pain in them. The two lumps had their long axes directed downwards and outwards, the measurements being half an inch by a quarter of an inch. They were attached to the nasal bones just above the cartilages and the nasal process of the superior maxilla and were firm, smooth, bony tumours. The skin over them was quite normal and they did not in any way project into the nasal cavity or affect the line of vision, being too small for the latter purpose. There was very little deformity and no treatment was necessary. In this case the lumps soon ceased to grow and caused little or no deformity.

FIG. 2.

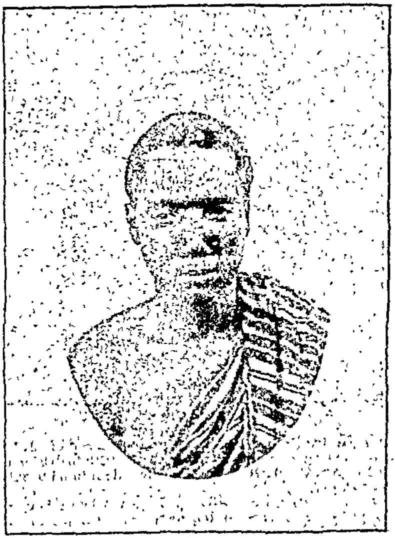


Representation of a slightly developed case (Case 2).

CASE 2.—A small Grunshi girl from Kumassi, about seven years of age, who had had yaws some time previously, felt pain in the nose a few months ago and noticed a small swelling on each side of the nose, and this gradually increased in size till it reached its present condition. Her mother was most anxious to have it removed on account of the deformity (see Fig. 2). On inspection there was found to be an oval swelling on each side of the nose attached to the nasal bones and the nasal process of the superior maxilla. The long axis of the swelling was directed downwards and outwards—an inch in length and half an inch in breadth. The nasal cartilages were not affected and the interior of the nose was normal. The orbital cavity, the mouth, and the nasal ducts were quite unaffected. The skin over the swelling was normal and freely moveable. The patient felt no pain in the tumour and she had never had any headache. The growths were removed by operation. It was very difficult to obtain definite history as to the time when this patient had had yaws and as to the time when the growth appeared, but as far as I could make out the yaws were well developed when the swelling was first noticed.

Moderately developed cases.—CASE 3.—A young man, a Ga native, who had had yaws about seven years ago, felt pain in the nose and got a person to look into the nose, who said that there were yaw spots on the mucosa and later a small swelling on each side of that organ was noticed. These small swellings grew slowly to their present size and the patient said that they were still increasing. He complained of frontal headache and of slight pain in the swellings in wet weather. On inspection (Figs. 3 and 4) two symmetrically placed swellings were seen on each side of the nose, looking somewhat like small eggs. They were oval in shape, with the long axis directed downwards and outwards. The left measured two inches by two inches and the right three inches by two and a half inches. A profile view showed that they were slightly concave on the side towards the orbit. They did not affect the orbital or nasal cavities, nor did they project into the mouth or affect the nasal ducts or the cartilages of the nose. They were attached to the nasal bones, the nasal process of the superior maxilla, and to the superior maxilla itself. They were smooth, but on the left side the tumour rose to a central ridge. The skin over the swellings was quite normal and was freely moveable. In order to see clearly the patient often had to bend his head somewhat. The growths were removed by operation.

FIG. 3.

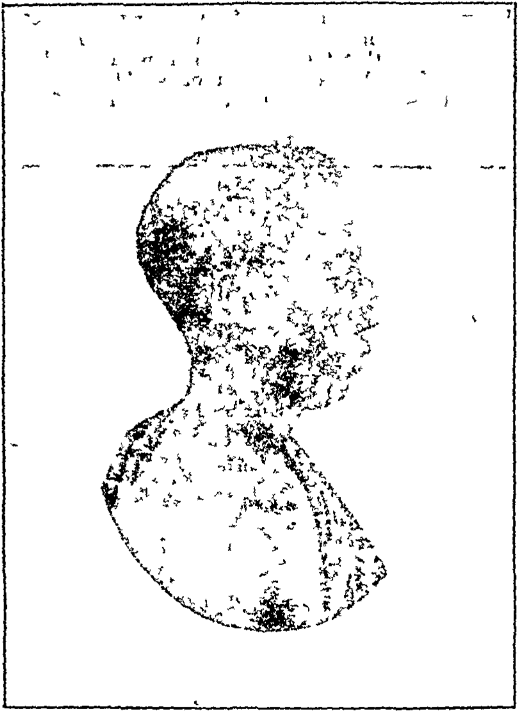


Full-face illustration of the disease as described in Case 3.

CASE 4.—The patient was an Akwapim woman, aged about 20 years. This case was similar to Case 3, but the swellings, which had started when the patient (who had suffered from yaws) was seven years of age, were rather more rounded. She would not consent to operation.

An advanced case.—CASE 5.—A man, a native of Appolonia, about 40 years of age, stated that the swellings began with pain in the nose after yaws when he was about six years old. They grew steadily and slowly till eight years ago when they stopped, and they have not increased in size since then. On inspection there were two oval swellings situated on each side of the nose, the left measuring two and a half inches by one inch and the right three quarters of an inch by half an inch. They projected upwards over the orbit, the long axis in each case being directed downwards and outwards. They did not project into the mouth, the nose, or the orbit, and the nasal duct was free. They were attached to the nasal bones, the nasal process of the superior maxilla, and to the maxilla itself. The skin over the tumour was normal and it was freely moveable. The patient complained of headache and found that the swellings interfered with his vision considerably, particularly on the left side. He refused to submit to operation.

FIG 4.



Representation in profile of the patient in Case 5

An asymmetrical case.—CASE 6.—An Ashanti boy, aged six years, from Donkeo Inquanta, had yaws and while suffering therefrom just a year previous to his consulting me the swelling appeared on one side of the nose, and had been growing ever since. There was no sign of any lump on the other side. He was advised to go to Kumassi for operation.

THE TREATMENT.

I have attempted to reduce these swellings by the administration of iodide of potassium but have *not* met with any success. The only treatment appears to be the removal by operation. The method I adopt is as follows. The eyes being protected by a pad over each an incision is made along the long axis of the tumour and the skin is freed on all sides so that its base is exposed. If the swelling is very small in a child it may be necessary to make a cross cut through the skin as well in order to get sufficient room to work in. The bone being exposed a portion of the swelling can easily be cut away by bone forceps because it is very soft. If large a few nicks with a Hey's saw are found most useful in enabling a large portion of the mass to be removed entire. After as much has been removed as is possible with the bone forceps more may be got away by means of the gouge or the gouge forceps or the nibbling forceps. I have experienced difficulty in removing the deeper portions, particularly those close to the orbit. I need hardly say that in the latter the eye has to be carefully guarded from injury. After removal of the bone the wound is well washed out with an antiseptic lotion. The bleeding is slight and is easily controlled by pressure. The wound is closed by a continuous suture and it heals up readily.

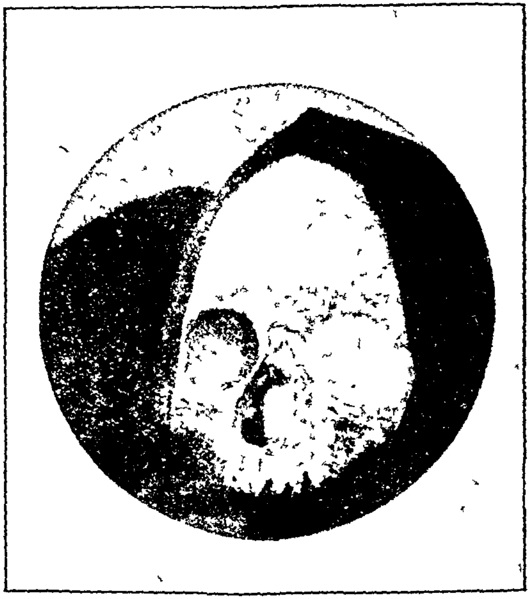
THE MORBID ANATOMY.

I have never had any chance of examining the growth post mortem, but the portions which I have removed *en masse* by operation have enabled me to make some investigations. The periosteum strips off readily and under this is a thin shell of compact bone which appears somewhat ridged on the side towards the periosteum. The rest of the tumour consists of cancellous bone. The whole swelling cuts readily with bone forceps and consists of quite soft bone. On making microscopical preparations there were signs of ossification in membrane proceeding under the periosteum and the rest appeared like ordinary wide-meshed cancellous bone. The whole process appeared to be that of a slow "osteoplastic periostitis."

ETIOLOGY.

Two views on the etiology of this disease have been brought forward up to the present time, as far as I know—viz., that the swellings were of a racial character and that the process was started by the larva of some insect. With regard to the first I have only to mention that the disease is found in Ashantis, Grunshis, Fantees, Abartas, the Ga people, &c., &c., races quite different from one another, to show that this cannot be entertained. As to the second I have never met with evidence which would support the idea that the disease was started by a larva. On the other hand there is always the history of yaws and of the tumour starting during the attack of yaws—i.e., during the period of eruption or soon after. Then, again, the patients complain of pain in the nose with, in some cases, distinct history of a sore and sometimes discharge preceding the swelling. This might be due to some irritation or ulceration of the nasal mucous membrane by the yaws. I have never had the opportunity of examining any person at this stage of the disease, but in the more developed cases I have examined the nose for marks or signs of old ulceration but have not found them. If, however, the nasal process of the superior maxilla be examined (Fig. 5) a few foramina are to be seen, and these are often joined together by a small groove indicating the position of a bygone suture. The foramina are for small blood-vessels which are said to communicate with those of the mucosa of the nose. The site of these foramina is the situation where henpuye starts and I venture to bring forward the theory that the causation of this peculiar disease is due to an osteoplastic periostitis brought about by the absorption of the poison of yaws from

FIG. 5.



From a photograph of a Moshi skull, to show the suture of the nasal process of the superior maxilla, with a hair passed from the nose through one of the channels for vessels, a little of the bone being cut away to show the direction of the canal.

the nasal mucous membrane through the small vessels (or lymphatics) keeping open the foramina which indicate the suture above mentioned

THE GEOGRAPHICAL DISTRIBUTION

I am only aware of cases reported from the Gold and Ivory Coasts of West Africa and the West Indies I never met with it in Mamprusia, nor have I met any trader coming from Moshi with it nor have I met with it in Fra Fra, and I can find no one who has seen it in the eastern parts of the colony But in the following districts it has been noted · Ahanta, Appolonia, Fantee, Accra, Aquapim, Akim, Assin, Sefwhi, Ashanti, Attabubu Kwahu, Kintampo, Berekum, Gaman, the Neutral Zone and Wassaw It is perhaps most common in the Sefwhi Wassaw, and Appolonia districts which adjoin the French Ivory Coast where cases are also known

I look upon henpuye as a localised osteoplastic periostitis in the region of the nasal process of the superior maxilla, generally symmetrical, due to yaws and found among the natives of West Africa and the negroes of the West Indies

Accra

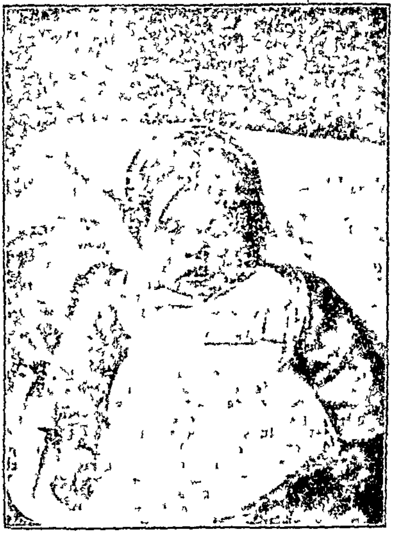
THE DIFFERENTIAL DIAGNOSIS OF MONGOLISM AND CRETINISM IN INFANCY

By G A SUTHERLAND, M D EDIN,
PHYSICIAN TO PADDINGTON-GREEN CHILDREN'S HOSPITAL ASSISTANT PHYSICIAN TO THE NORTH WEST LONDON HOSPITAL

UNDER the term "cretinoid" have been included various forms of imbecility in infants which until recent years were not clearly differentiated as to their pathology and characteristic features In practice we find that children of the cretinoid type are either cretins or Mongolian imbeciles Cretinism, or infantile myxœdema, is a rare affection in this country, but in the medical literature of the past few years, owing to the successful employment of the thyroid gland treatment, many cases have been reported Mongolism is a form of congenital imbecility which is much more common but to which comparatively little attention has been directed It is so named from certain facial appearances which at first sight suggest a Chinese origin The term was introduced by Dr Langdon Down in his classification of idiots on an ethnological basis, and although his classification has not been generally accepted the name "Mongolian" has been adopted as happily descriptive This form of imbecility is well known to those engaged in asylum practice, but it is during the early months of life that diagnosis is called for and treatment must be adopted if those fragile lives are to be prolonged

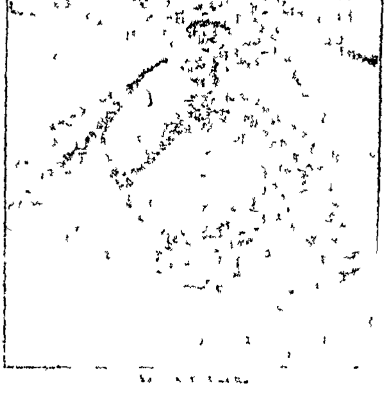
Owing to the similarities between these two affections, "cretinism" and "Mongolism" which are at first sight very striking, confusion is apt to arise In both the physical and mental development is delayed, the vital powers are low, the temperature is subnormal, and sensitiveness to cold is a marked feature In both occur the following facial alterations—viz, depressed bridge of the nose, small palpebral fissure, and protruding tongue In both the abdomen is large, an umbilical hernia is often present, and there is a marked tendency to constipation In both the fontanelle is late in closing and the teeth are late in appearing, are poorly developed, and decay rapidly. In both speech is much delayed and is replaced by peculiar, grunting, animal-like noises, while snoring during sleep is very pronounced In both there is great muscular debility without any definite paralysis Hence it may happen that a case of Mongolism is regarded as one of cretinism, thyroid treatment is adopted and this failing to [illegible] the treatment is rather discredited in the eyes of the physician If, instead of comparing and contrasting a typical case of Mongolism (Fig 1) with one of cretinism (Fig 2) we find that the differences are great and [illegible]

FIG 1



A case of Mongolian imbecility

FIG 2.



[illegible]

In the following table I have enumerated some of these differences:—

CRETINISM.	MONGOLISM.
1. Characteristic features seldom present before the sixth month.	1. *Present at birth.*
2. Dull, impassive infants, taking no notice of anything or anyone; *face expressionless, of a lower animal type, "toad like"*; absence of active movements.	2. Smiling, grimacing infants; shy, but observant, imitative, *active movements present.*
3. The skin swollen, dry, scaly; fatty deposits in neck, hair coarse and scanty.	3. These changes absent.
4. No characteristic skull changes.	4. *The skull flattened antero-posteriorly, brachycephalic.*
5. The palpebral fissure *appears* small from swelling of eyelids; epicanthus not present.	5. The palpebral fissure *is* small and obliquely placed, without swelling of lids; epicanthus marked.
6. The *tongue is very large, swollen, and protruding.*	6. The *tongue is large, often protruded, but not swollen.*
7. The lips are thick, immobile, and everted.	7. The lips are mobile, pursed up, and everted on movement or crying.
8. *Congenital heart disease rare.*	8. *Common.*
9. Relative size of fingers normal.	9. Little finger short and curved; thumb short.
10. Thyroid gland absent or atrophied.	10. Thyroid gland normal.
11. *Marked benefit received from thyroid gland treatment.*	11. No benefit.

In well-marked cases these differences will usually allow of an exact diagnosis being made, but as in other affections one not infrequently meets with slightly marked cases in which the symptoms are not pronounced, and many of them may be absent. In such a case the special Mongolian characteristics on which stress should be laid are the active movements of the face and limbs as contrasted with the lethargic state and expressionless face of the cretin. The smiling face of the Mongolian imbecile suggests the possession of some secret source of joy, while the somewhat sad countenance of the cretin suggests the cherishing of a secret sorrow. A careful investigation as to anatomical defects and changes will usually reveal the presence of some of these which are sufficiently characteristic. *The final test is the therapeutic one, as under the administration of thyroid gland the cretin will in time show changes of a most striking character while the Mongolian infant will remain unaffected.*

Old Cavendish-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

◆

BULLET WOUND IN THE HEAD; REMOVAL OF THE BULLET FROM THE NOSE TWENTY MONTHS AFTERWARDS.

By CLAUD WOAKES, M.R.C.S. ENG., L.R.C.P. LOND.,
SURGEON TO THE LONDON THROAT HOSPITAL; AURAL ASSISTANT AT THE LONDON HOSPITAL.

A MAN, aged 24 years, late a private soldier, presented himself on June 14th, 1899, at the aural department of the London Hospital, complaining of a foul-smelling discharge from the left nostril. He gave the following history. On Oct. 20th, 1897, he was one of those engaged in the brilliant attack on, and capture of, the Dargai heights when he was shot from above, the bullet entering the skull just below the left frontal eminence. He became unconscious, but recovering quickly was able to retire and receive first aid. The superficial wound in the forehead was stitched up. At the same time he expectorated a small piece of lead. He was sent to the base hospital, where his left eye, through which the bullet had passed, was removed. On examining the left nostril I found it to be almost closed by a broad bridge of mucous membrane running from the outer wall to the septum. After cutting through this under cocaine an examination of the interior of the nostril with a probe revealed a hard partially moveable substance buried in granulation tissue. This examination causing some hæmorrhage an antiseptic and astringent lotion was prescribed and the patient was told to come again in the following week. On June 21st a clearer view was obtained, and by seizing the hard substance with a pair of strong nasal forceps passed up the nostril a large irregular piece of lead was removed without injuring the nostril, with a square inch of khaki attached which had been carried in with the bullet from the peak of the helmet, the whole being covered with foul smelling crusts and discharge. The hæmorrhage caused by this operation was easily stopped by syringing with hot antiseptic lotion, which the patient was ordered to continue to use for a week, during which time several pieces of bone came away. Besides the discharge before mentioned the symptoms had been severe headaches and slight attacks of ague, but when the patient was last seen, five months after the removal of the bullet, these symptoms had all disappeared. In the accompanying illustration the bullet is represented as slightly smaller than its actual size. It measures one inch in length, five-eighths of an inch in breadth, and three eighths of an inch in width, and it weighs 343 grains. The patient has now a large depressed scar over the left frontal eminence and eyebrow. The left eye is entirely gone, the left antrum is minus its nasal wall, and the anterior two-thirds of the inferior turbinated bone are absent, and there is a small stellate cicatrix in the roof of the mouth slightly to the left of the middle line.

Harley street, W.

CASE OF IMPACTED EXTRACAPSULAR FRACTURE OF THE NECK OF THE FEMUR.

By H. E. BELCHER, L.R.C.P. LOND., M.R.C.S. ENG.

A MAN, aged 26 years, was driving at about 10 A.M. on Dec. 7th, 1899, when the horse bolted and threw him into the road. He had been a heavy spirit-drinker for months, and when I saw him, immediately after the accident, he appeared to be suffering from the effects of drink and of a blow which he had sustained on his head. His right temple was cut and bruised, a branch of the temporal artery was exposed and bleeding, and his right leg lay in the everted position, but no other signs of injury were apparent. On trying to get him into a cart he would not allow us to bend his right hip. Examining him at home I could detect a swelling of the upper third of the right thigh, which he could not bear to have flexed. There was no apparent shortening, nor could I discern any crepitus, nor was there any apparent bruising of the hip. He complained of great pain all down the front of the thigh to the patella, and he had also considerable erectio penis. Next day the swelling had subsided and he felt better, but could still lift the leg only by the help of the sound one. The leg lay everted and on very careful measurement showed about half an inch of shortening. During the afternoon of this day he had two attacks of urgent dyspnœa, which I attributed to his former drinking habits, and in the evening he became violently delirious, sat up, bent his hip, and attempted to walk. During some of the movements I tried to discover any crepitus, but failed. The next day the swelling of the thigh had returned, no greater shortening could be made out, or crepitus, and during the night he died. After death the right lower limb was found to be very evidently shortened by about three inches, and the right thigh appeared to be much broadened out. By using force I was able to undo the impaction and I found the seat of fracture quite at the root of the femoral neck.

The chief points of interest to me and those with which I was not absolutely familiar were the very slight amount of shortening which could be discerned and the absence of *any evidence of severe bruising of the hip.* The characteristic eversion of the foot, the broadened appearance of the thigh, and the helplessness of the limb were the chief signs of injury.

West Bridgford, Nottingham.

THE ORCHITIS OF MUMPS.

BY CLEMENT DUKES, M.D. LOND.,

PHYSICIAN TO RUGBY [illegible] AND SENIOR PHYSICIAN TO RUG [illegible] OSPITAL.

IN the elucidation of facts with regard to diseases it behoves us to be careful that our facts are real and universal and not subject to the alteration of time and circumstances. By virtue of a very long experience, dating from April, 1871, I have from time to time discussed the question of the orchitis of mumps. I have emphasised these supposed *facts*: (1) *that the orchitis of mumps is not a metastasis*; (2) that it almost invariably occurs on the seventh or eighth day of mumps, though occasionally mumps commences with orchitis on the first day, when it may occasion very alarming symptoms; (3) that it never arises before puberty; and (4) that it does not occur after puberty if the patient be kept in bed over the eighth day.

We have just passed through an epidemic of 30 cases of mumps at Rugby which indicates that my previous experience of the orchitis of mumps was inaccurate when applied over a long series of cases extending over many years, for this series of cases belies all my former ones.

No. of case.	Residence.	Mumps.	Date.	Orchitis.	Date.	Day of orchitis from mumps.
1	G. S.	Right parotid.	Oct. 27, 1899.	Right.	Nov. 3	Seventh day.
2	"	"	Nov. 13, 1899.	"	" 21	Eighth "
3	P. S.	Both parotids.	Nov. 15, 1899	"	" 20	Fifth "
4	G. S.	Left parotid.	Nov. 16, 1899.	Left.	" 23	Seventh "
5	P. S.	Right "	Dec. 6, 1899	Right.	Dec 9	Third "
6	S. W.	Left "	Dec. 5, 1899.	Left.	" 11	Sixth "

Here, therefore, we have these facts—that out of 30 cases of *mumps 20 per cent. developed orchitis, although not one* of the boys moved from his bed for any purpose whatever for eight days; also the days on which the orchitis showed itself varied between the third and the eighth days, which is quite a new experience to me.

Rugby.

A BOY'S EAR BITTEN OFF BY A HORSE.

BY JOHN MUNRO MOIR, M.D. ABERD.

IN THE LANCET of Dec. 2nd, 1899 (p. 1572), Mr. E. W. Cuming asks for information regarding any cases of the above accident. The following case may prove of some interest to him.

A few years ago I was called to attend the son of a patient of mine who while grooming his father's horse, or rather small pony, had one of his ears completely bitten off, quite as cleanly and neatly as if a surgeon had done it with a knife. *The whole of the structure of the external ear* was removed and was intact. It was some time after the accident before *I saw the boy*—I should say about two hours. The ear, which had been carefully preserved was cold and shrivelled up, and I regret that I did not adopt the treatment mentioned in the case referred to in THE LANCET of June 4th, 1898 (p. 1533), with such a successful result—viz.; that of sewing on the severed ear. I thought that in my case there would be but little chance of union owing to the length of time elapsing from the occurrence of the accident until I saw the boy, but this will not *deter me from doing so should I see another case.* The disfigurement resulting from this accident is very marked; the organ *is* a very difficult one to model artificially, and even were this *done successfully* it would be difficult to attach it and keep it in position. Fortunately, as pointed out by Mr. E. W. Cuming, these accidents are rare.

Inverness.

A Mirror

OF

HOSPITAL PRACTICE,

BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

A CASE OF SUPPRESSION OF URINE ASSOCIATED WITH A SINGLE KIDNEY.

(Under the care of Mr. D'ARCY POWER.)

FOR the notes of the case we are indebted to Mr. Percival Wood, house surgeon, and Mr. H. P. Johnson, dresser of the case.

A man, aged 36 years, was admitted into St. Bartholomew's Hospital on the evening of Saturday, August 26th, 1899, vomiting and saying that he had total suppression of urine. The patient stated that he had been in his usual health until Sunday, August 20th, when he passed no urine all day. He was not inconvenienced in any way and went to his work as usual on the Monday and afterwards had a bicycle ride. On the Tuesday he still felt in excellent health and went to his work, though he still passed no urine. On the Wednesday he did not feel well and stayed at home. On the Thursday he began to feel weak and to vomit and his condition became gradually worse until his admission to the hospital on the Saturday. He then had a slight headache and a little giddiness but "beyond the vomiting and weakness he did not feel much wrong." He had seen a medical man frequently during the week who passed catheters, but he had "not passed more than half an eggcupful of urine the whole week." His bowels were opened every day but only slightly. There was nothing of importance in his history He had never had any abdominal pain suggestive of renal colic or any difficulty in passing urine. *His urine had never contained gravel, blood, or sediment.*

When the patient walked into the surgery he looked ill, his face was drawn, and he was very sallow. His skin was moist and his breath was foul, but there was no urinous odour about him. He was evidently very weak, but he did not seem to be giddy. He could see quite well and the pupils were equal and contracted. The pulse was very soft and was regular both in strength and frequency, beating 84 to the minute The legs pitted slightly on pressure. The abdomen moved well. It was neither distended nor tender and except for a slight dulness in the right loin it was everywhere resonant. No tumour could be felt either in the bladder or the kidney region, the only abnormality being a slight muscular rigidity on the right flank. The heart and lungs were apparently normal, the respirations being 12 or 14 a minute. The face was not puffy anywhere; the tongue was dry and somewhat cracked. One eye was examined under atropine with the ophthalmoscope The edge of the disc was slightly blurred, but otherwise the retina was normal.

A catheter (No. 10) was passed and went easily into the bladder; no urine was withdrawn. A sound was also introduced, but nothing was discovered. The diagnosis of obstructive suppression was made and the patient was therefore admitted to a surgical ward, an opinion being further hazarded that the patient had only one kidney. Mr. D'Arcy Power saw the patient about two hours later and determined to explore the right kidney, being guided to this side by the muscular rigidity in the right flank. An incision was made in the right loin and a small contracted kidney was found lying high up under cover of the eleventh and twelfth ribs. The capsule was torn through, the pelvis of the kidney was explored with the finger and a needle was driven through the cortex in several places, but no stone was felt and the ureter was manifestly free from obstruction. The wound was accordingly closed and dressed, and when the patient recovered consciousness three hours later he appeared to be in the same condition as he was before the operation, being quite sensible, rather thirsty, quiet, and without pain or discomfort. On the next morning he was ordered a hot air bath at a temperature of 105°F., and almost immediately afterwards he passed voluntarily about three ounces of blood-stained urine. An hour later he passed another two ounces of urine, but shortly afterwards he became very restless and cyanosed, whilst his pulse began to intermit. This attack passed off after three minims of liquor strychniæ had been injected and half an ounce of brandy with water had been given by the mouth, and he had been made to inhale oxygen. He improved so much that his wife who was talking to him said it was difficult to understand that he was at all ill, but an hour later he vomited about half a pint of clear fluid, again became restless, and died in five minutes, remaining conscious and answering questions to within three minutes of the end.

Necropsy.—The post-mortem examination showed that both lungs were very œdematous and congested, and that both pleural cavities contained fluid. The peritoneal cavity contained about four ounces of serous fluid and there were several firm adhesions on the right lateral aspect of the liver, apparently caused by old perihepatitis. The left kidney was represented by a small thin piece of fibrous tissue of about the size and shape of a flattened horse bean. The left ureter was small, but was present in its whole extent and was patent throughout its course. The left suprarenal capsule was normal and received a small vessel direct from the aorta. There was neither renal artery nor renal vein on the left side. The right kidney was somewhat smaller than usual and its pelvis was dilated. The capsule was adherent and on section the renal substance was seen to be granular and congested. The recesses of the pelvis contained four small pigmented calculi, the largest being smaller than a grey pea. The ureter was quite free in its whole course and the suprarenal was healthy.

Remarks by MR. D'ARCY POWER.—The patient died from suppression of urine, the result, I suppose, of his single kidney striking work owing to the irritation of the calculi it contained. It is creditable to those who first saw him that the exact cause of the condition should have been diagnosed, though it is true that they are not entitled to the whole credit, for only a few days previously one of my colleagues had a similar case in which the single kidney was of the large white variety, whilst in the present instance it was small and contracted. The clinical history of the patient, so often wanting or imperfect, is unusually full and shows how little inconvenience was produced by the condition. The absence of the renal artery and vein shows that the left kidney was congenitally absent.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.

A CASE OF SUPRAPUBIC LITHOTOMY; REMOVAL OF TWO VESICAL CALCULI; RECOVERY.

(Under the care of Mr. T. VINCENT JACKSON.)

MANY considerations influence the answer to the question, What is the best method of removing a stone from the urinary bladder? The mortality resulting from the operation itself will naturally vary with the skill and experience of the operator whatever may be the operation performed. Of recent years so few cases of lateral lithotomy have been performed that no extensive statistics are obtainable; perhaps the best statistics of the operation of lateral lithotomy are those collected by Mr. C. Williams and founded on the cases at the Norfolk and Norwich Hospital. From 1772 to 1839 there were 871 lateral lithotomies at that institution and of these 116 patients died; this is a death-rate of 13·32 per cent. In boys the results were better still, for between the ages of five and 10 years there was a mortality of less than 4 per cent. It is probable that more modern statistics of lithotomy would show some improvement on these results, but it is unlikely that the mortality would be less than half of that exhibited in the Norwich statistics. The mortality of the modern operation of litholapaxy may be gauged from the following statistics Mr. R. Harrison[1] performed 101 lithotrities from 1890 to 1897 and had six deaths—i.e., a little less than 6 per cent. Major R. Baker, I.M.S., has published[2] notes of 404 cases of litholapaxy which he performed in India. The mortality was under ½ per cent. It will thus be seen that the mortality in litholapaxy, though liable to vary, is certainly less than in lateral lithotomy. The percentage of recurrence after the crushing operation is higher than after lateral lithotomy, but with a very much lower mortality this is not of great importance. The results of the high operation of lithotomy also vary. Freyer, in a discussion at the Harveian Society that followed a paper on litholapaxy, said that suprapubic lithotomy in children had a mortality of 20 per cent.,[3] but this cannot be accepted as a representation of the danger of the high operation in general. Witte[4] had 32 cases of suprapubic lithotomy and four died, a mortality of 12·5 per cent. Lissjanski[5] had only one death in 18 cases, that is a death-rate of 5·5 per cent. The large size of the stone is generally considered to point to the desirability of performing lithotomy, but Milton[6] has said: "The larger the stone and the more exhausted the patient, the greater is the indication for lithotrity." In boys every method gives more favourable results than in men, but there is still much difference of opinion as to the most suitable operation. Mr. Jackson's interesting case is a very good example of the good results which may be obtained by the high operation.

A boy, aged eight years, was admitted into the Wolverhampton and Staffordshire General Hospital on July 19th, 1899, having been sent by Mr. A. T. Wills of Brewood. The history was very incomplete and indefinite; a family tendency was denied and only recent symptoms were mentioned such as frequent and painful micturition (day and night), the pain being referred to the end of the penis. Exercise added to the pain and produced a wish to defæcate. Upon examination the child was seen to be proportionately small for his age and spare of habit; indeed, he was a weakly and delicate-looking boy. The penis was small; the prepuce was long and its free margin was much reddened and thickened. The meatus urinarius and the capacity of the urethra were small. No hernia existed. Under chloroform a sound equal to a No. 3 catheter was inserted into the bladder, but it encountered a difficulty at the neck as if a stone projected. This was so, and it appeared to be of some size. The exploration with the sound was supplemented by the forefinger within the rectum and by a hand placed on the hypogastric region. The patient was admitted into the children's ward and his health and his diet were carefully attended to.

On July 29th under chloroform suprapubic lithotomy was performed. No rectal plug was used, but the bladder, first emptied of urine and carefully washed out, was distended with warm water. As the soft catheter was withdrawn the root of the penis was tied with tape. The bladder was opened above the symphysis pubis by cutting down to and into it. On the left forefinger being introduced two calculi were felt. One was almost free, except that its distal (spiked) end projected into what appeared to be the vesical end of the urethra; the second calculus, behind and somewhat under it, was lying in a pouch. Both were removed by a small pair of forceps and when placed together the measurements were one inch by one and a half inches. The sides of the bladder wound were approximated and so retained by Mr. H. D. O'Sullivan (the house surgeon) and then carefully stitched together, 12 fine silk sutures being inserted—six deeply and six superficially. The layers of the abdominal wall were closed separately by silk sutures; the wound was protected and sealed by a thick layer of cotton-wool and collodion, which was not changed for a week. A soft catheter was passed and retained in the bladder. It is unnecessary to encumber this report by recording the daily notes as the progress was uneventful The cutaneous portion of the wound slightly re opened and four silk sutures, being loose were removed On Sept 8th the boy was sent home perfectly recovered

---

[1] THE LANCET, Nov. 12th, 1898, p. 1250.
[2] THE LANCET, Sept. 11th, 1897, p. 645.
[3] THE LANCET, May 14th, 1898, p. 1330.
[4] Chirurgie, Band 1, Heft 2.
[5] *Letopis Russkoi Chirurgii*, 1896, *Heft* 3.
[6] Moscow International Medical Congress.

Remarks by MR JACKSON —This case is reported as a contribution to the treatment of vesical calculi in properly selected cases in male children by suprapubic lithotomy indeed, it is the first child on whom I have so operated If the stone is of small or even of moderate size and the age of the patient and the capacity of the urethra will permit, the case being uncomplicated, lithotrity is no doubt an excellent means of cure, but the case recorded belongs to another category and a different surgical proceeding was called for and successfully employed If called upon to repeat this operation and the condition is favourable for closing the wound I shall not stitch together the abdominal wall layer by layer but close it by silkworm gut

Every now and then a discussion arises in the medical journals as to the preferable operation — lithotomy or lithotrity—for the removal of stone from the bladder of boys In reading these discussions and the opinions expressed I have been struck by the rather too dogmatic and *doctrinaire* tone adopted by those who so strongly and almost as partisans advocate the modern method of treating stone in the bladder (lithotrity) I fail to see that it is possible for any one method, modern or otherwise to be equal or sufficient to the varying conditions met with in infants—and shall I also add octogenarians—who may be the unfortunate sufferers from such a painful distressing, and destructive malady as vesical stone

The great promoter and supporter of lithotrity in this country, Sir Henry Thompson skilful and successful as he has ever been never held the cramped opinion that lithotrity had superseded lithotomy and that the performance of the latter instead of the former was ' retrograde ' old fashioned,' "eccentric,' and 'out of place I plead for the permissive right of an operating surgeon to be allowed to select what in his judgment is the best and the most likely operation to be successful in any given case under his care There ought not to be and there cannot be, a hard and fast line in surgical treatment for much of that must depend on individual experience Mr Reginald Harrison in the Bradshaw Lecture (1896) dissents from the tendency existing at the present day to relegate lateral cystotomy to the surgical shelf Lithotrity is a very easy operation lateral lithotomy is not and without saying that lithotomy is boycotted on account of its difficulty I feel that it still holds a place in the art of surgery and its employment for the removal of suitably sized calculi in very young male children is not only a safe but a successful preferable and complete procedure

I desire to thank Mr H D O Sullivan and charge nurse Middlemist for their post operation supervision care and attention

Medical Societies

EDINBURGH MEDICO CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens

A MEETING of this society was held on Dec 20th and was devoted to the exhibition of patients and specimens, Mr A G MILLER the President being in the chair

DR ALEXANDER BRUCE showed 1 A case of Infantile Paralysis affecting the muscles of the left hand The patient was a girl, aged 19 years and the history given was that when she was a child a few weeks old she received a stroke on the back of the left hand and that soon afterwards the hand was noticed to be paralysed Her present condition showed that the left hand was much smaller than the right and that every intrinsic muscle of the hand was atrophied The muscles of the forearm were normal and there was no sensory disturbance The lesion had apparently affected the first dorsal segment of the cord and the history given was deceptive in that the case was one of infantile paralysis 2 A case of Progressive Muscular Atrophy of the Peroneal or Charcot Marie type This case differed from the ordinary type in that there were no evidence of the disease occurring in the other members of the patient's family or ancestors (she was a woman past middle age) in that the patient was rather beyond the age at which the disease usually appeared and in the fact that the trunk muscles were beginning to be affected also The paralysis began after pain in the legs and now there were drop ankle and contracture but no sensory disturbance The peroneal muscles were atrophied The hands became affected later and now showed the well marked claw character with some ulnar flexion The forearm was somewhat atrophied and there was some spinal curvature The lower lip was relaxed and there was some deficiency in articulation It was a purely muscular paralysis and at an early period the reflexes underwent diminution The affection was evidently a parenchymatous neuritis spreading centrally to the posterior columns of the cord 3 A case of Senile Chorea (exhibited for Dr J O Affleck) in a game keeper who until he fractured his leg eight years ago was perfectly healthy A year after the accident a chorea manifested itself It affected the head as well as the rest of the body There was no symmetry or rhythm in the movements and the patient had difficulty in speaking on account of the choreic movements of the tongue and lips 4 A case of what might be called Huntington s Chorea but which Dr Bruce thought was a true and typical Convulsive Tremor, though some might say that it was due to *hysteria* The patient a man, had syphilis five years ago and two years subsequently the affection began by a difficulty in standing and now there was a peculiar condition of tremor which affected chiefly the thighs and calves In the upper extremity shrugging movements of the shoulders were visible In the legs sharp jerking movements were seen, and rapid flexions and extensions of the feet took place On lying down the legs were jerked upwards at the thighs and rotation at the hip joints was noted There was no anæsthesia The toes underwent flexion and extension, as did also the thumbs to a less extent All these movements were less marked when the patient walked, or during sleep or when he was at perfect rest and were aggravated when he was excited There was great hyperæsthesia in the muscles By tapping over each it could almost always be made to contract The patient s memory was not so good as it had been Dr Bruce did not think that it was a case of hysteria 5 A case of Injury to the Lumbo sacral Nerve roots The patient was a young man who fell downstairs and injured his left hip Two days after the accident his left limb became powerless and in three weeks it was anæsthetic The lesion seemed to affect the first and second sacral roots and as the bladder and rectum acted well it was thought that the other sacral roots must be intact The injury must have affected the roots of the cauda equina on one side Dr Bruce pointed out the areas of motor and sensory paralysis and noted that the case was complicated by the fact that after the patient left the hospital after the accident he imbibed freely of alcohol and so superimposed on the traumatic an alcoholic neuritis

DR NORMAN WALKER exhibited 1 A man suffering from the rare condition of Acne Necrotica or acne varioliformis as it is sometimes called from the scarring The only resemblance which this affection bore to ordinary acne was that it occupied similar seats It was a necrosis of the whole skin and bore no evidence of a syphilitic cause, Dr Walker believed 2 Two cases of Ichthyosis in the same family 3 Cases treated by the X Rays Dr Walker had only employed this treatment in those cases of skin disease where he deemed that it would be most likely to do good—as, for example in cases of lupus and favus These rays caused complete loss of hair which re-grew later One of the cases shown was that of a girl who had suffered from favus for 10 years and had undergone repeated treatment She was first treated by the x rays in the spring of 1899 and now the head was quite free from disease Dr Walker showed three cases of lupus which had been treated thus and which were very greatly improved 4 A case of Leprosy in a young man (exhibited for Dr Allan Jamieson) There was a patch on the left forearm with an anæsthetic centre also a nodule near the right breast The nerves had not undergone any thickening

DR ALEXANDER JAMES showed two cases of Hypokinesis 1 The patient was a girl aged three and a half years The condition affected the right leg arm, and hand which were all smaller in size than were the same members on the left side The loss of power was chiefly in the extensor muscles as shown by the fact that when she grasped anything with the right hand she had to employ the left hand to open the fingers so as to free the object There was loss of power on the right side and the condition had persisted since she was 18 months old. The child suffered from tuberculous abscesses of the bone in the left leg, arm, forehead, &c., when she was seven months old. These healed and then the brain trouble showed itself. The child could not walk, but the right arm had improved under treatment, which had in part consisted in tying up the left hand so as to make her use the right. 2. The patient, a girl, aged 15 years, suffered from epileptic attacks which chiefly affected the right arm but also the face and leg on the same side occasionally. There was also loss of consciousness with some of these attacks. For four or five days at a time peculiar, perfectly regular, tremors persisted. The right arm and leg were weaker and the reflexes were increased. There had evidently been a cortical lesion.

Dr. GEORGE GIBSON showed a man with Pseudo-bulbar Paralysis. He had weakness on both sides of the face and the tongue and difficulty in vocalisation. All the muscles supplied by the seventh cranial and the posterior nerves were greatly weakened, but there was no wasting. He had gradually also developed a spastic condition at first confined to the lower extremities, but now this had invaded the upper extremities. The muscular reactions were increased.

Mr. HAROLD STILES showed: 1. An infant, five months old, after operation for Acute Ileo-cæcal Intussusception. 2. A boy after Mikulicz's Operation for Disease of the Posterior Tarsus. 3. A patient who suffered from Acute Thyroid Cachexia after excision of a suppurating goitre. Both the mother and a sister of the patient had goitres. The patient suffered from great breathlessness and the tumour underwent enlargement very rapidly. The tumour extended behind the sternum and far up in the neck and was difficult to remove on account of the inflammatory adhesions. Two days after the operation the patient developed a strange mental condition. She was "dour" and would not answer questions. Then jaundice supervened and she complained of pains all over her body; the face twitched and she refused food. Immediately after the administration of thyroid extract this apathy disappeared and she was now perfectly well. 4. A man after Excision of a large (simple or malignant?) Lymphoma. The tumour grew very rapidly and the patient's general health deteriorated. The tumour, which was on the right side of the neck, was large and smooth, and the adjoining lymphatic glands were enlarged. The diagnosis was that of tuberculosis or lympho-sarcoma, the latter being more probable. The tumour on section had all the appearances of a medullary tumour. The wound healed rapidly, and some small but hard glands soon disappeared, and three months after removal there was no recurrence of the growth. Microscopically the tumour was that of a lympho-sarcoma. 5. A girl after Avulsion of the whole Scalp. The accident was a machinery one, and the scalp from the forehead to the neck, with part of one ear, was torn away. Two inches of the right parietal bone were bare of pericranium. At first the discharge was great, but now the granulations were less florid and had grown over the bare parietal bone which had not exfoliated. Entire skin grafts had been tried repeatedly and for from two to three weeks had seemed to do well, but these had been eaten up by the granulations. The patient lately while at home had erysipelas but she had now returned for fresh treatment.

Dr. F. D. BOYD exhibited: 1. A man with signs and symptoms of Syringomyelia: diminished visual field; sense of smell almost gone; ocular muscles normal; right trapezius partly paralysed; loss of power in the grasp of both hands; complete paralysis of the right palate and of the abductor of the right vocal cord; some loss of sensation in the palm of the left hand, and atrophy of the thenar and hypothenar eminences and of the interossei. On both sides the deltoid and supra-spinatus muscles were paralysed. 2. A case of Neuritis in a man with Involvement of Both Facial Nerves. After an attack of alcoholic jaundice the patient developed pains all over his body and he was found to be suffering from peripheral neuritis in the legs and arms. In addition he had extreme pain in the angle of the jaw, and over the course of the left facial nerve there was great tenderness with later complete paralysis of the muscles. The right nerve became similarly affected, as did also the motor branch of the fifth nerve. He was now greatly improved. 3. A case of Neuritis after Confinement, to illustrate the question of prognosis. Following on parturition the patient developed a peripheral neuritis with complete ankle- and some wrist-drop. The organic reflexes were abolished and the mental condition was impaired greatly. She had now practically entirely recovered.

Dr. A. C. SYM showed the Trachea, &c., from a case of sudden death due to morbus Ludovici.

Mr. J. M. COTTERILL showed (1) a specimen of a Tumour of the Brain; and (2) two specimens of Urethral Calculi.

Dr. R. B. PURVES showed a specimen of Exostosis of the Femur.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

The Pulmonary Second Sound.—The Examination of Sick Children.

A MEETING of this section was held on Dec. 15th, Dr. J. W. MOORE, the President, being in the chair.

Dr. J. F. O'CARROLL read a paper on the Pulmonary Second Sound and dealt chiefly with the significance of accentuation of the second sound in the pulmonary area.—Sir CHRISTOPHER NIXON, the President, and Dr. J. KNOTT discussed the paper.

Mr. LANGFORD SYMES read a paper on the Examination of Sick Children. The paper dealt with the differences to be observed in children's diseases from those of adults. The organs were taken *seriatim* and in each case its peculiar diseases set forth in the following order: (1) history; (2) "facies"; (3) head; (4) frame and bones; (5) reflexes; (6) eyes, ears, and nose; (7) glands; (8) abdomen; (9) heart; (10) lungs; (11) spine and neck; (12) mouth and throat; and (13) nervous system. In children every organ must be examined, for the discovery of disease could be thus alone secured. Information could not be obtained from the child, the friends were also in ignorance, and so the child was entirely dependent on the physician's powers of physical examination. It was pointed out that mistakes were made almost exclusively from want of examination. No branch of practice of medicine entailed such a pitch of refinement in physical examination, and it formed the best, although severest, school for the clinical investigation of disease.—Mr. DOYLE said that very often in examining sick children it was necessary to resort to an anæsthetic, as he experienced in a recent case under his care of hæmorrhage from the bowel. On making a rectal examination under chloroform he discovered a polypus which was subsequently removed.—Dr. O'CARROLL said that the complaints of children might in many cases be due to the suggestive influence of the parent. Children were also quite as liable to hysteria as adults. He did not consider reflexes of much value in examining children under two or three years of age, as the lateral tract was then ill-developed.—Dr. KNOTT and the PRESIDENT also took part in the discussion.—Mr. SYMES, in reply, alluded to the lack of teaching in diseases of children in Ireland. Now that distinct sections in their associations, separate hospitals, professors and lecturers existed in England, the continent, and America, the subject should no longer be neglected.

EDINBURGH OBSTETRICAL SOCIETY.—A meeting of this society was held on Dec. 13th, Dr. Milne Murray, the President, being in the chair.—The President showed a Double Uterus with a Cystic Tumour of the Ovary.—Professor A. R. Simpson showed an Anencephalic Fœtus with some Spina Bifida. It was accompanied by hydramnios, which could not be accounted for by fœtal urination, as the kidneys were small and the bladder showed no signs of having ever been distended.—Professor J. A. C. Kynoch (Dundee) read a paper on Vaginal Cœliotomy. After discussing the history of the operation the technique and different methods were described. In anterior colpotomy the incision might be transverse or longitudinal, the latter being more safe for the ureters. The cellular tissue was then pushed through with the finger in multiparæ and with the aid of scissors in nulliparæ. The peritoneum was exposed and divided; this was accomplished safely by puncturing with long sinus forceps and then separating the blades. The fundus uteri could be brought through the opening and examined, and the appendages could also be inspected and removed if necessary. Drainage, when necessary, was best carried out by the posterior fornix. One of the indications for the operation was in the treatment of retroflexion by vaginal fixation where the symptoms were not relieved by pessary and other treatment. But against its performance was the increasing number of reported cases where operative interference (including Cæsarean section) had been found necessary when labour had occurred in these cases, but it would be suitable for cases at or near the menopause. Inversion of the uterus, if irreducible by other means, might be treated by posterior or anterior colpotomy and the finger then inserted to dilate the constricting ring. A vaginal fixation had been carried out after the reduction. Prolapsed ovaries which were much inflamed and fixed and had resisted other treatment could be easily removed by posterior colpotomy. Extra-uterine pregnancy, which had ruptured, causing diffuse intra-peritoneal hæmorrhage without the formation of a hæmatocele, was universally advised to be treated by abdominal section, but if the condition had been diagnosed before rupture up to the eighth or tenth week the intact tube could be removed by vaginal section. Dührssen gave a table of 19 cases operated on in this way with one death. Ovarian cysts could be removed by vaginal cœliotomy, but the proceeding was not viewed with general favour. Schauta reported 23 cases with one death and limited this method of removal to non-malignant moveable tumours, free from adhesions to the bowel. Colpotomy might be employed in cases of phthisis, cardiac affection, and in other conditions likely to be aggravated by subsequent parturition, to reach the tubes, ligature, and divide them. The advantages claimed for the vaginal route over the abdominal were: (1) shorter convalescence—14 days as compared with from three to four weeks; (2) no abdominal cicatrix, and therefore no tendency to hernia or intestinal or omental adhesions; and (3) less shock on account of the peritoneum being less exposed. Drainage, when necessary, was best carried out through the posterior fornix. Its disadvantages were: (1) on account of the limited space dense adhesions were more difficult to manage and consequently there was greater danger of wounding the bladder and rectum; and (2) there was greater difficulty in rendering the vagina aseptic, but this was probably exaggerated.—Professor Simpson, Dr. N. T. Brewis, Dr. F. W. N. Haultain, and others took part in the discussion.—Dr. Milne Murray read a paper on Pyosalpinx removed by Laparotomy in the Early Puerperium. The patient had been complaining of profuse menses and debility before she became pregnant with her second child. During her pregnancy she had been complaining of a pain in the left ovarian region which occasionally had been very severe, compelling her to lie down for some hours at a time. A child was born with the aid of forceps. The patient's temperature continued about 101° F. till the third day, when it rose to 103.5°. On opening the abdomen and passing the hand down into the left side of the pouch of Douglas many recent adhesions were found which readily gave way. The left tube and ovary were brought out; the tube was intensely congested, much dilated, and to all appearance empty. These were removed; those on the right side were examined and found to be fairly healthy and returned. The recovery was uninterrupted and the uterus underwent normal involution. On examination of the tube pus was found in it at the uterine end. The onset of the symptoms was probably associated with the escape of the purulent contents of the tube into the abdominal cavity.—Dr. G. Simla Paterson read notes on a case of Sudden Death following Labour. The patient was a secundipara, aged 32 years. At the post-mortem examination the heart was found to be affected with both aortic and mitral stenosis. The lungs were markedly congested and portions of both showed microscopically brown induration, chronic congestion, and a recent fibrinous pneumonia. The left kidney was completely cystic and was found to contain a large quantity of tuberculous pus. The right kidney showed signs of chronic nephritis.

SOCIETY OF ANÆSTHETISTS.—At a recent meeting of this society Dr. J. Frederick W. Silk, the President, read a communication from Mr. Walter Edmunds describing a Paper Inhaler for use with Junker's Apparatus for the Administration of Chloroform, the object being to use a new paper in every case.—Mr. W. G. Copestake (Derby) read a paper on a New Inhaler for Ether, Chloroform, or Mixture, the face-piece of which was made of celluloid; he utilised a portion of the angular tube of Clover's inhaler, to which he attached an indiarubber tube by a short brass one. In giving ether he used a flat thin bottle provided with tubes similar to Junker's, the longer one, which reached to the bottom of the bottle, being perforated with a number of small holes. He used Mr. Krohne's indiarubber bellows. The advantages of the inhaler in regard to ether were that in the early part of the administration there was little or no bronchial irritation, there was less struggling or spasm, no cyanosis, much less sickness after recovery, and considerable saving of ether. When chloroform was used the action of the inhaler was the same as that of Junker's; when a mixture of equal parts was used the inhaler combined the action of the two drugs. He had noticed that œdema of the lung occurred much less frequently since he had used the inhaler described.—Dr. G. B. Flux read a paper on a Small Contrivance for use in the Administration of Chloroform. A small metal cylinder was attached at the upper end to the inlet of a ball bellows the delivery tube of which led directly to a face piece. The cylinder contained cotton wick and chloroform was poured on it through the lower open end. The instrument was light, portable, and easily managed and it possessed the advantage that both the strength and the amount of the mixture were absolutely under control.—Mr. Richard Lloyd asked how much longer Mr. Copestake took in putting a patient under ether by his apparatus than by Clover's apparatus. With regard to Dr. Flux's paper Mr. Lloyd wanted to know the definite amount of chloroform taken into the bellows each time.—Mr. Carter Braine asked if any stout and plethoric men had been anæsthetised by Mr. Copestake's method and whether the perforations of the tube got blocked up.—Mrs. Dickinson Berry asked if Mr. Copestake's apparatus could be adapted for the preliminary giving of gas.—Mr. Edgar Willett said that he did not see how the absolute precision could be gained which Dr. Flux claimed for his apparatus.—Dr. Dudley Buxton thought that Mr. Copestake was employing a principle which was absolutely wrong with regard to ether. He did not wish to be ungracious or to attempt to throw cold water on those who brought new apparatus before them, but he was sure that Mr. Copestake and others wanted to hear the candid opinion of the members of the society.—The President said that Mr. Copestake's instrument if used with chloroform seemed to be running against one of the primary axioms of chloroform inhalation in having anything in the nature of a bag attached to a chloroform inhaler. He had found Dr. Flux's apparatus of very great advantage in keeping patients under anæsthesia, but it was rather a difficult matter to work the bellows and to get gross alcoholic patients under.—Mr. Copestake, in replying, said that by his apparatus the time taken was two or three minutes longer than with a Clover, and he could not say that he had had much experience with fat or alcoholic patients. To use his apparatus in conjunction with gas a little tube was merely required to be soldered on to any apparatus which had a face-piece.—Dr. Flux, in reply, said that the air passing through his apparatus would only convey chloroform to the extent of the temperature of the air as it emerged from the chloroform, and that would not be above the temperature of the medium through which the air passed.—Mr. W. J. McCardie read notes of a case of Respiratory and Cardiac Failure during Administration of Chloroform to a patient probably of so-called lymphatic diathesis and Mr. Richard Lloyd narrated the facts of a case which was under his care.—The President, Dr. Dudley Buxton, Mr. Carter Braine, and Mr. Grant Morris took part in the discussion which ensued, and Mr. McCardie and Mr. Richard Lloyd having replied the President concluded the meeting by announcing that on Feb. 2nd the society would discuss the Sequelæ of Ether and other Anæsthetics more especially with regard to pulmonary complaints.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on Dec. 22nd at the Guildhall, Windsor, Mr. W. Arnold Thomson (one of the Vice-Presidents) occupying the chair.—21 new members were elected, bringing the membership of the society up to 55.—The discussion on Temperature in Health and Disease, introduced at the November meeting by Dr. M. S. Pembrey, was resumed by Dr. E. D. Hebbert who read notes of an obscure cerebral case which was under the care of Dr. Charlton Bastian some years ago in University College Hospital and in which the temperature on several occasions attained an unusually low level, the minimal rectal temperature being [illegible] F. and the cutaneous temperature at the same time 77.5°. The patient, a man aged 25 years, after a stay of 12 weeks in hospital died comatose, the temperature directly after death rising to [illegible] in the [illegible] had persisted since she was 18 months old. The child suffered from tuberculous abscesses of the bone in the left leg, arm, forehead, &c., when she was seven months old. These healed and then the brain trouble showed itself. The child could not walk, but the right arm had improved under treatment, which had in part consisted in tying up the left hand so as to make her use the right. 2. The patient, a girl, aged 15 years, suffered from epileptic attacks which chiefly affected the right arm but also the face and leg on the same side occasionally. There was also loss of consciousness with some of these attacks. For four or five days at a time peculiar, perfectly regular, tremors persisted. The right arm and leg were weaker and the reflexes were increased. There had evidently been a cortical lesion.

Dr. George Gibson showed a man with Pseudo-bulbar Paralysis. He had weakness on both sides of the face and the tongue and difficulty in vocalisation. All the muscles supplied by the seventh cranial and the posterior nerves were greatly weakened, but there was no wasting. He had gradually also developed a spastic condition at first confined to the lower extremities, but now this had invaded the upper extremities. The muscular reactions were increased.

Mr. Harold Stiles showed: 1. An infant, five months old, after operation for Acute Ileo-cæcal Intussusception. 2. *A boy after Mikulicz's Operation for Disease of the Posterior Tarsus.* 3. A patient who suffered from Acute Thyroid Cachexia after excision of a suppurating goitre. Both the mother and a sister of the patient had goitres. The patient suffered from great breathlessness and the tumour underwent enlargement very rapidly. The tumour extended behind the sternum and far up in the neck and was difficult to remove on account of the inflammatory adhesions. Two days after the operation the patient developed a strange mental condition. She was "down" and would not answer questions. Then jaundice supervened and she complained of pains all over her body; the face twitched and she refused food. Immediately after the administration of thyroid extract this apathy disappeared and she was now perfectly well. 4. A man after Excision of a large (simple or malignant?) Lymphoma. The tumour grew very rapidly and the patient's general health deteriorated. The tumour, which was on the right side of the neck, was large and smooth, and the adjoining lymphatic glands were enlarged. The diagnosis was that of tuberculosis or lympho-sarcoma, the latter being more probable. The tumour on section had all the appearances of a medullary tumour. The wound healed rapidly, and some small but hard glands soon disappeared, and three months after removal there was no recurrence of the growth. Microscopically the tumour was that of a lympho-sarcoma. 5. A girl after Avulsion of the whole Scalp. The accident was a machinery one, and the scalp from the forehead to the neck, with part of one ear, was torn away. Two inches of the right parietal bone were bare of pericranium. At first the discharge was great, but now the granulations were less florid and had grown over the bare parietal bone which had not exfoliated. Entire skin grafts had been tried repeatedly and for from two to three weeks had seemed to do well, but these had been eaten up by the granulations. The patient lately while at home had erysipelas but she had now returned for fresh treatment.

Dr. F. D. Boyd exhibited: 1. A man with signs and symptoms of Syringomyelia: diminished visual field; sense of smell almost gone; ocular muscles normal; right trapezius partly paralysed; loss of power in the grasp of both hands; complete paralysis of the right palate and of the abductor of the right vocal cord; some loss of sensation in the palm of the left hand, and atrophy of the thenar and hypothenar eminences and of the interossei. On both sides the deltoid and supra-spinatus muscles were paralysed. 2 A case of Neuritis in a man with Involvement of Both Facial Nerves. After an attack of alcoholic jaundice the patient developed pains all over his body and he was found to be suffering from peripheral neuritis in the legs and arms. In addition he had extreme pain in the angle of the jaw, and over the course of the left facial nerve there was great tenderness with later complete paralysis of the muscles. The right nerve became similarly affected, as did also the motor branch of the fifth nerve He was now greatly improved. 3 A case of Neuritis after Confinement, to illustrate the question of prognosis. Following on parturition the patient developed a peripheral neuritis with complete ankle- and some wrist-drop. The organic reflexes were abolished and the mental condition was impaired greatly. She had now practically entirely recovered.

Dr. A. O. Sym showed the Trachea, &c., from a case of sudden death due to morbus Ludovici.

Mr. J. M. Cotterill showed (1) a specimen of a Tumour of the Brain; and (2) two specimens of Urethral Calculi.

Dr. R. B. Purves showed a specimen of Exostosis of the Femur.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Medicine.

The Pulmonary Second Sound.—The Examination of Sick Children.

A meeting of this section was held on Dec. 15th, Dr. J. W. Moore, the President, being in the chair.

Dr. J. F. O'Carroll read a paper on the Pulmonary Second Sound and dealt chiefly with the significance of accentuation of the second sound in the pulmonary area.—Sir Christopher Nixon, the President, and Dr. J. Knott discussed the paper.

Mr. Langford Symes read a paper on the Examination of Sick Children. The paper dealt with the differences to be observed in children's diseases from those of adults. The organs were taken *seriatim* and in each case its peculiar diseases set forth in the following order: (1) history; (2) "facies"; (3) head; (4) frame and bones; (5) reflexes; (6) eyes, ears, and nose; (7) glands; (8) abdomen; (9) heart; (10) lungs; (11) *spine and neck*; (12) *mouth and* throat; and (13) nervous system. In children every organ must be examined, for the discovery of disease could be thus alone secured. Information could not be obtained from the child, the friends were also in ignorance, and so the child was entirely dependent on the physician's powers of physical examination. It was pointed out that mistakes were made almost exclusively from want of examination. No branch of practice of medicine entailed such a pitch of refinement in physical examination, and it formed the best, although severest, school for the clinical investigation of disease —Mr. Doyle said that very often in examining sick children it was necessary to resort to an anæsthetic, as he experienced in a recent case under his care of hæmorrhage from the bowel. On making a rectal examination under chloroform he discovered a polypus which was subsequently removed.—Dr. O'Carroll said that the complaints of children might in many cases be due to the suggestive influence of the parent. Children were also quite as liable to hysteria as adults. He did not consider reflexes of much value in examining children under two or three years of age, as the lateral tract was then ill-developed.—Dr. Knott and the President also took part in the discussion —Mr. Symes, in reply, alluded to the lack of teaching in diseases of children in Ireland. Now that distinct sections in their associations, separate hospitals, professors and lecturers existed in England, the continent, and America, the subject should no longer be neglected.

Edinburgh Obstetrical Society.—A meeting of this society was held on Dec. 13th, Dr. Milne Murray, the President, being in the chair.—The President showed a Double Uterus with a Cystic Tumour of the Ovary.—Professor A. R. Simpson showed an Anencephalic Fœtus with some Spina Bifida. It was accompanied by hydramnios, which could not be accounted for by fœtal urination, as the kidneys were small and the bladder showed no signs of having ever been distended.—Professor J. A. C. Kynoch (Dundee) read a paper on Vaginal Cœliotomy. After discussing the history of the operation the technique and different methods were described. In anterior colpotomy the incision might be transverse or longitudinal, the latter being more safe for the ureters. The cellular tissue was then pushed through with the finger in multiparæ and with the aid of scissors in nulliparæ. The peritoneum was exposed and divided; this was accomplished safely by puncturing with long sinus forceps and then separating the blades. The fundus uteri could be brought through the opening and examined, and the appendages could also be inspected and removed if necessary. Drainage, when necessary, was best carried out by the posterior fornix. One of the indications for the operation was in the treatment of retro flexion by vaginal fixation where the symptoms were not relieved by pessary and other treatment. But against its performance was the increasing number of recorded cases where operative interference [illegible] (Cæsarean section) had been [illegible] necessary [illegible] in these cases, [illegible]

[illegible]

A large chart of the temperature was shown and a number of authorities on the subject of hypothermia were quoted.—Mr. W. F. Lloyd said that he did not consider that in fracture of the cervical spine the rise of temperature was due to the hot water bottles with which the patient might be surrounded. He had devoted much attention to the subject of the specific heat of the human body and he calculated that the amount of boiling water required to cause the temperature of a patient weighing 10 stones to rise 7° F. would be seven and a half pints and that amount would have to be poured into the patient's body, so that none of the heat should be lost. In many cases requiring operation he thought the subsequent fall of temperature was due rather to the evacuation of pus than to the anæsthetic.—Deputy-Surgeon-General H. Cayley referred to the post-mortem rise of temperature in cases of cholera, often amounting to 6° or 7° in a few hours, and said that under these circumstances the pathologist's hands experienced the sensation even of being "burned."—Mr. R. Shalders Miller said that he had seen a case of ascending neuritis of gouty origin in which the temperature marked 109°, and had successfully treated by cold effusions a patient who, whilst suffering from puerperal eclampsia, developed a temperature of 108°.—Mr. E. Weaver-Adams quoted the case of a patient, formerly under the care of Dr. D. Ferrier, who developed a temperature of 110° without obvious cause, all precautions having been taken to ensure a genuine record. He also quoted the case of a man suffering from syringomyelia who, directly after an operation for hernia, presented a reading of 105°, there being nothing in the condition of the wound to account for it.—Dr. A. J. Anderson, Mr. H. E. Bruce Porter, and others also took part in the discussion.—Dr. G. Leslie Eastes, Director of the Clinical Research Laboratories, London-bridge, S.E., next gave a Bacteriological Demonstration very practical in character and illustrated by apparatus and microscopical preparations. After a demonstration of Widal's test he passed on to puerperal fever, the varieties of "septicæmia" (so-called) being distinguished. The diagnosis of septicæmia in difficult cases could be made by an examination of the blood, and he advocated the "cultural" rather than the "direct" method. A swabbing from the uterus was also sometimes useful and the correct method of obtaining this was described. If streptococci be found both in the blood and in the swabbing there was certainly justification for using the serum. If the blood was sterile but streptococci were found in the swab its use was still justified, because the result under such circumstances was still inconclusive, and because the serum would act as a prophylactic. He then treated of streptococcal infection in other parts of the body and called attention to the fact that streptococci were normal inhabitants of the mouth, the large intestine, and the vulva. Occasionally the streptococcus was the cause of certain cases of food-poisoning. He had himself found them in 80 per cent. of some 200 samples of mixed milk which he had examined. From culture observations which he had made Dr. Eastes believed that this micro-organism was identical with that of bovine mastitis, that it would be proved to be pathogenic for man, and if so that the use of such milk unboiled was the probable cause of a certain proportion of the cases of autumnal diarrhœa in infants.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Dec. 14th, the President, Dr. Macnaughton Jones, being in the chair.—Dr. E. Doyen of Paris, who had come over expressly for the purpose, gave an admirable demonstration of Gynæcological Operations by means of the Kinematograph. He first referred to the progress of surgery during the present century as being the result of the introduction of anæsthesia and antisepsis, and then described how he had set himself, when he first practised surgery, to the task of simplifying technique and of shortening the duration of major operations. He sought to apply to abdominal surgery the established principles of the operative surgery of the extremities as practised by the pre-antiseptic surgeons. He was glad to think that his efforts had been crowned with success. He passed on to consider the value of the kinematograph as a teaching instrument, pointing out that the teaching of operative surgery for such operations as could not be demonstrated on the dead body had always been much inferior to the teaching of clinical surgery and of surgical pathology. Too few students could follow with profit the details of such operations in the operating theatre. The kinematograph would fill this blank and complete the surgical training given to students in the future. Dr. Doyen then proceeded with his demonstration as follows:—(1) 14 slides showing the steps in an ovariotomy and the details in the use of Doyen's lever clamp-forceps; (2) a complete kinematographic representation of an ovariotomy; (3) 24 slides illustrative of Dr. Doyen's method of abdominal hysterectomy; (4) kinematographic reproductions of three abdominal hysterectomies; (5) 38 fixed slides illustrating the technique in vaginal hysterectomy; and (6) four vaginal hysterectomies as recorded by the kinematograph, showing the possibility of demonstrating to hundreds what half a dozen could not see so well in an operating theatre. After the gynæcology demonstration Dr. Doyen showed, by special request, a kinematograph of a nephrectomy and of a thyroidectomy.—Dr. C. H. F. Routh moved a hearty vote of thanks to Dr. Doyen for his most excellent, interesting, and instructive demonstration and for his kindness in coming over from Paris expressly to give it.—This was seconded by Mr. W. D. Spanton of Hanley, supported by Dr. Clement Godson, and carried with enthusiasm.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on Dec. 21st, Dr. Macfie Campbell, the President, being in the chair.—The following resolution, proposed by Mr. T. M. Dawson and seconded by Dr. J. J. O'Hagan, was carried:—

> Owing to the fact that the present war in South Africa has necessitated the calling out of our Reservists and Volunteers for active service, many of whom have left behind them wives and families in straitened circumstances, we, the members of the Medical Institution, are willing to give our professional services gratuitously to the said wives and families provided that the cases are authenticated by some recognised authority and that our services do not interfere with the relations of such families and their present medical attendant.

—Dr. William Carter read a note on Digestives, demonstrating the inutility of many vaunted preparations and counselling adhesion to the British Pharmacopœia preparations of pepsin.—Mr. Laird Pearson, Dr. J. C. M. Given and Dr. J. J. O'Hagan spoke.—Dr. T. B. Grimsdale related a case of Fibroid Tumour of the Uterus which produced Ascites. The patient was a woman aged 67 years. The tumour had existed for years and the menopause occurred at fifty years. For twelve months the abdomen had increased in size and she had difficulty in getting about. The skin of the abdomen was tense and shiny and the girth measurement was 40 inches. The abdomen was opened, liberating two gallons of ascitic fluid, and a hard solid tumour was removed from the uterus, its attachment to the uterus was severed, and the stump was sutured by a continuous suture. The patient made a good recovery.—Dr. J. E. Gemmell and Dr. J. J. O'Hagan spoke.—Dr. Charles MacAlister read notes of two cases of Chronic Parenchymatous Nephritis, illustrating the good results following prolonged treatment.—Dr. William Carter bore testimony to the Utility of Mercury and Morphia in some cases of Bright's Disease.—Dr. G. G. Gullan and Dr. F. H. Barendt spoke.—Dr. John E. Gemmell read a paper on Ectopic Pregnancy.—Dr. R. J. M. Buchanan observed that in the microscopic examination of doubtful specimens he had found nucleated red blood corpuscles when he had failed to find chorionic villi, and suggested that their presence was of considerable importance and they should always be looked for.

CLINICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on Dec. 19th, Dr Judson S. Bury, the President, being in the chair.—Mr. Thomas Jones made some remarks on Fixation of Flail-like Joints (Arthrodesis) and showed cases.—Mr. E. Stanmore Bishop reported the case of a married woman, aged 26 years, who had one child five years of age and had had one miscarriage three and a half years before, from whom, in 1897, he removed an ordinary ovarian cyst springing from the right side. Recovery was complete and the patient remained in perfect health until July, 1899, when she was attacked by severe pain in the left iliac region. The menstrual flow came on at this date and was normal in time but excessive in quantity and associated with much more pain than usual. From this date she believed herself to be pregnant, having morning sickness, enlarged breasts, &c. The periods recurred twice, each time greatly accentuating the pain, which was continuous in the left side and passing down the thigh. The last menstrual flow was shreddy and the pain was described as "labour pains." Vagino-bimanual examination revealed a small,

A large chart of the temperature was shown and a number of authorities on the subject of hypothermia were quoted.—Mr. W. F. Lloyd said that he did not consider that in fracture of the cervical spine the rise of temperature was due to the hot water bottles with which the patient might be surrounded. He had devoted much attention to the subject of the specific heat of the human body and he calculated that the amount of boiling water required to cause the temperature of a patient weighing 10 stones to rise 7° F. would be seven and a half pints and that amount would have to be poured into the patient's body, so that none of the heat should be lost. In many cases requiring operation he thought the subsequent fall of temperature was due rather to the evacuation of pus than to the anæsthetic.—Deputy-Surgeon-General H. Cayley referred to the post-mortem rise of temperature in cases of cholera, often amounting to 6° or 7° in a few hours, and said that under these circumstances the pathologist's hands experienced the sensation even of being "burned."—Mr. R. Shalders Miller said that he had seen a case of ascending neuritis of gouty origin in which the temperature marked 109°, and had successfully treated by cold effusions a patient who, whilst suffering from puerperal eclampsia, developed a temperature of 108°.—Mr. E. Weaver-Adams quoted the case of a patient, formerly under the care of Dr. D. Ferrier, who developed a temperature of 110° without obvious cause, all precautions having been taken to ensure a genuine record. He also quoted the case of a man suffering from syringomyelia who, directly after an operation for hernia, presented a reading of 105°, there being nothing in the condition of the wound to account for it.—Dr. A. J. Anderson, Mr. H. E. Bruce Porter, and others also took part in the discussion.—Dr. G. Leslie Eastes, Director of the Clinical Research Laboratories, London-bridge, S.E., next gave a Bacteriological Demonstration very practical in character and illustrated by apparatus and microscopical preparations. After a demonstration of Widal's test he passed on to puerperal fever, the varieties of "septicæmia" (so-called) being distinguished. The diagnosis of septicæmia in difficult cases could be made by an examination of the blood, and he advocated the "cultural" rather than the "direct" method. A swabbing from the uterus was also sometimes useful and the correct method of obtaining this was described. If streptococci be found both in the blood and in the swabbing there was certainly justification for using the serum. If the blood was sterile but streptococci were found in the swab its use was still justified, because the result under such circumstances was still inconclusive, and because the serum would act as a prophylactic. He then treated of streptococcal infection in other parts of the body and called attention to the fact that streptococci were normal inhabitants of the mouth, the large intestine, and the vulva. Occasionally the streptococcus was the cause of certain cases of food-poisoning. He had himself found them in 80 per cent. of some 200 samples of mixed milk which he had examined. From culture observations which he had made Dr. Eastes believed that this micro-organism was identical with that of bovine mastitis, that it would be proved to be pathogenic for man, and if so that the use of such milk unboiled was the probable cause of a certain proportion of the cases of autumnal diarrhœa in infants.

British Gynæcological Society.—A meeting of this society was held on Dec. 14th, the President, Dr. Macnaughton-Jones, being in the chair.—Dr. E. Doyen of Paris, who had come over expressly for the purpose, gave an admirable demonstration of Gynæcological Operations by means of the Kinematograph. He first referred to the progress of surgery during the present century as being the result of the introduction of anæsthesia and antisepsis, and then described how he had set himself, when he first practised surgery, to the task of simplifying technique and of shortening the duration of major operations. He sought to apply to abdominal surgery the established principles of the operative surgery of the extremities as practised by the pre-antiseptic surgeons. He was glad to think that his efforts had been crowned with success. He passed on to consider the value of the kinematograph as a teaching instrument, pointing out that the teaching of operative surgery for such operations as could not be demonstrated on the dead body had always been much inferior to the teaching of clinical surgery and of surgical pathology. Too few students could follow with profit the details of such operations in the operating theatre. The kinematograph would fill this blank and complete the surgical training given to students in the future. Dr. Doyen then proceeded with his demonstration as follows:—(1) 14 slides showing the steps in an ovariotomy and the details in the use of Doyen's lever clamp-forceps; (2) a complete kinematographic representation of an ovariotomy; (3) 24 slides illustrative of Dr. Doyen's method of abdominal hysterectomy; (4) kinematographic reproductions of three abdominal hysterectomies; (5) 38 fixed slides illustrating the technique in vaginal hysterectomy; and (6) four vaginal hysterectomies as recorded by the kinematograph, showing the possibility of demonstrating to hundreds what half a dozen could not see so well in an operating theatre. After the gynæcology demonstration Dr. Doyen showed, by special request, a kinematograph of a nephrectomy and of a thyroidectomy.—Dr. C. H. F. Routh moved a hearty vote of thanks to Dr. Doyen for his most excellent, interesting, and instructive demonstration and for his kindness in coming over from Paris expressly to give it.—This was seconded by Mr. W. D. Spanton of Hanley, supported by Dr. Clement Godson, and carried with enthusiasm.

Liverpool Medical Institution.—A meeting of this society was held on Dec. 21st, Dr. Macfie Campbell, the President, being in the chair.—The following resolution, proposed by Mr. T. M. Dawson and seconded by Dr. J. J. O'Hagan, was carried:—

> Owing to the fact that the present war in South Africa has necessitated the calling out of our Reservists and Volunteers for active service, many of whom have left behind them wives and families in straitened circumstances, we, the members of the Medical Institution, are willing to give our professional services gratuitously to the said wives and families provided that the cases are authenticated by some recognised authority and that our services do not interfere with the relations of such families and their present medical attendant.

—Dr. William Carter read a note on Digestives, demonstrating the inutility of many vaunted preparations and counselling adhesion to the British Pharmacopœia preparations of pepsin.—Mr. Laird Pearson, Dr. J. C. M. Given and Dr. J. J. O'Hagan spoke.—Dr. T. B. Grimsdale related a case of Fibroid Tumour of the Uterus which produced Ascites. The patient was a woman aged 67 years. The tumour had existed for years and the menopause occurred at fifty years. For twelve months the abdomen had increased in size and she had difficulty in getting about. The skin of the abdomen was tense and shiny and the girth measurement was 40 inches. The abdomen was opened, liberating two gallons of ascitic fluid, and a hard solid tumour was removed from the uterus, its attachment to the uterus was severed, and the stump was sutured by a continuous suture. The patient made a good recovery.—Dr. J. E. Gemmell and Dr. J. J. O'Hagan spoke.—Dr. Charles MacAlister read notes of two cases of Chronic Parenchymatous Nephritis, illustrating the good results following prolonged treatment.—Dr. William Carter bore testimony to the Utility of Mercury and Morphia in some cases of Bright's Disease.—Dr. G. G. Gullan and Dr. F. H. Barendt spoke.—Dr. John E. Gemmell read a paper on Ectopic Pregnancy.—Dr. R. J. M. Buchanan observed that in the microscopic examination of doubtful specimens he had found nucleated red blood corpuscles when he had failed to find chorionic villi, and suggested that their presence was of considerable importance and they should always be looked for.

Clinical Society of Manchester.—A meeting of this society was held on Dec. 19th, Dr Judson S. Bury, the President, being in the chair.—Mr. Thomas Jones made some remarks on Fixation of Flail-like Joints (Arthrodesis) and showed cases.—Mr. E. Stanmore Bishop reported the case of a married woman, aged 26 years, who had one child five years of age and had had one miscarriage three and a half years before, from whom, in 1897, he removed an ordinary ovarian cyst springing from the right side. Recovery was complete and the patient remained in perfect health until July, 1899, when she was attacked by severe pain in the left iliac region. The menstrual flow came on at this date and was normal in time but excessive in quantity and associated with much more pain than usual. From this date she believed herself to be pregnant, having morning sickness, enlarged breasts, &c. The periods recurred twice, each time greatly accentuating the pain, which was continuous in the left side and passing down the thigh. The last menstrual flow was shreddy and the pain was described as "labour pains." Vagino-bimanual examination revealed a small, painful, elastic mass by the side of a normal uterus and not continuous with it *Abdominal section was performed and* the mass was removed The patient made a good recovery On and after removal the mass closely resembled an unruptured ectopic pregnancy but was found to consist of a small ovarian cyst surrounded by the dilated tubal ampulla which had become firmly adherent to it Mr Bishop described the case as illustrating the difficulty of abdominal diagnosis even after laparotomy The specimen was shown —Dr A T Wilkinson read a paper on Acute Pleural Effusion, with special reference to diagnosis and treatment

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY —A meeting of this society was held at Owens College Manchester, on Dec 15th the President Dr A Donald, being in the chair —Dr J E Gemmell of Liverpool showed a Fœtus and Placental Sac from a case of Abdominal Pregnancy The mass was removed by abdominal section the patient making a good recovery Microscopic sections of the Fallopian tube were shown The rupture had occurred close to the uterine end of the tube and the placenta had developed mainly in the expanded and everted Fallopian tube —Dr J B Hellier showed 1 A Uterus with Multiple Fibroids and Double Pyosalpinx Removed by Panhysterectomy, carried out by the "*combined method*' The patient *made a* good recovery 2 A case of Vesicular Disease of the Great Omentum —Dr D Lloyd Roberts showed a Cystic Tumour of the Kidney of the size of an adult head The tumour was successfully removed by abdominal section —The President then gave a Presidential Address entitled Minor Gynæcology In reviewing the changes which had occurred in the practice of minor gynæcology during the last 15 years he dwelt especially on the following four points (1) the use of pessaries, (2) the use of the uterine sound for diagnosis and treatment, (3) caustics and other irritants in the treatment of cervical catarrh, and (4) the methods adopted in out patient practice for the management of minor gynæcological ailments *He thought that there was considerable divergence* in our practice from that which prevailed widely in the early "eighties"

Reviews and Notices of Books.

Encyclopædia Medica *Under the General Editorship of* CHALMERS WATSON, M B, M R C P Edin Vol II Brachial Plexus to Digestion Edinburgh William Green and Sons 1899 Pp 562

IN our review of the *first volume of this publication* we commented on its *general scope* The articles in the *present* volume are, as a whole, better than those which appeared in its predecessor and doubtless as a work of reference it will be found valuable by the general practitioner The contributions on Brain are particularly good and are five in number, each written by a different author Dr A Bruce writes an able paper on the Physiology of the Brain, and the complex structure and the functions, so far as are at present known are well described, Dr James Taylor contributes a praiseworthy article on Affections of Blood-vessels of the Brain Some of the articles in the first volume had apparently been needlessly curtailed, but Dr Taylor considers at length the pathological lesions connected with anæmia, hyperæmia, and œdema of the brain, cerebral hæmorrhage thrombosis and embolism, and details the conditions which may result from the vascular lesions Dr Risien Russell's original researches amply qualify him to write on Cerebral Tumours and later in the book he also has an article on the Cerebellum, and in both he shows a knowledge of his subject which makes his contributions specially valuable Dr R A Fleming writes on Atrophy, Hypertrophy, Inflammations, and Cysts of the Brain, and Mr J M Cotterill on Intracranial Surgery, the latter article being particularly interesting

Dr Arthur Voelcker's contribution on Bronchial Glands contains much that is interesting and Dr Watson Williams's paper on Bronchitis although containing nothing that is new, is a good summary of our present knowledge on the subject *The subject of Bronchiectasis* is dealt with by Dr S H Habershon He speaks favourably of the treatment by the continuous inhalation of creasote It is probably more successful than any other method in severe cases but has the disadvantage of requiring a room to be set apart for the purpose The subject of Cataract has been left in the hands of Mr G A Berry and the author *has accomplished his task very ably* The question and modes of operation are fully discussed and special attention is paid to the after treatment of cataract extraction

A useful paper on the Development and Clinical Examination of Children is contributed by Dr John Thomson It shows the results of experience and close observation and contains many useful hints that practitioners will do well to take advantage of

Dr Andrew Davidson's article on Asiatic Cholera will *probably receive some attention, especially his remarks on* Prophylaxis

We would also commend to the notice of our readers Mr H E Juler's paper on Diseases of the Choroid The main part of it is naturally devoted to a description of the various forms of choroiditis, but observations are also made on the manner in which tubercle may attack the choroid and also on sarcoma of the choroid

A good account of Diseases of the Colon is given by Dr W Hale White In describing membranous *colitis* two varieties are noticed, one which he terms ' dyspeptic membranous colitis *because the sufferers from it complain much* of dyspepsia while exhibiting the characteristic symptom of passing membrane by the bowel, and the other ' secondary membranous colitis , this latter form is always associated with some other grave condition or is due to direct injury For the treatment of severe membranous colitis in which all means of relief by ordinary methods have been tried in vain, Dr White advises that the colon should be opened on the right side, so as to give the diseased bowel complete rest, after some time the artificial anus may be closed The published cases in which this course has been *followed are on the whole encouraging*

Another interesting article is that by Mr T H Bickerton *on Colour Vision* The ' *physiological considerations'* are expressed clearly and at length and preference is given to the theory first expounded by Young and Helmholtz, based on the assumption of the existence of three kinds of nerve-fibres identical as to structure and construction but terminating in different end organs endowed with photo chemical substances respectively sensitive to the three primary colours—red, green and blue

Mr. A H. Tubby writes on Deformities, and he has managed to compress a large amount of information into a comparatively small space

Amongst other contributions we may mention the following —Dermatitis Herpetiformis, by Dr J J Pringle, *Dermatitis Repens by Dr Radcliffe Crocker, an excellent* article on Diabetes Mellitus by Dr R T Williamson, and Cretinism by *Dr John Thomson*

Laboratory Work in Bacteriology By FREDERICK G NOVY, Sc D M D, Junior Professor of Hygiene and Physiological Chemistry, University of Michigan Second Edition Ann Arbor Geo Wahr 1899 Pp 563 Price $3 00

IN the University of Michigan all students of medicine have to attend a practical course of bacteriology which occupies every afternoon for a period of 12 weeks It is not unlikely that a time may come when as thorough a course will form a necessary part of the student's curriculum in this country If it does so the scheme of laboratory work set forth in this volume by Professor Novy will be found as useful, comprehensive, and thorough as could be wished. It differs in many respects from most of the similar works with which we are acquainted. It is not purely a laboratory course of instruction. The first five chapters are devoted to general bacteriology and contain such an account of the morphology, classification, life-history, and chemistry of bacteria as to render intelligible to the student the remaining part of the book. These chapters occupy some 120 pages; they are well written, accurate, and clear, and they contain all the information which the ordinary student requires. A full optical account of the microscope is by no means out of place as a preface to the examination of living bacteria. Everyone who has had any experience in teaching bacteriology knows what marvellous misuse is often made of an oil immersion lens by the beginner. The preparation of gelatin and potato media is next described, together with the methods of cultivating bacteria thereon. The student is then introduced to some 20 characteristic non-pathogenic organisms *seriatim*; a concise account of each is given and the opposite page is left blank for notes and drawings. The preparation of bouillon, agar-agar, milk, and other culture media follows next in order, with a description of incubators and other accessories. The relation of bacteria to disease is then shortly discussed, together with methods of inoculation and of post-mortem examination of infected animals; to this is added a full account of laboratory work with animals dead from anthrax. Pathogenic bacteria are described in a curious order, the anaerobes taking precedence of the aerobes. The methods of anaerobic cultivation are given and in this place the staining of flagella is described, Löffler's method being alone given, though in our opinion better ones have since been introduced. 31 pathogenic bacteria are described in detail—most of them on a single page, with a blank page opposite, as in the case of the non-pathogenic forms. But to some of the more important species, such as the tubercle bacillus, more space is allotted. 14 species of yeasts, moulds, and streptothrices are similarly described. The last three chapters deal with the bacteriological examination of water, soil, and air, and with a number of special methods of work, such as the preparation of toxins and antitoxins, the agglutination of bacteria by serum, the testing of disinfectants, and other advanced subjects.

We have described the method and scope of Professor Novy's book in some detail because in all respects it appears to us to embody a most logically devised scheme of instruction in bacteriology, and one that may well be taken as a model in framing an extended course in the subject for students. The work is well printed and the diagrams of apparatus are clear and good. No illustrations of the different species of organisms are given because the student is expected to learn their appearances from actual specimens and with this no fault can be found. We can most heartily recommend the book to all teachers of bacteriology.

Handbuch der Gynäkologie. (*Handbook of Gynæcology*) Edited by Professor VEIT. Third Volume, Second Half, Second Part. With 65 Illustrations in the Text and Three Plates. Wiesbaden: T. F. Bergmann. 8vo. Pp. 466. 1899. Price 18 marks.

THIS part forms the concluding volume of Professor Veit's Handbook of Gynæcology. The subjects considered include Pelvic Hæmatocele, Diseases of the Tubes, General Peritonitis, and Sarcoma of the Uterus. The article upon Pelvic Hæmatocele is written by Professor Winternitz. In accordance with recent views extra-uterine gestation is considered as the commonest cause of this condition. Numerous other causes are, however, enumerated, and such evidence as exists is quoted in favour of the possibility of an intraperitoneal collection of blood being due to menstruation, diseases of the tubes, varicose veins of the broad ligaments, and new growths. Sänger's division of hæmatoceles into solitary and diffuse is adopted. The symptoms, general and local, are well and fully described, and the frequency of a tubal abortion or tubal mole as the cause rather than a rupture of the gravid tube is pointed out. The length of time required for absorption of the blood renders it impossible to recommend expectant treatment except in cases where the necessary rest in bed can be obtained, and for this reason expectant treatment amongst the poor and those who have to earn their living is seldom admissible. The author recommends laparotomy in the majority of instances and condemns exploratory puncture. In only a small minority of cases is posterior colpotomy an advisable operation—for instance, where a large hæmatocele is present not due to a tubal abortion, where the patient's general condition contraindicates laparotomy, or where the hæmatocele is suppurating.

Diseases of the Tubes are described by the editor and Dr. Kleinhans. The latter is responsible for the section upon the etiology and pathological anatomy. A very complete account is given of the congenital and acquired deformities and anomalies of the tubes. The section on the pathological anatomy is illustrated by a number of good drawings, taken chiefly from the author's own preparations. The distinctions between the two main varieties of pyosalpinx, the gonorrhœal and puerperal, are clearly differentiated. The view that a hydrosalpinx can be the ultimate stage of a pyosalpinx is regarded as not proved. Tuberculous disease of the tubes is fully considered and the author thinks that an important part is played by gonorrhœa in both its acute and chronic stages in preparing the way for the tubercle bacillus. Previous inflammatory conditions are also held to be of etiological importance in cases of carcinoma of the tubes.

Professor Veit discusses the Symptoms, Diagnosis, Prognosis, and Treatment of Diseases of the Tubes. The complex group of symptoms met with in the various stages of tubal diseases are clearly presented and a striking clinical picture is drawn of the varying conditions of the patient. A timely warning is given against the too frequent employment of exploratory laparotomy, and stress is laid upon the examination of doubtful cases by means of a posterior colpotomy.

The relative value of the vaginal and abdominal routes in operating is very fully gone into, the author coming to the only possible conclusion—viz., that all cases cannot be treated in any hard and fast manner but each case must be considered separately. Under certain circumstances vaginal operations are no doubt the best, but any attempt to deal with every case in such a way would be very likely to lead to disaster.

In considering general peritonitis Professor Döderlein distinguishes an infectious variety, including septic, putrid, gonorrhœal, and tuberculous, and a non-infectious, including mechanical and chemico toxic. In cases of puerperal septic peritonitis the organisms most commonly found are the streptococcus, staphylococcus, pneumococcus, and the colon bacillus. Operative treatment in cases of perforative peritonitis must be carried out very early if it is to do any good. Septic peritonitis due to the streptococcus is almost uniformly fatal.

The two articles upon Sarcoma and Endothelioma of the Uterus are from the pen of Professor Gessner. He calculates that sarcoma of the uterus occurs in the proportion of about one case to every 40 cases of carcinoma When the disease starts in the mucous membrane of the body of the uterus the periods of life at which it most commonly occurs are puberty and the years just before and after the menopause. Sarcoma of the wall of the uterus occurs at the same time but rather less frequently at the age of puberty. A very full and careful account is given of the pathological anatomy of the three main varieties of sarcoma of the uterus—viz., sarcoma of the mucous membrane, of the wall of the uterus, and of the cervix. All the recorded cases of the latter kind are collected in a table. The importance of the microscope in the diagnosis of sarcomatous changes in the mucous membrane is indicated and a number of clinical rules are laid down as a guide to the recognition of sarcomatous changes in a myoma of the uterus.

Professor Gessner gives a full analysis of the six cases of Endothelioma of the Uterus which have been recorded up to the present time. The vexed question of the relation of these growths to carcinomata or sarcomata he is content to leave for the present undecided.

Subject and name indices complete the volume. The paper and printing are good and the illustrations are well reproduced. A very complete bibliography precedes each article. The editor and his collaborators are to be congratulated upon the success of their labours. A high standard of excellence has been maintained throughout the work. The book is one of the best of its kind and furnishes a very complete account of the present views of German gynæcologists.

Text-book of the Embryology of Invertebrates. By Dr. E. KORSCHELT and Dr. K. HEIDER. Translated from the German by MATILDA BERNARD. Revised and edited, with additional notes, by MARTIN F. WOODWARD. London: Swan Sonnenschein and Co., Limited. 1899. Vol. ii., pp. xv., 375; Vol. iii., pp. xii., 441. Price: Vol. ii., 12*s.*; Vol. iii., 14*s.*

THE translation and publication of Volumes II. and III. of this excellent German work are at last *un fait accompli* and their appearance will give much satisfaction to zoologists, both teachers and students. Volume II. treats of the Phoronidea, Bryozoa, Ectoprocta, Brachiopoda, Entoprocta, Crustacea, and the Palæostraca; while, on the other hand, Volume III. enters into the consideration of the development of the Arachnida, Pentastomidæ, Pantopoda, Tardigrada, Onychophora, Myriopoda, and finally the Insecta, which group is somewhat more fully considered than the others contained in this volume.

Investigation at the present time is so active that there is a possibility of a translated work becoming slightly out of date, this being due, of course, to the time absorbed by the rendering and the delays which are unavoidable in the publication; this is more especially the case when the work concerned is of some size. In the work under consideration, however, this danger has been guarded against; the more important results which have been obtained from recent investigation having been added in the convenient form of footnotes, so that the work is up-to-date as far as possible. The value of this work is enhanced by the addition of lists of literature at the end of each chapter, which lists, in some cases, are of quite a considerable length; for instance, in the literature dealing with the Insecta more than 210 references are given. Here again the work has been kept up-to-date as far as possible by the addition of references to the more important recent literature under the form of appendices at the end of each chapter. The translation has been extremely well done; we could wish that all translated scientific works were so eminently readable.

The get-up of these two volumes leaves very little indeed, if anything, to be desired; the type is clear, the paper is good, and the books are of a convenient size. The text is fully illustrated, there being over 360 figures, which on the whole are extremely clear, in the two volumes.

Although there may be a certain amount of matter which is beyond the depth of the more general biologist, still without doubt he will be able to find much to occupy his attention. To pick out a few examples of more general interest, the survey of the Arachnidan eyes and the metamorphosis of insects may be mentioned. Then, again, there is a very interesting account of Parthenogenesis, while those interested in problems of a bionomical character will find a brief account of the migration of different generations of the Aphidæ and Chermetidæ from one plant to another. For example, in the case of the former "a winged parthenogenetic generation frequently appears and then may migrate to a different plant, there to reproduce itself, and in a later generation returns to the original host."

After what has been said it is hardly necessary to add that we can highly recommend this work to all who are interested in this branch of zoology.

Atlas und Grundriss der Bakteriologie, und Lehrbuch der Speziellen Bakteriologischen Diagnostik. Von Professor K. B. LEHMANN und Dr. R. O. NEUMANN. Zweite vermehrte und verbesserte Auflage. (*Atlas and Essentials of Bacteriology, and Manual of Special Bacteriological Diagnosis.* By Professor K. B. LEHMANN and Dr. R. O. NEUMANN. Second enlarged and improved edition.) Munich: J. F. Lehmann. 1899. Pp. xv., 495. Plates, 69. Price 16 marks.

THE first German edition of this useful work appeared rather more than three years ago. In November, 1897, we had occasion to review an abridged English translation in one volume. We then expressed the opinion that while the plates of the atlas were very unequal in their excellence, many were good, and that the textual part of the work was on the whole admirable and likely to be of greater utility than the atlas itself. A second German edition has now been called for, from which we judge that the work has met with appreciation. The new edition is increased in size, new plates have been added, and others superseded by better ones. The text has been revised, enlarged, and brought up to date in a highly praiseworthy manner, and we are constrained to repeat our former criticism that it is of greater value than the plates. The latter are doubtless useful so far as such representations can go, and we do not doubt that it would be impossible to produce, on a cheap commercial scale, more accurate coloured figures of cultural appearances which often essentially elude depiction. But of the text we can speak in much warmer praise. In its present form it is a mine of valuable information. It is highly condensed and hardly suitable for the beginner, but it is written by those who are masters of their subject and who have taken infinite pains to include in the work all that is essential to its right understanding. It is divided into two parts, General and Special Bacteriology. The part dealing with General Bacteriology is by Professor Lehmann and was alone included in the abridged English edition and this formed its most serious defect, since no detailed description was at hand to supplement the plates. In this edition the general part has been improved in many ways; in particular the chapter on Susceptibility and Immunity has been so enlarged and rewritten as to be a most valuable summary of our knowledge on the subject. The writer's views on specificity amongst bacteria are likewise to be commended. He admits the impossibility of absolute specific distinctions in many cases and groups the bacteria around the type-form (as "Haupt-art" and "Neben-arten") in a very luminous manner. The larger part of the text is devoted to Special Bacteriology; it is the joint production of the two authors and contains a sufficiently full account of all the important species hitherto described, with tabular schemes for their differentiation which should prove of great utility. We regret to note that in the copy supplied to us the disposition of the type on the page is at times so careless that the top lines are almost lost, while an excessive margin is evident below. But the text is legibly printed and misprints are practically absent.

LIBRARY TABLE.

Manual of Bacteriology. By ROBERT MUIR, M.A., M.D. Edin., Professor of Pathology in the University of Glasgow, and JAMES RITCHIE, M.A., M.D.Edin., Lecturer in Pathology in the University of Oxford. Second edition. Edinburgh and London: Young J. Pentland. 1899. Pp. xviii., 564.—It is more than two years since we reviewed the first edition of this work and we were then able to speak of it in very favourable terms. The appearance of a second edition affords us the opportunity not only of repeating our former verdict but of emphasising it. We have no hesitation in asserting that this book deserves to rank amongst the very foremost of the smaller text-books on bacteriology, and we know no work of the kind which we can more strongly recommend to the student or the practitioner. It is most ably and lucidly written, it is thoroughly accurate and reliable, and it is fully abreast of the times. The present edition, unchanged in its general scope and plan, is enlarged and improved in many ways. Amongst the many alterations the following may be noted. The section dealing with bacterial toxins has been enlarged and in part re-written, as has the chapter on immunity and antitoxins. The same is the case with the pages devoted to agglutination of the bacillus typhosus and other bacilli. Paragraphs have been added on the standardisation of the reaction of media, on bacterial fermentation of sugar and on indol formation, on the permanent preservation of cultures, and on vaccination against typhoid fever and bubonic plague. Malta fever, yellow fever, and other diseases now receive due consideration, as do also the diplococcus intracellularis meningitidis, the smegma bacillus, and Gärtner's bacillus enteritidis. Many excellent new micro-photographs have been added. The work is, in fact, admirably illustrated. It is, indeed, difficult for the reviewer to fix on any noticeable defect in the book. We think, however, that the bacteriological examination of water might receive more extended notice and we regret the absence of any detailed information on the all-important subjects of disinfection and antiseptics. We would also call attention to a singular slip in mathematics on p. 5, where it is stated that, assuming a bacterium to reach maturity and divide in half an hour, a simple calculation will show that at the end of 24 hours from one individual 17,000,000 will be produced. Two to the power of 48 is, on our computation, 281,474,976,710,656.

Chemical and Microscopical Aids to Clinical Diagnosis: being a Guide to Urinary, Gastric, and other Analyses Employed in Practical Medicine. By CARSTAIRS C. DOUGLAS, M.D., B.Sc.Edin. Glasgow: James Maclehose and Sons. 1899. Pp. xii., 258.—There is plenty of room for a little manual of this kind when it is clear, accurate, and well written, as in the present case. Methods of clinical diagnosis are becoming so numerous and important that they now form a very essential part of the student's curriculum, and this volume is small enough, yet sufficiently detailed, to satisfy modern teaching requirements. Dr. Douglas has brought together into a small compass all those methods of research which have proved of value in clinical diagnosis, including many of quite recent introduction, and he has taken pains to explain them. More than half the book is concerned with a consideration of the urine. Nor is this an undue proportion when we consider the large amount of work which has been devoted to its study. The other tissues and fluids of the body are, however, by no means neglected, and the book as a whole is well proportioned. Illustrations are introduced where necessary and they are clear and good. If we point out one or two errors or omissions it must in no way be taken to imply an unfavourable estimate of the work. There are a few obvious misprints—e.g., "coma" bacillus on p. 226, while on p. 182 the diameter of actinomyces threads is given as 5 μ. The writer, too, is amongst those who continue to regard the Finkler-Prior vibrio as the cause of cholera nostras. The directions for performing the serum test for typhoid fever are too short and incomplete, nor is the dilution of the serum recommended (1 in 10) sufficient to exclude fallacies. It is fair, however, to state that no pretence is made to include in the work a complete account of bacteriological diagnosis. In describing the preparation of blood films for staining purposes no mention is made of fixation by osmic acid vapour and we do not agree with the statements quoted on p. 200 that the nuclei of polymorphonuclear leucocytes take up acid dyes and that eosinophiles are "old cells." The "neutrophile" granules of Ehrlich are now known to be oxyphile. Starch, especially maize-starch, might have been mentioned amongst the misleading foreign bodies commonly found in urine. The distinction implied on p. 102 between hepatogenous and hæmatogenous jaundice does not commend itself to the modern pathologist. These and other minor defects can be remedied without difficulty. The book as a whole is singularly free from inaccuracies and can be recommended as a most useful, practical work to students and practitioners.

Dictionnaire des Termes de Médecine (Français-Anglais). By H. DE MÉRIC, M.R.C.S.Eng. London: Baillière, Tindall, and Cox. 1899. Demy 8vo, pp. 244. Price 4s. nett.—This is the French-English part of a dictionary of which the English-French portion has been separately and previously published, and was the more satisfactory of the two. In his preface the author remarks that he has been reproached for having inserted into the English-French portion of his dictionary words which had no place in such a work. We must candidly say that we think this, the second part of his dictionary, is open to the same objection. A dictionary of medical terms must necessarily include some words which are not always used in a medical sense; but we think the author has been a little lax in a number of the words which he has allowed to creep in. There is also much needless repetition of stem-words with adjectival and other terminations. On the other hand, the dictionary is wanting in many instances as regards symptoms, conditions, diseases even, and apparatus, frequently alluded to in French medical practice and literature, and in special terms to which reference might advantageously have been made. At the same time, the author deserves the thanks of medical men for his labour: so far as we know, there is no other French-English medical dictionary in the market, and, although the present work could be greatly improved, it will serve as a solid foundation for a fuller work in an edition to come.

JOURNALS AND REVIEWS.

Janus: Archives Internationales pour l'Histoire de la Médecine et la Géographie Médicale. Rédacteur-en-chef: Dr. H. A. PEYPERS, Amsterdam. Quatrième année, dixième livraison, 15 Octobre–15 Novembre, 1899. Onzième livraison, 15 Novembre–15 Decembre, 1899. London: Williams and Norgate.—These two parts of a valuable international journal—published in Amsterdam, Jena, Paris, and London—contain much instructive matter. Amongst the serial articles is a reproduction of John Locke's "Observationes Medicæ," serving to remind us of that philosophical physician and friend of Sydenham, one of the cases of measles recorded being that of the latter's son, "W. Sydenham, puer, 11 annorum." There are learned studies of Leprosy in Denmark in the Middle Ages by Dr. Ehlers of Copenhagen, and of the Pharmacopœia in the Seventeenth Century by Dr Landau of Nuremberg; but the English reader will perhaps be more attracted by the account given by Dr Henderson of Columbia Ohio, of "The Earliest Contribution to Medical Literature in the United States, the said contribution being a leaflet, by one Thomas Thacker, issued at Boston at the close of 1677 It is entitled, "Guide in the Small pox and Measles,' and consists, says Dr Henderson, of "a compendious English translation of a portion of the writings of Sydenham its publication being doubtless evoked by the prevalence of small pox in Boston at this period In the latest number of the journal is the opening of an article upon Tuberculosis and Climate, by Dr Gros, which is of value as showing the prevalence of this disease amongst the natives of Algeria The same number contains a portrait and brief memoir of the late Dr Theodor Puschmann who died recently at Vienna in his fifty sixth year

Revue de Gynecologie et Chirurgie Abdominale Vol. III, No 6 November December 1899 Paris. Masson et Cie — This number contains an interesting article upon Penetrating Wounds of the Gravid Uterus by Professor Estor and Professor Puech, the conclusion of his paper upon the Diagnosis and Treatment of Solid Tumours of the Ovary by M L Dartigues, the Treatment of Tuberculous Peritonitis by Laparotomy, by Professor J Galvani, and the usual analyses of current literature A bibliographical index and a name and subject index for the volume conclude the number

Annales de Gynécologie et d'Obstétrique Vol LII November, 1899 Paris G Steinheil —This journal contains the following original articles On Congenital Cystic Degeneration of Glandular Organs and especially of the Liver and Kidneys, by M A Couvelaire, the Rôle of the Toxin of the Gonococcus in the Gonorrhœal Affections of the Internal Genital Organs of the Female, by Dr V. Maslovski, and an Anencephalic Fœtus with Spinal and Facial Fissures, by Dr A Carache The usual bibliography concludes the number.

# Analytical Records
FROM
THE LANCET LABORATORY.

DIABETIC MARMALADE
(CALLARD AND CO 65, REGENT-STREET LONDON W)

ANY addition which is calculated to relieve the tedium of diabetic diet will be welcomed and we regard diabetic marmalade as an important introduction of this kind It is an attractive looking preparation with a pleasant orange flavour though it is somewhat sweet to the taste Our analysis showed that this sweetness was not due to sugar—indeed, we are able to state that the preparation is free from sugar On the other hand glycerine was detected but there was no saccharin Further examination showed that the consistence of the preparation was due in part to gelatin The marmalade contains finely cut slices of orange rind It affords a good adjunct to the diabetic dietary

GEROLSTEIN NATURAL MINERAL WATER
(THE GEROLSTEIN NATURAL MINERAL WATER CO 43, KING WILLIAM STREET LONDON E C)

The Gerolstein spring was discovered under somewhat peculiar circumstances, chiefly owing to the effects of escaping carbonic acid gas The spring is situated in the mountainous districts of the river Kyll which flows to the Moselle According to our analysis the composition of the water is as follows —Total mineral constituents 3 33 grammes per litre which may be divided as follows: carbonate of lime, 1·01 gramme per litre, carbonate of soda, 0 40 gramme, common salt, 1 52 gramme, and sulphates of the alkaline earths, 0 40 gramme The water is very pure, containing not a trace of organic matter It is impregnated with the natural carbonic acid gas of the spring We have before pointed out the distinct advantages of employing sparkling water which in no single respect contains an artificially added ingredient The mineral salts are present in agreeable proportion and the antacid properties of the water may be referred to the carbonate of soda and to the carbonate of lime dissolved in carbonic acid Probably calcium carbonate dissolved in carbonic acid gas is just as efficient as a neutraliser of acidity as carbonate of soda, with the further advantage that it is distinctly diuretic The water is well suited for blending It possesses a soft taste characteristic of naturally occurring ingredients It retains its sparkling property in a very satisfactory way and for a considerably longer period than do waters artificially charged

BYNOGLYCEROPHOSPHATES
(ALLEN AND HANBURYS LIMITED PLOUGH COURT LOMBARD-STREET, LONDON, E.C)

The glycerophosphates are of well known value in debilitated conditions and their combination with active liquid malt adds very much to their value in being associated with an enzyme which so materially aids in the digestion of farinaceous foods We found that the presence of glycerophosphates in no way retards the digestive action of the malt diastase Even in the cold, starch jelly quickly became a limpid liquid after the addition of a few drops of bynoglycerophosphates The preparation is quite agreeable to take and has a pleasant aromatic flavour suggestive of peach kernels Its therapeutic value under certain circumstances as in wasting diseases will be readily conceded

SAARBURG MOSELLE
(SAARBURG MOSELLE EXPORT CO LIMITED 2, BURY STREET ST JAMES'S LONDON S W)

We have paid some attention to the specimens of this wine submitted for examination because it is said to be specially suited for gouty and diabetic patients How far this is so may in some measure be seen from our analyses which were as follows 1893 Moselle extractives, 2 21 per cent, mineral matter 0 16 per cent, alcohol, by weight 8 64 per cent, by volume 10 73 per cent, equal to proof spirit 18 81 per cent, tartaric acid 0 51 per cent, acetic acid, 0 12 per cent, and sugar, 0 24 per cent 1895 Moselle extractives, 1 91 per cent, mineral matter, 0 15 per cent, alcohol, by weight 9 36 per cent, by volume 11 61, per cent, equal to proof spirit 20 35 per cent, tartaric acid, 0 55 per cent, acetic acid 0 10 per cent, and sugar, 0 17 per cent 1897 Moselle extractives, 1 96 per cent, mineral matter, 0 18 per cent, alcohol, by weight 9 26 per cent, by volume 11 61 per cent, equal to proof spirit 20 35 per cent, tartaric acid, 0 64 per cent, acetic acid, 0 098 per cent, and sugar, 0 19 per cent From these results it will be seen that these wines contain hardly any sugar, yet the alcoholic strength is low They belong to the class of light wines suitable particularly for moderate use in diabetes or where there is a gouty tendency They are delicate in character, without added spirit, non saccharine and practically non acid All the wines were in excellent condition with pleasant flavour and dry When a light stimulant is desirable in conditions where alcohol, sugar and acidity are to be avoided as much as possible these wines would seem to serve suitably for the purpose They are at any rate free from the drawbacks of heavy wines loaded with sugar and containing a high percentage of spirit Although these wines contain the normal acids of the grape yet they yield an ash which is markedly alkaline Thus their effect upon the blood would be to increase its alkalinity Saarburg Moselle affords an excellent beverage blended with aerated water but especially with a natural mineral water. The same wine might be supplied with advantage in sparkling form.

UROTROPINE (SCHERING).

(A. and M. Zimmermann, 9 and 10, St. Mary-at-Hill, London, E.C.)

Urotropine has received some prominence of late as a useful diuretic and solvent of uric acid concretions. It appears to be a compound produced by the action of formaldehyde on ammonia and is known shortly as formin. Its chemical name is hexa-methylene-tetramine. Urotropine occurs in colourless granular crystals exhibiting an alkaline reaction. It is soluble in water but sparingly in alcohol. It is stated that urotropine increases the excretion of the urine and of uric acid, the solution of the urates beginning within 24 hours of the administration of the drug. It is said also to serve as a urinary antiseptic and to be effective in many forms of cystitis. The dose is from five to 15 grains.

"FINO PURO" SHERRY (GONZALEZ BYASS).

(Hatch, Mansfield, and Co., 1, Cockspur street, Trafalgar-square, London, S.W.)

There are features in the results of the analysis of this sherry which imply that it is excellently adapted for dietetic purposes. Thus, it is practically non-acid in character, contains a minimum of sugar, and is of comparatively low alcoholic strength. The actual analysis was as follows: alcohol, by weight 13 92 per cent., by volume 17·17 per cent., equal to proof spirit 30 09 per cent.; extractives, 2 62 per cent.; mineral matter, 0 60 per cent.; sugar, 0 83 per cent.; tartaric acid, 0 43 per cent.; and acetic acid, 0 03 per cent. It is a light delicate wine and of a pale colour, belonging to that class of sherry known as Amontillado fino. It is a "brut" wine. It possesses excellent bouquet and flavour and is perfectly free from the heavy character of loaded wines. Indeed, its composition shows it to be of the lightest character amongst sherries. It is an agreeably stimulating wine, sound, and possessing the qualities of a pure natural sherry.

MISTURA FERRI SALINA (SELLERS).

(J. Sellers, 11, Clerkenwell-green, E.C.)

The convenience of this preparation is obvious. It is of a strength which by definite dilution yields a solution containing suitable administrative quantities of the various drugs which it contains. These drugs are ferri sulph., liq. arsenicalis, tinct. nucis vomicæ, and the alkaloids of cinchona bark. Our analysis has confirmed the presence of each and all of these medicaments. The mixture also contains the sulphates of soda and magnesia. The strength is such that one ounce diluted to eight ounces forms a suitable mixture for administration in doses of one ounce. We found the iron to be present intact in unoxidised condition. This formula is admittedly an excellent one in ministering to blood impoverishment, as in anæmia and chlorosis.

FINE OLD BRANDY (SPANISH).

(J. Wilson and Valdespino, 79, Mark-lane, London, E.C.)

More than once we have drawn attention to the fact that excellent brandy—that is, a genuine wine spirit—is imported into this country from Spain, the colonies, and elsewhere. It is notorious that since the unfortunate devastation of the French vineyards by the phylloxera scourge spirit described as genuine cognac has been imported into this country in increasing quantity. According to official returns it was not possible that this spirit could have been obtained during the distillation of wine, and evidence was given in favour of the spirit being derived from grain or other material. As we have pointed out some differentiation may be made by determining the amount of volatile ethers. Malt or grain spirit does not contain a trace of these interesting bodies since they are derived by the interaction of fruit acids during the process of fermentation upon the alcohol. The specimen under criticism, which comes from Spain, gives abundant evidence, assuming the presence of these ethers to be a criterion, of being a genuine wine-derived spirit. Our analysis gave the following results: extractives, 0 37 per cent.; mineral matter, 0 01 per cent.; alcohol, by weight 47 82 per cent., by volume 55 60 per cent., equal to proof spirit 97 44 per cent.; acidity reckoned as acetic acid, 0 06 per cent.; and alcohol in volatile ethers, 0 03 per cent. The spirit was characterised by a pleasant fragrance in regard to both taste and smell. According to these results we have little doubt that it is a genuine wine-derived spirit matured by storage and therefore well adapted for medicinal use. It is important that for clinical use care should be taken that only a spirit derived from wine and afterwards matured should be employed, because genuine brandy possesses restorative properties which cannot be referred to alcohol alone.

CITROPHEN.

(Fassett and Johnson, 31 and 32, Snow hill, London, E.C.)

Citrophen is a compound of citric acid with phenetidin. As is well known phenacetin (para-acet-phenetidin) has been used as an antipyretic and analgesic, but not always without after-effects of an objectionable kind, simulating the action of a poison and with the production sometimes of a rash. It is stated that when combined with citric acid, as in *citrophen*, all objectionable sequelæ are avoided while the analgesic and antipyretic properties are preserved. Testimony has been published of the value of citrophen in influenza, migraine, and other conditions where pyrexia is a feature. Citrophen is a white powder possessing a slightly acidulous taste and it possesses the advantage of being soluble in water. It is said to consist of one part of phenetidin with one part of citric acid in true molecular proportion. It is, of course, conceivable that the introduction of a complex organic molecule such as citric acid would sensibly modify the action of a quinine substitute like phenacetin, much as the naturally occurring morphine compounds differ in their action from the artificially prepared chlorides or sulphates.

CASCARA CHOCOLETTES.

(Wright, Layman, and Umney, 48 and 50, Southwark street, London, S.E.)

The feature of these preparations is mainly one of device, while the extract of cascara contained in the "chocolette" consists of the pure aperient principles of the bark. The tablets are chocolate-coated, attractive in appearance, and may be taken without any marked or objectionable taste of the drug asserting itself. The tablets are easily soluble in water at ordinary temperatures and they are very convenient for administration and satisfactory in effect.

MALTZYME.

(The Malt Diastase Company, New York, and 19, Cross street, Hatton garden, London, E.C.)

Maltzyme is evidently prepared with due regard to the preservation not only of the digestive principle of the malt but of the important nourishing constituents of the grain also. It is exceedingly active on starch jelly, rapidly converting it, even in the cold, into soluble starch and finally dextrin and maltose. At the body temperature its action is still more rapid. One important advantage of maltzyme is its thin consistence, so that the requisite dose may be readily poured out of the bottle. It possesses a fine malty flavour with no unpleasant after-taste. We have examined also maltzyme with cod-liver oil, a combination which, in view of the activity of the diastase, is a valuable therapeutical agent, especially in wasting diseases.

THE LANCET RELIEF FUND.

For Members of the Medical Profession and their Widows and Orphans when in Distress.

ALMONERS.

THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.
THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.
THE PRESIDENT OF THE GENERAL MEDICAL COUNCIL.
THOMAS WAKLEY, F.R.C.S. Eng.
THOMAS WAKLEY, Jun., L.R.C.P. Lond.

HON. AUDITOR.

SIR HENRY PITMAN, M.D. Camb., F.R.C.P.

* * *

THIS FUND will be provided year by year in the month of January to the amount of at least £300 solely by the Proprietors of THE LANCET, and administered free of cost, for the purpose of affording immediate pecuniary assistance to Medical Men, or their Widows and Orphans, *in cases of Acute Distress and Emergency*, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require.

Applicants must satisfy the Almoners of the Fund that they are qualified under the following regulation:—

> * "The recipients shall be such persons as satisfy the Almoners that they possess one or other of the following qualifications—that is to say: (*a*) That the applicant holds a registered medical qualification, and that he has fallen into pressing need of immediate pecuniary relief; or (*b*) That they are persons who have been, previously to the date of application, legitimately dependent upon some person holding a registered medical qualification, and that they have pressing need of immediate pecuniary relief."
>
> (*In the case of Widows and Orphans, in order to come within the scope of the Fund, the death of the Husband or Father must have been of recent occurrence.*)

To ensure the utmost despatch, the "Application Form" upon the other side should be filled up and forwarded (in an envelope superscribed "THE LANCET Relief Fund") to the Secretary, Mr. EDWARD DAVIES, THE LANCET Offices, Strand, London, W.C.

The application should be accompanied by two separate testimonials, one from the Clergyman of the Parish or other resident Minister of religion, and one from a registered Medical Practitioner, stating—that the application addressed to the Almoners has been read, how long they have known the applicant, and that they believe the statement to be perfectly truthful, and such as may be acted upon without further inquiry.

THE LANCET.

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology,
Chemistry, Pharmacology, Public Health, and News.

IN TWO VOLUMES ANNUALLY.

VOL. II. FOR 1899.

SEVENTY-SEVENTH YEAR.

EDITED BY THE PROPRIETORS:

THOMAS H. WAKLEY, F.R.C.S. Eng.,

AND

THOMAS WAKLEY, Jun., L.R.C.P. Lond.

LONDON:
PRINTED AND PUBLISHED BY THE REGISTERED PROPRIETORS, AT THE OFFICES OF "THE LANCET," No. 423, STRAND,
AND Nos 1 & 2, BEDFORD STREET, STRAND

MDCCCXCIX.

INDEX TO VOLUME II., 1899.

☞ *Readers in search of a given subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral, Heart and Cardiac, Liver and Hepatic, Bicycle and Cycle, Child and Infant, Enteric and Typhoid, Bronchocele, Goitre, and Thyroid, Diabetes, Glycosuria, and Sugar, Eye, Ophthalmic, and Vision, &c., &c.*

A

Abdomen, gunshot wounds of the, 26 377 441; injury of the, laparotomy for, 156
Abdominal panhysterectomy, cases of, 82; surgery, cases of, 91
Aberdare, *death-rate of*, 1112
Aberdeen: Volunteer Medical Staff Corps, 68; notification of diseases, 244; a gallant medical officer, 244; an academic record, 244; slaughter-houses, 309; City Hospital, 367 864; water-supply, 367 1043; meeting of the Royal Institute of Public Health, 598; *cemetery scandal*, 807; vaccination, 1044; new municipal regulations, 1131; proposed crematorium, 1263; Hospital Sunday, 1263; new asylum, 1337
Aberdeen Ophthalmic Institution, 1131
Aberdeen University: degree list, 312; entrants at the medical preliminary examination, 1044; extension of the buildings, 1131 1198; Agricultural Department, report upon the value *of tuberculin as a test for tuberculosis in* cattle, 1180; the Lord Rector, 1263 1407
Aberdeenshire villages, neglect of scavenging in, 367
Abortion, quacks and, 111 174 1028 1540 1844
Abortionists in New South Wales, 517
Abram, Dr. G. S., fœtal anomalies, 837
Abscess of the liver, 496, 749; supra-hepatic, 635; cerebellar, 608; of the kidney, 1436; on the anterior surface of the epiglottis, 1457; peritonsillar, 1537
Abyssinia, alleged demoniacal possession in, 731
Accouchement patients, advertisements to take, 548
Acetylene light for bicycles, the danger of, 40
Achalme, Prof., microbe of rheumatic fever, 537
Acland in India, 470 548
Acoine as a local anæsthetic, 1062
Acquired characters, the transmission of, 530
Acro-arthritis digitorum, 1156
Actinomycosis, conjunctival, 422
Actinomycosis, the organism of, 779 1232, 1333
Action (or Actions) at law: against medical men, 52, 67 68 176, 256; brought by medical men, 67 252, 313 417 430 466, 617 862; Tallerman *versus* the Dowsing Radiant Heat Company, 354; for the recovery of amputated legs, 370; to set aside insurance policies, 514
Adams, Mr. T. H., the late, 63
Adams, Dr. J., obituary, 1864
Adams, Eleanor D., A Queen among Girls (review), 1595
Addison's disease, arsenical pigmentation of the skin simulating, 353
Adenitis, tuberculous, of the head and neck, 333 459
Adenoids, naso-pharyngeal, 539; post-nasal, disappearance of, after influenza, 1112
Adulteration (see Food, Government laboratories)
Advertising Public, the Abuses of, Society for Checking, 992
Advertising jeweller, strange proposal by an, 225
Advertisement, what is it? 67 135
Advertisements, improper (or objectionable), 354 815, 1730 1870; to take accouchement patients, 548
Africa, East, an unsuccessful malaria expedition to, 745
Africa, South: map of, 843; the war in, 1033, 1115 1184 1251 1319 1459 1543 1612, 1682, 1687 1754 1819; *the forces in, consulting surgeons to*, 1308, 1850; the medical profession in, Sir W. MacCormac and, 1314
Africa, South, as a Health Resort (review), 163
Africa, West: expedition to, sent by the Liverpool School of Tropical Diseases, 173, 365 483, 534 730, 743 745 806, 912, 1011; medical appointments in, 148
Africa (see also Rhodesia, Matabeleland, Ngoni, Transvaal, South African)
African mystery, 731
After-damp in collieries, 577
Aged practitioner, 1049
Agglutinating substances in the blood in Mediterranean fever, 701
Agglutination (see also Widal reaction)
Agglutinative action of blood sera on spermatozoa, 718
Agglutinins, influence of the, in the infected organism, 1727
Agriculture, the Board of, and contagious diseases among animals, 900
Aid for the wounded, 1108, 1184
Aid (see also First Aid)
Aikman, Dr. F., procident uterus, 194
Ainley, Mr. D., annual report for Halifax, 976
Air, ozone in the, 423
Air (see also Sewer-air, Sea air, Open air, Outdoor, Chloroform and Air)
Aitchison, Dr. R. S., Medical Handbook (review), 1240
Albuminuric retinitis, 423
Alcohol: poisoning by, 63 797; in hot climates, 394; chickens hatched under the influence of, 452; the influence of, on mental and muscular activity, 1391
Alcohol, &c., inhalation of, in tuberculosis, 917
Alcohol (see also Drink, Drunkard, Inebriate, Licensing, Spirituous Stimulants)
Alcoholic neuritis in a child, 504; subjects, cardiac and epileptoid symptoms in, 901
Alcoholism, acute and subacute, treatment of, by rest in bed, 226; in Italy, 247; in its relation to heredity, 381, 451; the clinical varieties of, 793; the prevention of, 1125, 1192, 1258 1329
Alcohols, various, physiological action of, 1
Aldershot: poisoning at, 851; *the sanitary condition of*, 1751
Aldershot sewage farm, 391
Aldous, Mr. G. F., use of a tyre, 1617
Alexander, Mr. A., Physical Training (review), 570
Alexandria (see Egypt)
Alger, Mr., retirement of, 300
Algiers, the cost of living in, 922
Alkaline lye, treatment of anthrax by, 1114
Alkaloidal Ætiology (review), 495
Allan, Dr. F. J., report for the Strand district, 112
Allan, Dr. C. M., Graves's disease, 555
Allbutt, Prof. T. C.: System of Medicine (review), 493; tuberculosis, 499 518 520, 587; theory and practice, 925; Cambridge as a medical school, 1258; local and constitutional disease, 1394
Allen (see Van Allen)
Alsace-Lorraine, medical fees in, 619
Alum in flour, dispute as to, 861
Alvarenga prize, 1458
Amazonia, yellow fever in, 311
Ambulance vehicles in Paris, 864; system, the Belfast, 914
Ambulances, horse, at London hospitals, 1599 1696
Amenorrhœa associated with Raynaud's disease, and pulmonary tuberculosis, 525 665
America, the United States of: invitation to an Italian physiologist, 60 311; retirement of the Secretary for War, 300; physical education in, an Italian eulogy of, 517; small-pox and vaccination, 953; railway accidents, 936; legislation as regards milk and tuberculosis, 1243; leprosy, 1331; plague, 1783
America, the United States of, and American (see also NEW YORK, CORRESPONDENCE FROM; Anglo-American, Hispano-American)
America, South, conjunctival actinomycosis in, 422
American: experience in military surgery, 115; meat in Edinburgh, 185; sanatorium for consumptives, 506; views on cancer, 550; cigarettes, 1607; insurance societies, 1638, 1714 1869
American army (or troops): sickness at Camp Thomas, 115; small-pox in the, 225; typhoid fever in the, 235; in Manila, small-pox and vaccination in the, 969
American army tropical ration, prize essay on the, 937
American Electro-Therapeutic Association, annual meeting, 357; Neurological Association, presidential address at the, 794
American Textbook of Diseases of the Eye, Ear, Nose and Throat (review), 346
Amputation, interscapulo-thoracic, 273
Amsterdam: congratulations to a professor at the University, 45; congress of gynæcology and obstetrics, 541, 614
Anæmia, obstinate, case of, 1093
Anæmia and Some of the Diseases of the Blood-forming Organs and Ductless Glands (review), 841
Anæmic infarct of the liver, 604
Anæsthesia by injection of cocaine into the spinal canal, 798 1536
Anæsthesia (or administration), chloroform, 895 821 1052 1205, 1273 1390
Anæsthetic, a local: eucaine as, 194 313; *eucaine β as*, 552; *acoine as*, 1092
Anæsthetic, a general, bromide of ethyl as, 540 850
Anæsthetics, deaths under, 53, 106 514 1227 1811; the prevention of sickness after, 833; retrospect, 1832
Analysis by deputy, 897
Analysts differ, 861

ANALYTICAL RECORDS FROM THE LANCET LABORATORY.—Aspirin; Very old pale cognac; Johannis potash water; [illegible] iron tonic; Vasogens; Scotch whisky; The Allenburys toilet soap; New tabloids and soloids, 219 220—Bovril, 286—Tannoform (Merck); Protose; "Whimple" cider; Tabloids of cascara sagrada; Cigarettes (cork-ended mouthpiece); Sanitary toilet paper; *Echthol (Battle and Co.)*; Valsol preparations; Flexible gelatin capsules (Velo brand); Orion South Australian brandy, 571—Tabloid holocaine hydrochloride; Soloid microscopic stains; Zinoline soap; Brut cognac; Walpole's perfected and tasteless preparation of the extract of cod-liver oil; New pharmaceutical preparations; Liqueur Scotch whisky (invalid); Extemporary aids in angina pectoris; Paper convalescence cover, 972, 963—Tabloid guaiacum resin; soloid indicators; Hungarian champagne; Norvril (fish powder); Dyllsala; Nutrient powder (Dence's patent); Cognac brandy; Special bread; Carnigen, 1307 1308
Analytical and other Commissions of THE LANCET, 1843
Anatomical preparations in the museum of the British Medical Association, 537
Anatomy of the Central Nervous System of Man and of Vertebrates in General (review), 345; and Physiology, Journal of (review), 347; Handbook of, for Art Students (review), 1306
Anatomy (see also under Brit. Med. Assoc.)
Ancoats, housing of the poor in, 1315
Anderson, Prof. R. J., asymmetry, 30
Anderson, Mrs. Garrett, M.D., introductory address at the London School of Medicine for Women, 930
Andrews, Staff-Surg. O. W., an eyesore, 609
Aneurysm, subcutaneous injection of gelatin in, 775, 858

Aneurysm, traumatic, axillary, 209; dissecting of the heart, 604; ruptured aortic, 839, 1097; pressure of an, gastric obstruction due to, 1155; traumatic, carotid, 1584
Angina pectoris, extemporary aids in, 963
Angina, membranous, diphtheritic (?), 1295
Anginal pains, erythrol tetra-nitrate in, 533
Anglo-American Insurance Company, 1571, 1638, 1718, 1790, 1870
Angus, Dr., anthrax, 94
Anhalonium (see Pellotine and Mescal)
Animal tissues, effect on, of ether waves accompanying the Roentgen rays, 474; world, the ray fungus and the, 1333
Animals, living, experiments on, 314, 548; tuberculous lesions of, localisation of, 533; contagious diseases among, the Board of Agriculture and, 900; wild, cancer in, 1194, 1238
Ankle, tuberculous disease of the, skiagram of, 159
Annett, Dr. H. E., milk preservatives, 1282, 1617
Annis, Mr. E. G., annual report for Huddersfield, 855; the Infectious Disease (Notification) Extension Act (1899), 1259, 1332

ANNUS MEDICUS.—Medicine, 1819; surgery, 1820; gynæcology and obstetrics, 1822; pharmacology and therapeutics, 1824; ophthalmology, 1826; forensic medicine, 1827; dental surgery and the practice of dentistry, 1829; biology and physiology, 1830; anæsthetics, 1832; Mirror of Hospital Practice, 1834; the naval and military medical services, 1834; chemistry, 1836; public health, 1837; vaccination in 1899, 1838; the University of London, 1839; the General Medical Council, 1840; the British Medical Association, 1841; the Metropolitan Hospital Funds, 1841; sanitation in Ireland, 1842; the Royal College of Physicians of London, 1842; the Royal College of Surgeons of England, 1842; the benevolent agencies of the profession, 1843; the analytical and other commissions of THE LANCET, 1843; quacks and abortion: a critical and analytical inquiry, 1844; the organisation of the profession, 1845; honours to medical men, 1846; obituary, 1847

Anonymous authors, 318
Anopheles claviger (see Mosquitoes)
Ansell, Mary Ann, the case of, 223
Antarctic expedition, donation to the, 799
Ante mortem decomposition, rapid, 1180
Anthrax, erysipelatous and œdematous, 94
Anthrax, recoveries from, 112; treatment of, by lye, 1114; operations for, 1393
Anthropological work in asylums, 149
Anti-British feeling in Southern Europe, 1106
Anti-diphtheritic serum, 1082
Anti plague serum, the supply of, in Paris, 809
Anti pneumococcic serum, the standardising of, 1297
Antipyrin as a chemical reagent, 363
Antirabic Institute of Bologna, 854
Antisepsis in extremis (a railway ticket dispute), 124
Antisepsis, intestinal, 460
Antisepsis, discussion on, 541
Antiseptics, ancient and modern, 394
Antistreptococcic serum in puerperal septicæmia, 379, 445, 564, 719, 1299; in septicæmia, 409; not a specific for puerperal infection, 603; in infective endocarditis, 1225; treatment with, 1299; therapeutic use of, 1384
Antitetanic serum, 89, 553
Antitoxin, the origin of. Is it present in the blood of some normal animals? 332
Antitoxin, diphtheria, the presence of, in normal human serum, and in the serum of certain normal horses, 334; statistics of, 749
Antitoxin treatment not analogous to vaccination and in many cases a failure, 379; of diphtheria, paralysis after, 561; of tetanus, 1012, treatment, 1016
Antitoxins, various, 323
Anti tuberculosis conference, 123; association, 155
Anti typhoid serum in the treatment of enteric fever, 778
Anti vaccination tactics, 789; reverses, 1593
Anti vaccinationist, an Italian, 917; as a vaccination officer, 1567
Antivenene, 609
Antivenene serum, Calmette's, snake-bite treated with, 1438
Anti vivisection Society, the National, 427
Anti vivisectionists in India, 365
Aortic disease, erythrol tetranitrate in, 533; aneurysm, ruptured, 839, 1097
Aphasia, infantile hemiplegia associated with, 1733
Aphasia, auditory, case of, 159
Apothecaries, Society of (see Society of, &c.)
Apothecaries' Hall, Ireland, pass list, 455; and the General Medical Council and Dr. Lombe Atthill, 1685, 1705, 1774
Appeals (see Assistance, Subscriptions)
Appendicitis, plumbism and, 171, 238, 302; operations for, 269, 276; case of, 565; scarlet fever and, 1158; or typhoid fever? 1394; prognosis of, 1518
Appendix, the vermiform; intestinal obstruction dependent on, 53; the inflamed, early *versus* late operation in, 1657, 1857
Appendix vermiformis, hernia of the, 279
Appointments, weekly lists of, 65, 133, 191, 253, 315, 392, 468, 545, 618, 753, 813, 867, 919, 989, 1049, 1139, 1203, 1271, 1342, 1415, 1487, 1569, 1636, 1711, 1787, 1868
Appointments or nominations, various, some non-medical, 41, 109, 110, 123, 174, 229, 249, 390, 863
Appointments (see also Medical appointments, Services naval and military)
Arachnids, the rôle of, in the propagation of diseases, 386, 775
Arlidge, Dr. J. T., obituary, 1269
Armagh workhouse, alleged irregularities in, 435
Armstrong, Sir A., the late, 115; obituary, 249
Armstrong, Dr. W. G., report for New South Wales metropolitan combined sanitary districts, 584
Armstrong, Dr. G. E., gastric ulcer, 601
Army, chiropody in the, 314; syphilis in the, 377, 523; washing the genitals in the, 523, 524; thermic fever in the, 608; heat apoplexy in the, 609; commissions in the, medical examination of candidates for, 802; civil medical practitioners for the, 987
Army, the European, in India, enteric fever in, 429, 495, 739; officers of the, enteric fever among, 806
Army and navy, the medical services of the, 325, 349, 439, 588, 740; their unsatisfactory condition, 326
Army, the American, typhoid fever in, 235; in Manila, small-pox and vaccination in, 969; tropical ration of the, prize essay on, 987; a corps of female nurses for, 987
Army, the French, typhoid fever in, 363; the Italian, conscription for, 916
Army medical officers who have resigned on gratuity, 1258
Army Medical School, close of the session, 179, 356, 424
Army Medical Service, date of examinations for the, 236, 253; various regulations of the, 640; an insult to the, 1183
Army recruits, the testing of, 64
Army Medical Corps, the American, 127
Army (see also Royal Army Medical Corps, Services, Military, Soldiers, Troops, Regiment, Conscription, War Office)
Arnison, Dr. W. C., obituary, 1322
Arsenic as an external irritant, 719
Arsenical pigmentation of the skin simulating Addison's disease, 353
Art Students, Anatomy for (review), 1306
Arthritis, electric currents in, 59; surgical treatment of, 93; rheumatoid, excision of joints in, 1400, 1586; gonorrhœal, surgical treatment of, 1585; acute infective, and cellulitis, 1775
Arthritis (?), rheumatoid, case of, 1230
Arthritis (see also Acro-arthritis)
Artistic licence, 49
Ascites, hæmorrhagic, case of, 1286; of cirrhosis, surgical treatment of, 1660
Asepsis, the importance of, 374
Asphyxia, local symmetrical, 525, 553
Aspirin, 219
Assam, public health in, 179; the tea plantations of, the remuneration of medical officers to, 1637; Southern, the tenure of, 1809
Assistance, a case for, 815
Assistant, the relations of the medical man to his, 67; privileged communications to an, 135
Assistants, unqualified, the General Medical Council and, 548
Associations, annual meetings, reports, or dinners of (not including British Association or British Medical Association). Postal Medical Officers, 44; Sanitary Inspectors of Scotland, 58; Irish Medical, 58; Brussels Medical Graduates, 251; British Dental, Western Counties Branch, 278; American Electro-therapeutic, 357; National Veterinary, 466; American Neurological, 794; Sanitary Association of Scotland, 807; French, for the Advancement of Science, 865, 893; Durham University Medical Graduates, 910; Public Vaccinators, 1530
Associations (see also Congress)
Asthenopia, muscular, homatropine in, 393, 457, 950
Asthma, Recent Developments in its Treatment (review), 1022
Asylum reports, 121, 220, 360, 586, 1023, 1118, 1323, 1473, 1691, 1745, 1856; population and phthisis, 157
Asylums (see Lunatic asylums)
Asymmetry, 530
Athletics and patriotism, 1245
Atkinson, Mr. W. A., the late, 310
Atkinson, Dr. J. M., death under chloroform, 1227; carbolic acid in plague, 1589
Atlas and axis, dislocation between the, 1514
Atropine, plague toxin and, 1301
Atthill, Dr. L., Dr. Lombe Atthill and the Apothecaries Hall of Dublin, 1774
Auditory meatus, the external, absence of, 539
"Aunt Kate's Mother's Guide," 193
Aural complications in typhoid fever, 1535
Auri sacra fames, 226
Aurora Borealis Academica (a book), 244
Australasia; hospital abuse in, 1244

AUSTRALIA, CORRESPONDENCE FROM.—The New South Wales Branch of the British Medical Association and the *Australasian Medical Gazette*, 248—Intercolonial Medical Congress of Australasia, 248, 1410—Royal Commission on charities, New South Wales, and the Women's Hospital and Dispensary at Sydney, 248—Women's Hospital, Melbourne, 248—A new disease in sheep, 249—Experiments with tuberculin, 249—New method of suturing the peritoneum, 249—Farewell to Dr. Violette, 249—Director of charitable institutions, 249—Vital statistics of New South Wales, 517—Health of the Hunter River District, New South Wales, 517—Disposal of refuse in Sydney, 517—Treatment of inebriates, 518—Melbourne Hospital, 518, 1048—Death of Dr. J. T. McAllister, 518—A resignation and an appointment, 518—Health of Sydney, 750, 1135—Prevention of tuberculosis in Victoria, 750—Australian Health Society and the milk-supply, 750—Annual report on lunacy in Victoria, 750—Various hospital matters, 750—Insanity in New South Wales, 1048—The profession and the friendly societies in Victoria, 1048—Sydney Hospital, 1048—Obituary, 1048—Inspection of meat in New South Wales, 1135—Nurses' Association in Sydney, 1135—Intravenous injection of anti tetanic serum, 1135—Australian hospitals, 1784—Influenza, 1785—Small-pox and federal quarantine, 1785—The Coast Hospital, Sydney, 1785—St. John Ambulance Association, 1785—Death of Dr. Collingwood, 1785

Australia, reports of medical officers of health, 584
Austria, post-graduate instruction in, 663
Austrian navy, vital statistics in the, 857
Austria or Austrian (see also VIENNA, CORRESPONDENCE FROM)
Authors, anonymous, 318
Auto Intoxication in Disease (review), 495
Aveling's repositor, chronic inversion of the uterus reduced by, 151
Axilla, aneurysm of the, ligature of the axillary vein for, 209; sarcoma of the, 274
Axis (see Atlas)
Ayres, Mr. P. B. C., obituary, 1190

B

Baber, Dr. E. C., rhinology, 384, 461
Baby shows, 747
Baby farming, the prevention of, 968; the latest phase of, 1183
Bacilli in shell fish, 232
Bacillus, Eberth's, in the meninges, 369; of influenza, 604; of otitis externa tropica, 837; of epidemic colitis, 850; of pseudo tuberculosis, 1297
Bacillus coli communis as a cause of puerperal septicæmia, 29; icteroides, the cause of yellow fever, 902
Bacteria as destroyers of masonry, 853
Bacteria (review), 1448
Bacteria, the Pathogenic, A Text-book upon (review), 495
Bacteria beds and the Shone hydro pneumatic system of sewerage, 1116
Bacterial treatment of crude sewage, 1024
Bacteriological research and preventive medicine, 372, 379, 510
Bacteriologist, the Imperial (see India)
Bacteriology in medicine, 322; the just position of, 469; of scarlet fever, 1385
Baginsky, Prof. Adolf, Lehrbuch der Kinderkrankheiten (review), 1304
Bailey, Dr. P., hemiatrophy of brain, 105
Bailey, Mr. G. H., obituary, 438
Bain, Dr. W., gout, 377, 441
Baker, Mr. A. de W., the late Mr. Vose Solomon, 992
Balbiani, Prof., the late, 516
Bale's Dental Surgeon's Daily Diary (review), 1678
Ball-valve action of gall stones in the common bile duct, 1247
Ballance, Mr. H. A., hæmorrhagic infarction, 85
Bampton, Dr. A. H., bullet in the brain, 599
Banana flour, 816
Bands (for bicycles), puncture proof, 1744
Bangalore, plague at, report on, 183

Bangor (Ireland) cottage hospital and home, 746
Bangs, Dr. L B, Atlas of Syphilis (review), 1103
Bannatyne, Dr G A, rheumatoid arthritis, 1400
Bantock, Dr G G, conservative gynæcology, 378
Bar, medical man called to the, 63
Bardswell, Dr N., consumption 1291
Barker, Mr W J T, the Royal College of Surgeons of England 180
Barker, Prof A E, wound of the brain, 1508
Barker anatomical prizes, 62
Barling, Dr G, an appeal, 136, 255, 909
Barnes, Mr J W, obituary, 1269, 1344
Barnes, Dr R., ectopic gestation, 1332
Barnett, Mr P. A, Clear Speaking and Good Reading (review) 415
Barr, Dr J., presentation to 130
Barracks (see Military works)
Barraclough, Mr. G, Canary Islands, 117
Barrs, Mr J H, an appeal 394 548 620 1052
Bartholomew, Mr J. G, Physical Atlas (review) 1743
Bateman Dr A G, the Medical Defence Union Limited, 300
Bates, Mr G T., plague and rats 816
Bath, the medical officer of health of, 309 753; sewage of 733 as a health resort, 1066-70; Royal Mineral Water Hospital at, 1257; medical arrangements for wounded soldiers and their families 1786, amateur dramatic performance at, 1866, soldiers' convalescent home at, 1866
Bathing places, Bradshaw's (review) 218
Baths, the corporation, at Manchester, 983
Baths (see also Vapour baths)
Batten, Dr F E, hypertrophy of the pylorus, 1511
Batteries, galvanic, 460, 539 673
Battle of the Clubs at Cork 245, at Brussels, 304; at Portsmouth 306, in the Bolton and district coalfields 689
Battle of the Clubs (see also Medical aid societies Medical protection Medical unions, Friendly societies, Medical profession, organisation of the, Annus Medicus)
Battle, Mr E W peritonitis, 210
Battle, Mr W H enterocele 214; resection of the large intestine 1277, tuberculous bladder, 1587
Beatson Dr G T operating theatres 713
Beatty, F, Over-pressure (review), 1330
Bedford county hospital opening of, 170
Bedford College for Women 189
Bed rest, the Easton, 1744
Beer (see Lager beer, Christmas beer, Pfaudler vacuum)
Belfast maintenance of the lunatic poor, 59; public health, 185, sewerage, 245, destructors 310, holidays of dispensary medical officers 367 improvements 367, lunatics, 422, rainfall, 436 new medical school, 693, invitation to the British Association, 803, Roman Catholic school of medicine, 864 the medical school, 985; public health in 1898, 1186
Belfast, Queen's College: prizes awarded, 435; instruction in tropical diseases, 518; chair of medicine, 808, 864, 1394 1407, president's report 803, the winter session, 985
Belfast board of guardians 59 367, charities (football) competition, 186 Royal Hospital, 180, 864, District Asylum 231 914, Hospital for Diseases of the Skin 310 Union Infirmary 435, 803, 935; Hospital for Sick Children, 436; workhouse, 746, 914; ambulance system, 914
Bellilos, Mr D. A, cerebro-spinal meningitis, 156
Bell Dr J H., anthrax, 94
Bell Mr. J, chloroform anæsthesia, 869, exalgine poisoning, 890, death under chloroform, 1227
Bell Dr W. B, typhoid fever, 1040
Belts, gymnastic, 1392 1713
Benevolent agencies of the profession 1843
Benevolent (see also British Medical Benevolent, Royal Medical Benevolent)
Bengal, Sanitary Commissioner's report for 1898 793
Bennett, Brig Surg J, the late 179
Bennett, Mr W. H, neuralgia, 1220
Benthall, Mr A, Workmen's Compensation Act (1897) 903, 1040, 1773
Benthall Dr W, icterus gravis 1588
Bentlee Mr E., consumption 469 548 620
Beri-beri, the prevention of, 60, in Falmouth, 152; paper on, by a French naval surgeon, 330, the study of, 693, 1049, the causation of, 721; in Burmah, 910, the bacteriology of 1812
Berkshire (see Royal Berkshire)

Berlin. Correspondence from.—Successful operation for pulmonary gangrene, 125—New Pathological Institute, 125—Accidents in orthopædic surgery, 125—Antiseptic action of spirit of soap, 246—Honours to Prof Ehrlich 247—An institution for tropical diseases, 247—Formalin in tuberculosis, 747—Suture of a wound of the heart, 747—Congress of Naturalists and Medical Men 748, 1045—Prussian Minister of Education and the German Medical Faculties 809—Statistics of the medical profession 809—Precautions against plague 809—Work for convalescents in hospitals, 809—Instruction in cookery for medical men, 810—Prof Koch's report on malaria, 1045—Spondylitis, a sequel of enteric fever, 1133—Sanatoria for children at the seaside, 1133—Medical Temperance Association 1133—Friedrichshain Hospital, 1133—Trachoma contracted at a public bath, 1133—The elections to the Medical Chambers, 1265, 1782—Myositis a complication of gonorrhœa 1265—Courts of honour, 1265—Effect of artillery firing on the ear, 1266—German Red Cross Association, 1408—Military and civilian medical officers, 1409—Voluntary surgeons at the war, 1409—Etiology of diabetes, 1409—Poisonous potatoes, 1554—Popular plague literature 1555—The late Prof Birch Hirschfeld, 1555—A university complication 1781—Treatment of puerperal eclampsia 1782—Treatment of gonorrhœal epididymitis 1782

Berlin surgeons on tuberculosis, 177
Bernard Matilda Embryology of Invertebrates (review), 723
Bernard (see also Claude Bernard)
Berry, Mr. R S, meningitis 1287
Berry, Mr J., goitre, 600, inflamed appendix, 1857
Berry, Dr H P, diarrhœa, 1090
Berry, Mr W., smoke, 117, disease of knee, 1811
Bicycle light, a bright, the dangers of, 40; accident, death of a medical man from a, 310, bands, puncture-proof, 1744
"Bicycle gymkhana," dangers of a, 583
Bicycling pelvic trouble caused by, 1583
Bidwell, Mr L A, excision of the rectum, 599
Biggart, Dr S, labourer worthy of his hire, 1789
Bile, the administration of, in Graves's disease, 565
Bile duct, supposed perforation of the, 156, the common ball valve action of gall stones in the, 1247
Biliousness, the treatment of, 828
Bilharzia hæmatobia case of, 386
Biography, National, Dictionary of (review) 160 568
Biology, Evolution by Atrophy in (review), 346
Biology (see also Annus Medicus)
Birch camphor as a surgical dressing, 1780
Birds, tuberculous lesions of, localisation of, 533
Birds of a feather 318 394 470
Birkenhead Hospital Sunday at, 123

Birmingham Correspondence from.—Birmingham Hospital Saturday (and Hospital Sunday) Fund, 122, 1336—Royal Orthopædic Hospital, 122—Women health inspectors 243—Reformatories for inebriates, 243—Proposed institute for the deaf and dumb, 243—General Institute for the Blind, 243—Low death rate, 243—Important insurance case, 514—The proposed consultative institution, 614—Death under chloroform, 614—Staircases without handrails 615—Mason University College 744 1129 1336, 1552—The sewage farm, 744—Black Country water supply, 745—The medical school 912—Carbolic acid poisoning 912—The Revision Court and medical relief, 912—Inebriates Act 913, 1336, 1860—Poor-law guardians' troubles 913—Birmingham Clinical Board, 1129—Drink and insanity, 1129—Stratford-on-Avon Hospital 1129—Exhumation of a body, 1129—Association of General Practitioners at Birmingham, 1129—Midland Medical Society 1336—Orthopædic and Spinal Hospital, 1336—Hospital train, 1336—Lady students, 1552, 1860—Typhoid fever, 1552—Conflicting medical evidence 1860—St John Ambulance Association, 1860

Birmingham, the proposed consulting institution of the Hospital Saturday Fund, 43, 514, 1235, 1403, the professorship of physiology, 185, report of medical officer of health, 232 an insanitary area 1302, Medical and Surgical Consultative Institution, 1403
Birmingham University and its representative on the General Medical Council, 1683, medical students, past and present, annual dinner, 1786
Birmingham and District General Medical Practitioners Union, 1866
Birt, Maj C, Mediterranean fever, 701
Birth, six children at a, alleged case of, 419; nine babies at a, 1312
Birth (see also Still births)
Bishops and medicine, 1174
Bishops (see also Primate)
Bishop, Mr E S, abdominal surgery, 91
Bishop Auckland, new hospital at, 796
Bites, horse, the loss of ears through, 1572
Black Country water-supply, 745
Blacker, Dr G F, University College Hospital, 948
Blackett, Mr E J, pulmonary embolism, 278, diabetes, 1433
Blackpool, congress of the Royal Institute of Public Health in 131 753, 894
Blackwater fever, 609, 806, 1229
Bladder, the form of the, 530, hernia of the, 1158; Urethra and, Exploration of the (review), 1305, tuberculous greatly improved by hydraulic distension, 1587
Blair, Dr G M, lactation in an infant 1734
Blastomycetes pathogenic action of 108
Blind, sensory impressions in the, 104
Blind General Institute for the in Birmingham annual report, 243; Dublin Branch of the National League fo the, 516
Blinds, the colour of, 504
Blood, phosphoric acid in, detection and estimation of, 484, the entrance of oxygen into the in the lungs 530, in the heart, post mortem condition of the 782; malarial, the staining of, 889, 1041, the presence of, simulated by red colouration of the fæces 1432
Blood vessels, intracranial, innervation of, 52, corpuscles the red histology of, 530, sera agglutinative action of, 718
Blood dust or blood granules, a new constituent of the blood? 1015
Blood letting, ancient opinions with regard to, 309, the practice of, 520
Blood pressure, effects of various hypnotics on, 1, 71 researches on, 902
Blumfeld Dr J, anæsthetics, 833
Blyth, Mr W., report for St Marylebone, 232
Board of Trade, passing of a resolution to be communicated to the, 458
Board schools and diphtheria, 1549
Boarding-out *versus* cottage homes, 730
Boat race, Scottish inter-university, 58
Boghurst, William, on plague in London, 734
Bologna the Antirabic Institute of, 854
Bolton, Hospital Saturday at, 595
Bolton and district coal fields, battle of the clubs in the, 689
Bombay, jigger (an insect) in, 56, 238, 431 514; sewage disposal in, 420
Bombay plague research laboratory a report from the, 975
"Bond the usual," 816
Bond, Dr W A., report for St Olave's district, 112; difficulties with the St Olave's board of works, 852, 1112
Bond Mr C J., hydrosalpinx, 200
Bond, Dr F T., vaccination controversies, 1691
Bone, ununited fracture of in childhood, 383, 458
Bones, various lesions of, museum specimens of, 536
Bonney Dr W F, V., cœliotomy 337
Boobbyer Dr P, annual report for Nottingham, 856
Book, kissing the, 353, 853 908
Book keeping, medical 611
Books received 66, 315, 515, 813 989 1203, 1415, 1710 1868
Books recommended 68, 548, 619, 620 625, 627, 816, 922
Bordeaux Otological Congress in 1792
Boric acid in milk 112, 1222, 1617, potted meat packed in, 298
Boroughbridge Agricultural Society, tuberculosis in cattle, 175
Bosanquet, Dr W C., mediastinitis, 24
Boscombe Hospital the new, 63
Botanist, a medical, 356
Botany, A Practical Introduction to the Study of (review), 832
Boulogne meeting of the French Association for the Advancement of Science 865, 981
Boulton, Mr A. E, obituary, 1704
Bovril, analysis of 256
Bowel atresia of the, 566
Bowker, Mr C S., sewer ventilators, 116, extra uterine fœtation 718
Box, Dr C. R., poisoning by permanganate of potassium, 411
Boyd, Mr. S. the ovaries and the mammary glands, 531, 629
Brachial plexus, sarcoma of the 271
Bradburne Mr A A., camphoroxine 735
Bradbury Prof J B., sleep, sleeplessness, and hypnotics, 1, 71, 139 155 pharmacology, 293, erythrol tetra nitrate 587
Bradford and West Riding Medical Union, 176, 1322
Bradshaw's Bathing places (review), 218

Braidwood, Dr. P. M., hospital ships, 1467
Brain, hemiatrophy of the, without disturbance of intelligence or personality, 105; changes in the, produced by sunstroke, 421; bullet in the, for nine months, 599; congenital defect of the, 901; gunshot wound of the, 1508
Brain, Anatomy of the (review), 93
Brain surgery, a question in, 1417
Brain (see also Nervous System, Central)
Bramwell, Dr. B., Anæmia, &c. (review), 841; medical progress, 944
Brandy, genuine, the characteristics of, 108; various kinds, 572, 611, 952, 1307
Brath (see De Brath)
Brazil, plague in, 1254, 1397, 1783; practice in, 1865
Breach of trust, 1274, 1343
Bread, white and wholemeal, the comparative dietetic value of, 852; special, 1308
Breast, the entire, excision of, after-history of, 86
Brigham, Dr. J. K., duties of a coroner, 393
Brisbane, intercolonial medical congress at, 248
Briscoe, Mr. J. F., blood-letting, 520
Bristol: erection of a mortuary, 48; infectious hospital at Ham Green, 250; drainage, 812; University College, 812, 1124; Home for Inebriates at Brentry, 1866, 913; Hospital Sunday Fund, 940, 1786; visit of the Queen, 1322; Royal Victoria Homes for Inebriates, 1866
Bristol Hospital for Sick Children, 47; Royal Infirmary, 93, 1635; City and County Asylum, report, 121; Jubilee Convalescent Home, 474, 813, 919, 1232, 1388, 1464, 1852; General Hospital, half yearly meeting, 786; medical school, annual dinner, 1271; Royal Hospital for Children and Women, 1866
Britain (see Great Britain)
British Association, meeting at Dover: presidential address, 733, 759; grant to the Antarctic Expedition, 799; invitation to meet at Belfast, 808; review of the meeting, 845; president-elect for next year, 854; next meeting at Bradford, 854
British Columbia for Settlers (review), 162
British Congress on Tuberculosis, 1767
British Dental Association, annual meeting of Western Counties Branch, 278
British Empire and the investigation of disease, 35, 42
British Medical Association: Metropolitan Counties Branch (medical aid societies), 46; Lancashire and Cheshire Branch (annual meeting and presentation to the honorary secretary), 130, 132; South Midland Branch (annual meeting), 132; South Wales and Monmouthshire Branch (annual meeting), 132; New Zealand Branch (paper read), 207; New South Wales Branch (the *Australasian Medical Gazette*), 238; Staffordshire Branch (paper read), 655; East York and North Lincolnshire Branch (medical reform), 1401, 1542
British Medical Association, meeting at Portsmouth: representatives of THE LANCET, 319; the address in medicine, by Sir R. D. Powell, on recent advances in practical medicine, 321, 348, 376; the address in surgery, by Professor A. Ogston, on the medical services of the army and navy, 325, 349, 439, 588, 740; the presidential address, by Dr. J. Ward Cousins, on the century's progress in medicine and surgery, 348, 373; opening of the meeting, 371; notes and comments, 371, 438; entertainments and excursions, 371, 438; dinner to the members of Council and others, 371; religious services, 371; sanitary and ambulance department, 372; Continental Anglo-American Medical Society, 372; Irish Medical Schools and Graduates' Association, 372; next annual meeting to be at Ipswich, 372, 376; nomination of president-elect, 372; first general meeting, vote of thanks to Sir T. G. Stewart, speech of the mayor of Portsmouth, the London Chamber of Commerce and secret commissions, the Midwives Bill, the position of Scottish Poor-law medical officers, amendment of the Medical Acts, the Indian Medical Service, venereal disease, medical registration in India, 372, 373; second general meeting, the council and discussions at the annual meeting, medical defence, conciliation board, the representatives of corporations in the General Medical Council, 376, 377; annual dinner of the Association, 438; Roentgen ray demonstration, 438; third general meeting, the Stewart prize, 439; fourth general meeting, votes of thanks, 439; retrospect, 1841
British Medical Association, meeting at Portsmouth: proceedings in the sections, 373–386, 439–462, 518–536, 599–610; section of medicine, 377, 439, 518; section of surgery, 377, 441, 522, 599; section of obstetrics and gynæcology, 378, 444, 524, 601; section of State medicine, 379, 446, 510, 526; section of psychology, 381, 450, 528, 603; section of anatomy and physiology, 381, 529; section of pathology, 382, 452, 530, 604; section of ophthalmology, 382, 456; section of diseases of children, 383, 458, 606; section of pharmacology and therapeutics, 383, 460, 533; section of laryngology and otology, 384, 461, 534, 607; section of tropical diseases, 384, 462, 535, 608; Dr. G. Wilson on bacteriological research and preventive medicine, 372, 379, 510; Dr. J. M. Bruce on (1) medical tests for admission to the public services and (2) the prevention and remedial treatment of tuberculosis, 377; paper by Sir D. Duckworth on the medical tests for admission to the services, 377, 439; Dr. A. Haig on uric acid, 377, 440; Dr. A. P. Luff on sodium biurate, 377, 441; Dr. W. Bain on gout, 377, 441; Mr. H. T. Butlin on (1) gunshot wounds and (2) syphilis in the army and navy, 377; Col. Stevenson on gunshot wounds of the abdomen, 378, 441; Mr. R. C. Lucas on a *bullet in the skull localised by x rays*, 378, 443; Dr. W. Downie on sarcoma of the tongue, 378, 444; Mr. J. P. Bush on operations on the jaws, 378, 444; Dr. G. G. Bantock on conservative gynæcology, 378; Dr. H. Spencer on fever following delivery, 379, 444; Dr. A. Lea on puerperal septicæmia, 379, 445; Dr. Whitelocke on puerperal fever (or fever following delivery), 379, 445; Prof. M. Cameron on rupture of the uterus, 379, 446; Prof. Byers on collecting secretions from the uterine cavity for bacteriological examination, 379; Dr. E. Seaton on vaccination, 381, 446; Mr. C. Campbell on vaccination, 381, 447; Dr. E. P. Manby on meat inspection, 381, 448; Dr. S. Marsden on overcrowding in schools, 381, 448; Dr. D. Nicolson on medical opinion in lunacy cases, 381, 450; Dr. J. F. Sutherland on legislation for inebriates 381, 450; Dr. G. A. Reid on alcoholism and heredity, 381, 451; Dr. G. H. Savage on incipient cases of insanity, 381, 528; Dr. J. J. Charles on recent advances in physiology, 381, 529; Mr. S. Boyd on the ovaries and the mammary glands, 381, 529; Dr. J. F. Payne on the question of simple and specific inflammations (see erratum on p. 606), 382, 452; Mr. S. Snell on eye accidents, 382, 456; Mr. F. R. Cross on sympathetic irritation of the eye, 382, 456; Dr. A. Bronner on homatropine in asthenopia, 383, 457, 900; Dr. S. Lodge, jun., on removal of the lens in myopia, 383, 457; Mr. E. Owen on ununited fracture in childhood, 383, 458; Dr. R. Maguire on pleuritic effusions in childhood, 383, 458; Mr. H. B. Robinson on pleuritic effusions in children, 383, 459; Dr. G. F. Still on tuberculosis in childhood, 383, 459; Mr. G. Morgan on tuberculous adenitis, 383, 459; Professor J. B. Bradbury on pharmacology and the medical curriculum, 383; Dr. L. Brunton on headaches, 384; Dr. E. C. Baber on progress in rhinology, 384, 461; Dr. P. Lacroix on an apparatus for inhalations, 384; Dr. A. Bronner on formalin in rhinitis, 384; Mr R. Lake and Mr. J. Pollard on exophthalmic goitre, 384, 461; Dr. D. Grant on laryngitis, 384; Dr. L. Bar on frontal sinus empyema, 384; Dr. G. Thin on malarial fever, 384; Dr. G. F. H. Nuttall on the agency of insects in spreading disease, 386, 775; Mr. C. P. Childe on bilharzia haematobia, 386; Dr. P. Manson on filarial periodicity, 386; Surg.-Col. F. H. Welch on the prevention of syphilis, 403, 524; passing of resolutions to be communicated to the War Office, 440; Prof. W. Osler on hypertrophic cirrhosis with pigmentation of the skin, 440; Dr. J. Groves on the communication of tuberculosis, 448; Dr. J. W. H. Eyre on the diphtheria bacillus in milk, 449; Mr. J. B. James on reform in the coroner's court, 449; Mr. J. B. James on death certification, 449; Dr. W. H. Symons on disinfection, 450; Dr J. W. Washbourn on infective endocarditis, 453; Dr. G. B. Smith and Dr. J. W. Washbourn on infective sarcoma in dogs, 456; Dr. C Thomson on chorea, 456; Mr. T Collins on enophthalmos, 457; Dep.-Surg.-Gen. Cayley on visual tests in the services, 457; Mr. T. H. Bickerton on defective sight in the navy and mercantile marine, 457; Mr. J. Griffith on melanotic sarcoma, 458; Dr. J. Hinshelwood on euphthalmin, 458; Dr. Bull on a stereoscope for hyperphoria, 458; Mr. W. Griffin on hyperphoria, 458; Dr. A. Lawson on refraction errors in trachoma, 458; Dr. J. Hern on eye symptoms in hay fever, 458; Mr. K. Scott on ulceration of the eyelid, 458; passing of a resolution sent to the Board of Trade, 458; Dr. A. M Gossage and Dr. J. A. Coutts on convulsions in infancy, 459; paper by Dr. H. Jones on convulsions in children, 459; Dr. E. G. Little on night terrors in children, 460; Mr. A. H. Tubby on contracted hand and arm after infantile hemiplegia, 460; Mr. C. H. Parkinson on cough in children, 460; Dr. Cautley on ossification of parietal bones, 460; Dr. G. Herschell on a combined galvanic and faradic battery, 460; Dr. B. Yeo on intestinal antiseptics, 460; Dr. V. Harley on the excretion of aromatic sulphates, 460; Mr. C. Symonds and Dr. E. J. Moure on empyema of the frontal sinus, 461; Prof. Luc on frontal sinus empyema, 461; Dr. H. Tilley on frontal sinus empyema, 461; Dr. Ropke on an operation on the frontal sinus, 461; Dr. G. Thin on sprue, 462; Prof. C. Allbutt on the treatment of tuberculosis, 499, 518, 520, 587; Dr. W. Ewart on the treatment of heart disease, 520; Dr. H. Campbell on the chest in emphysema, 520; Mr. J. F. Briscoe on blood-letting, 520; Mr. J. L. Green on formalin in phthisis, 521; Dr. A. R. Parsons on perforated gastric ulcer, 522; Dr. W. Calwell on gastric adhesions, 522; *Dr. W. Ewart on dorsal percussion*, 522; Dr. D. W. Samways on the defence of the cardiac orifices, 522; Maj. J. D. Day on a new form of truss, 522; Prof. E. Laplace on forceps for intestinal anastomosis, 522; Dep.-Insp.-Gen. E. E. Mahon on the prevention and treatment of syphilis in the navy and army, 523; Mr. A. H. Ward on the treatment of syphilis, 524; Mr. J. L. Thomas on operations upon the Gasserian ganglion, 524; Mr. B. Sutton on the menopause, 524; Prof. Byers on amenorrhœa, 525, 553; Dr. I. Parsons on procidentia and prolapse of the uterus, 525; Mr. J. S. Nairne on colporrhaphy, 526; Dr. A. Newsholme on infection in schools, 526; Mr. J. Cantlie on decay of the teeth, 527; Mr. H. Peck on typhoid fever, 527; Mr. J. S. Nairne on the influence of standing in women's diseases, 528; Dr. A. W. Campbell on syphilis and general paralysis, 529; Dr. P. W. Macdonald and Dr. A. Davidson on congenital general paralysis, 529, 604; Mr. Cantlie on the dividing lines of the liver, 530; Prof. J. J. Charles on the entrance of oxygen into the blood, 530; Dr. G. A. Reid on acquired characters, 530; Prof. A. F. Dixon on (1) the bladder and prostate and (2) ossification of the femur, 530; Dr. J. O. W. Barratt on the structure of certain nerves, 530; Prof. R. J. Anderson on asymmetry, 530; Prof. Dixon on the taste fibres, 530; Dr. F. Ross on the red blood corpuscles, 530; Mr. J. H. Targett on renal tumours, 530; Dr. T. N. Kelynack on renal tumours, 531; Prof. W. Hutchinson on tuberculous lesions, 533; Dr. T. G. Brodie on diphtheria toxin, 533; Dr. C. G. Seligmann on the natives of New Guinea, 533; Dr. Posadas on psorospermosis, 533; Dr. H. Walsham on erythrol tetranitrate, 533; Dr. R. B. Wild on the treatment of skin diseases, 533; Mr. J. Hall-Edwards on x rays in lupus, 534; Dr. J. C. McWalter on the next pharmacopœia, 534; Mr. E. H. Willock on certain diseases of the chest, 534; Dr. H. Tilley on frontal sinus empyema, 534; Capt. W. J. Buchanan on sprue, 535; Mr. Cantlie on supra-hepatic abscess, 535; Mr. H. Rundle on varicocele, 599; Mr. L. A. Bidwell on excision of the rectum, 599; Mr. R. H. Lucy on fixing patients for any perineal operation, 599; Dr. A. H. Bampton on a bullet in the brain, 599; Mr. T. Carwardine on excision of the rectum, 599; Mr. C. Ryall on excision of the rectum, 600; Mr. J. Berry on operations for goitre, 600; Dr. A. W. Sheen on secondary thyroid growth, 600; Mr. C. A. Morton on resection of the stomach, 600; Mr. W. G. Spencer on venereal phagedæna, 601; Mr. R. Williams on uterine cancer, 601; Dr. G. E. Armstrong on gastric ulcer, 601; Mr. J. Hutchinson, jun., on the vermiform appendix, 601; Dr. M. Lawrie on cœliotomy for diseases of the uterus, 601; Dr. M. Madden on uterine cancer, 602; Dr. G. A. Reid on the difficult labour of civilised women, 602; Dr. Shaw-Mackenzie on syphilis in the diseases of women, 602; Dr. Warden on puerperal infection, 603; Dr. G. E. Shuttleworth on epileptics and imbeciles, 603; Dr. Ll. Andriezen on the treatment of mental diseases, 604; Dr. T. B. Hyslop on double consciousness, 604; Dr. H. Campbell on morbid self-assurance, 604; Dr. R. Macphail on post-operative insanity, 604; Dr. J. M. Bramwell on post-hypnotic appreciation of time, 604; Dr. W. S. Lazarus-Barlow, specimens exhibited, 604; Dr. A. C. Coles on the bacillus of influenza, 604; Dr. W. F. Phillips on the influenza throat, 605; Dr. C. P. White on carcinomatous cyst of the liver, 605; Dr. A. S. Wohlmann on the bacteriology of rheumatic fever, 605; Mr. W. H. Williams on tumours of gigantic size, 605; Dr. R. T.

Williamson on syphilitic affections of the spinal cord, 605; Mr J Langton on inguinal hernia, 606, Dr M Sympson on rickets, 607, Dr F J Poynton on cardiac overstrain, 607, Mr Heaton on splenectomy, 607, Dr J Priestley on infantile hemiplegia, 607, Dr J Horne on pachydermia laryngis, 607, Dr F Waggett on cerebellar abscess, 608, Surg-Col K Macleod on thermic fever (so-called siriasis), 608, Lieut Col C. J McCartie on heat apoplexy, 609, Staff Surg O W. Andrews on antivenene, 609, Insp.-Gen. W. H S Stalkartt on blackwater fever, 609; Capt W J Buchanan on dysentery, 609; Surg-Maj A. S Faulkner on malarial neuralgia, 610, Capt M L Hughes on undulant (Malta) fever, 610, Mr. A G R. Foulerton on streptothrix infections, 779, Prof J N Langley on motor nerves, 819, Dr. G Herschell on an apparatus for washing out the stomach, 1289

British Medical Association, meeting at Portsmouth: the annual museum, 371, 386, 462, 537, the pathological museum, 371, 536; drugs, 387, foods and food products, 462; exhibits from Haslar Hospital, 536, skiagrams from Netley Hospital, 536 skiagrams of gunshot wounds, 536; miscellaneous pathological specimens, 537, microscopic specimens, 537, sanitary appliances, disinfectants, &c, 537; surgical instruments and appliances, 538; mineral waters, beverages &c 610, publications, 611; miscellaneous exhibits, 611

British Medical Benevolent Fund, 1548
British Ophthalmic Hospital at Jerusalem, 851, 972
British Physician (review), 285
British Red Cross Committee, the Central, its work and its wants, 1312
British stoicism, 1750
British (see also Anti British)
Broadbent, Sir W H., an appeal 1548
Broadbent, Mr G H, the Manchester and Salford provident dispensaries, 1127 1334
Broadwood, Miss B, cottage nurses, 1490
Brockbank, Dr. E M, The Murmurs of Mitral Disease (review), 891
Bromide of ethyl as an anæsthetic, 540, 830
Bromide of strontium in epileptic insanity, 411, in epilepsy 512, 958
Bronchiectasis guaiacol vapour baths in, 210
Bronchitis, guaiacol carbonate and creasote carbonate in, 710, subcutaneous emphysema in 1585
Bronchus, removal of a foreign body from the, 1315
Bronner, Dr A homatropine, 383 457 960, formalin in rhinitis, 384; removal of the lens, 1358
Brooks, Dr J H, transposition of the viscera, 1513
Brown, Mr H., venereal diseases, 201
Brown, Mr. G, medical politics, 1477, medical reform, 1542
Brown, Dr A M., Alkaloidal Ætiology (review), 495
Brown, Mr W. H, dilatation of the stomach, 1017, meningitis, 1364
Brown, Mr H, Ringworm (review) 1528
Browne Mr L., outgrowths from the nasal septum 181
Browne, Sir J C., the quest of the ideal, 920, 983
Bruce Dr J M, Materia Medica (review), 96; address on (1) the medical tests for the public services and (2) the treatment of tuberculosis, 377; phthisis in training ships, 499, 521, the outlook in medicine, 801
Bruce, Dr A, case and specimens exhibited, 159, cerebellar tumour, 160
Bruce Dr H W., plague, 1087
Bruce, Dr W., medical service of the Hebrides, 1328
Brunton Dr. L, headaches 384; wounded men 1775
Brussels; conference on syphilis and venereal diseases, 237, 847, battle of the clubs, 301; questions of precedence at hospitals, 305
Brussels Medical Graduates Association, annual meeting 251
Brussels University pass list, 131
Bryant Mr T, medical at societies, 46
Buchan, Mr A, Physical Atlas (review), 1743
Buchanan Dr. G S, diphtheria, 112
Buchanan Captain W J., sprue, 535; dysentery, 609

BUDAPEST CORRESPONDENCE [illegible] —Congress for the Protection of Children, 437, 1200—Surgical treatment of exophthalmic goitre, 438—Mortality of Budapest in 1898, 1200—A new laryngoscope, 1200 — Precautions against plague, 1702—Inoculation of normal nerve substance against hydrophobia, 1702—Experiments with the diazo test, 1702—Decrease of medical students at the University of Budapest, 1702

Budd, Mr S P, obituary, 866
Bude, water supply of, 988
Buenos Ayres British Hospital, annual report, 156
Bugs, doubts as to the conveyance of disease by, 776
Bulbar paralysis, asthenic, 1110
Bulkley, Dr L D, Diseases of the Skin (review), 1103
Bullet in the skull localised by the Roentgen rays, 378, 443, in the brain for nine months, but not visible by the Roentgen rays 599
Bullet wounds, 1679,
Bullets Dum Dum, 65, small calibre, effects of 722, modern, effects of, 750, modern military, 1499, 1538
Bunch, Dr J L, fevers, 397
Bunsen, Prof Robert, the late, 505, 581
Burmah, beri beri in 910
Burn Dr G, obituary, 617
Burnley district sanatorium, 1484
Burntisland, typhoid fever at 984
Burrell, Mr. A, Clear Speaking and Good Reading (review), 415
Burroughs, Wellcome and Co, Messrs the employees of, 47, "tabloid" cascara, 756
Bury, Dr J hydronephrosis, 215
Busch, (see Zum Busch)
Bush, Mr J. P., operations on the jaws, 378, 444
Business methods, improper, 354
Bustees in Calcutta, 307, 432
Butler, Dr W, the drink habit, 808
Butler-Smythe, Mr A C, a twisted pedicle, 1438
Butlin, Mr H. T, address on (1) gunshot wounds and (2) syphilis in the army and navy, 377
Butter, margarine sold as, 174
Butts (see De Butts)
Byers, Prof, examination of uterine secretions, 379, amenorrhœa Raynaud's disease and pulmonary tuberculosis, 525, 553

C

Cabot Dr R, Serum Diagnosis of Disease (review) 30
Cadge, Mr W., unfounded report of his death, 1852
Cæcum, perforation of, operation for, 1004
Cæsarean section, the indications of, 616, cases of, 857, 1365, in a cottage 1089
Cagney Dr J, Clinical Diagnosis (review) 93
Cairo, Government School of Medicine at professor of ophthalmic surgery for the, 903
Calculi, ureteral, 205, 1644
Calcutta, sanitation in, 240, 306, 431, 592, overcrowding, 307, privies, 307, 593 bustees 307 432, water-supply 431, vital statistics, 799, plague in, report on, 1766
Caley, Dr H A, appendicitis, 1518
Calf lymph, glycerinated 40 124 133
Calmette's antivenene serum, 1438
Calwell, Dr W., gastric adhesions 522
Cambridge as a medical school 1161, 1258
Cambridge Graduates Medical Club dinner, 109
Cambridge Tuberculosis Committee 1567
Cambridge University: pass lists, 61, 131, 1709, 1785, 1865, long vacation course, 1685, various items of news 1139, 1201, elections to Fellowships, 1245
Cameron, Prof M., rupture of the uterus, 379 446
Cameron, Sir Charles and Mountjoy-square Dublin, 595
Camp Thomas 115
Campbell, Dr. Macfie, midwifery forceps 1022
Campbell, Mr C vaccination 381 447
Campbell Dr H., emphysema 520, stimulants, 1091, alcoholism 1192
Campbell, Dr A. W., general paralysis, 529
Camphor, Ilech, as a surgical dressing 1780
Camphoraline, 755
Canary Islands as a health resort 117, 430
Cancer, tuberculous tumours mistaken for, 94, the pathology of 181 193, 375; the increase of, 191, 705, the investigation of, 224, thyroid extract in, 523, the prevalence of: American views on, 580, uterine the surgical treatment of, 601; uterine the modern treatment of, 602, the rarity of, in convict prisons, 1124, in wild animals, 1194 1258, of the cervix, Cæsarean section for 1365, the investigation of, the Middlesex Hospital and, 1601
Cane (see Du Cane)
Cannabis Indica, pharmacology of, 140
Canterbury, lunatic asylum scheme at, 63
Cantlie, Mr. J., decay of the teeth 527; the liver 530; supra hepatic abscess, 635
Canton, plague in, 306
Canvassing, the evils of, 1548
Cape Colony, the Contagious Diseases Act in, 467
Capsules flexible gelatin 572
Carbolic acid, the sale of, 64, 68; in typhoid fever, 461, poisoning by, 912, plague treated with, 1589
Carbon, the assimilation of, by plants, 845
Carbon monoxide in colliery explosions 577
Carbonic acid, inhalations of, in heart disease, 520
Carcinoma of the rectum, 1663
Carcinoma uteri, hysterectomy for 1359
Carcinomatous cyst of the liver, 606
Cardiac orifices the defence of the, other than valvular, 522; overstrain, 607, thrombosis and its causes 782; symptoms in epileptoid subjects, 901, pathology 1309
Cardiff: Seamen's Hospital 41; margarine sold as butter, 174, friendly societies 202; notification of tuberculosis, 214, public health laboratory 251
Cardiff Medical School, introductory address, 1000 1015
Cardiff Infirmary and the Workmen's Compensation Act 500; wage-limit at, 867, sad plight of, 1537
Cardio vascular origin of epilepsy, 770
Carducci, Giosuè, serious illness of, 971
Carlton Mr L P, Central Nervous System (review) 345
Carlyon, Dr F H, prolapse of the rectum, 1664
Carnigen 1308
Carotid sheath, sarcoma of the 342; arteries, portions of the removal of, 342, artery, aneurysm of the 1584
Carruthers, Dr S W, insurance societies, 1714
Carter, Mr R B, acoine 1082 the reporting of the proceedings of the General Medical Council, 1617
Carter, Dr. A H, red colouration of the fæces, 1432
Carter, Mr H C, the National Telephone Company, 1259
Carwardine, Mr T, excision of the rectum, 599
Cascara sagrada, tabloids of 571, 756
Case, a deserving, 318, a sad and urgent, 1618, 1714, a puzzling 1714
Case Book for Nurses (review) 722
Castration, unilateral, for prostatic enlargement, 409
Caterpillar, the vitality of a, 1051
Cat's eye diseases of the 40
Cattle tuberculosis in 175, tested with tuberculin 249 356, 1180; oöphorectomy or ovariotomy of, 1603
Caucasus, health resorts in the, 369
Cautley, Dr, ossification of parietal bones, 460
Cavernous sinus, septic thrombosis of the, 582
Cayley, Dep.-Surg Gen, visual tests, 457
Cellulitis acute infective arthritis and, 1775
Celsus on the treatment of fevers 393
Cemetery scandal, 807
Census, the coming 168
Centenarian, death of a, 923
Centenary, the Pushkin 187
Century (see New Century)
Cerebellar tumour cases of 160, 1232, abscess, operation for 608
Cerebral complications in typhoid fever, 1535, in whooping-cough 1606
Cerebral (see also Intra-cerebral)
Cerebro-spinal meningitis without fever or retraction of neck 156
Certificates of death is it compulsory to give them? 582, the Registrar-General and 798
Certificates, lunacy magistrates fees for, 786; medical fees for 830
Certificates, medical, the giving of 193 255, in the law courts, 921
Certificates, conscientious objector 302, [illegible], 431; illegal of proficiency in medicine &c., 426, 511 557
Certification of death 449, 576 1627 coroners and the Registrar General 803, and registration, 1541, 1610
Cervello Prof., his treatment of phthisis 598
Cervical sympathetic, galvanisation of, for glaucoma, 896, resection of for glaucoma, 899
Ceylon, public health of 1793
Chaldecott, Mr J H., chloroform anæsthesia, 1062
Chalmers Dr A K, annual report for Glasgow 435, 906
Chalmers, Dr A J palmar erythema 1518
Chamberland filter [illegible]
Chambers, Mr O L, Eclipses (review), [illegible]
Champagne, Hungarian, 1707
Chance which may not recur 117 301, [illegible]
Chapman, Dr C W myxœdema, [illegible]; the vena cava 1521, [illegible]
Characters, acquired, the transmission of 520
Charing-cross Hospital, [illegible]; distribution of prizes 41, [illegible], medical

Cornwall, vaccination in, 358, 438; typhoid fever in, 919, 1232
Cornwall (see also Royal Cornwall)
Coroner, duties and responsibilities of a, 393
Coroner's court, reform in the, 449
Coroners and the Registrar General (death certification), 576, 803, the difficulties of, 793; the jurisdiction of, 1531
Corpora lutea, extract of the, in medical practice, 126
Corporate and Medical Reform Association, 426, 511, 587, 1321, 1341, 1704
Corrections, 53, 604, 1333, 1617, 1696
Corrigendum, 756
Corrosive sublimate, recovery after taking a large quantity of, 171; poisoning by, 784
Corrosive sublimate (see also Mercury)
Cottage, Cæsarean section in a, 1089
Cottage homes, boarding-out versus, 730, nurses, 1490
Cotton-seed oil as food, 294; as an adulterant, 370, the relations of, to milk and butter, 497
Coupland, Dr. S., vaccination statistics, 1399
Courtesy, a point of, 318, 394
Cousins, Dr. J. W., the century's progress in medicine and surgery, 348, 373
Coutts, Dr. J. A., convulsions in infancy, 459
Cow, the feeding, the food of, 1571, 1638
Cowan, Mr. R. H., epilepsy, 1441
Cowen, Mr. T. R. J., anti typhoid serum, 778
Cox, Dr. A., medical politics, 1403
Cox, Mr. F. H., Pocket Pharmacopœia (review), 163
Coxeter and Son, Messrs., a breach of trust, 1343
Crabbe, Mr. J. S., chloroform mask, 163
Craggs, Mr. J. G., Prince of Wales's Hospital Fund for London, 1124
Craig colony prize for research in epilepsy, 1457
Craik, Dr. R., paralysis 888
Crane, Kidd versus, 417
Cranial osteotome, a new, 1529
Cranial (see also Intracranial)
Craniometer, an improved, 123
Craniotomy, the indications of, 616
Craving for stimulants 1091
Crawshaw, Dr. S., medical organisation (or of the profession), 805 1194 1402
Creasote carbonate in bronchitis and pneumonia, 710
Creasote, &c., inhalation of, in tuberculosis, 917
Creasoted oil in diphtheria, 180
Cremation, Modern (review), 892
Crematorium suggested, in Glasgow, 746, in Aberdeen, 1263
Creolin (a disinfectant), 538
Cricket match, clerical and medical, 390
Cricketer, a medical, 1049
Crime, the imitative element in 170
Crimea, health resorts in the, 369
Criminal lunatics, the treatment of, 467, cases, exhumation in, 1533, trials recent, 1606
Criminals medical examination of, 314
Crooke, Dr. G. F., the widow of, appeal on behalf of 136, 255, 909
Crookes, Sir William medal awarded to, 110
Croom, Dr. H., mistaken sex, 23
Cropper, Dr. J., perineal fistula, 341
Crosby, Dr. H., life assurance 1858
Cross, Mr. F. R., myopia, 17, 27, contracted socket, 159, sympathetic irritation of the eye, 382, 456
Crossley, Sir Saville, the Prince of Wales's Hospital Fund for London 300 1124
Croup in whooping-cough 354
Cryptorchids virility of, 785
Cuba, sanitation in, 127, 851; the medical profession in, 370, foreign medical men in, 1634
Cubitt, Mr. G. R., obituary, 1704,
Cullinan, Dr. N., epilepsy 958
Cumberland and Westmorland Counties Asylum annual report 361
Cuming, Prof. J., the late, 695 746, obituary, 752
Cuming, Mr. R. W., horse bites, 1572
Cup for feeding the insane 31
Cut throat, cases of 1164
Cyst: dermoid, 29, ovarian, 29, 83, retroperitoneal, 215; papillomatous, of the ovary, 400; carcinomatous, of the liver, 605

D

Da Costa, Dr. J. C., Modern Surgery (review), 1527
Dalrwett, Mr. H. J., diseases of the ear, 721
Dairy Chemistry (review), 1742
Dalgliesh, Dr. J. W., syphilitic disease of the stomach 410
Dalkeith, typhoid fever in, 954
Dalton, Mr. G., eucaine 318
Dalton (see also John Dalton's)
Dangerous Trades, report of the Committee on, 733, 795, 844
Dangers of a bright bicycle light, 40; of a "bicycle gymkhana," 583; of the kinematograph, 870; of London streets, 1572
Daniell, Dr. G. H. S., operating chemists, 1572
Daniels, Dr. C., the post mortem changes in the lungs, 961
Darwin, The Gospel according to (review), 723
Das, Kedarnath, M.D., dermatitis exfoliativa, 268
Davidson, Dr. A. D., Syllabus of Materia Medica (review), 163
Davidson, Dr. A., general paralysis, 529
Davidson, Dr. J. T. R., music in medicine, 1159
Davies, Mr. H. N., obituary, 123
Davies, Rev. W. G., Concrete Revealings of the Mind (review), 723
Davies, Dr. C. A., Consumption (review), 891
Day, Mr. E. L., dislocation of the shoulder, 1733
Day, Major J. D., a new truss, 522, 893
Deaf, schools for the, 816, 869, 992
Deaf and dumb proposed institute for the, in Birmingham, 243
Deaf mutes, a picnic of, discussion on lip-reading and finger spelling at 56
Dean, Dr. G., tetanus toxin, 1297, diphtheria, 1298
Deanesly, Dr. E., pancreatitis, 26, renal surgery, 1150
Death-causing vehicles, 255
Death certificates, is it compulsory to give them? 582, the Registrar General and, 798
Death certification, 449, 1627; coroners and the Registrar-General, 576 803, and registration, 1541, 1610
Death rate, calculation and alleged fallacies of the, 212
Death (see also Ante mortem, Post mortem)
Deaths, weekly summary of, 66, 134, 192, 254, 316, 393 468, 546 618, 697, 754, 814, 868, 919, 990, 1050 1140, 1204, 1272, 1342, 1416, 1483, 1570, 1712, 1788, 1869
Deaths of eminent foreign medical men 62, 250, 313 464 617, 752, 866, 918 1136, 1704, 1191, 1270, 1766, 1865
Deaths announced elsewhere than either under the foregoing, or under Services or under OBITUARY, 63, 227, 244, 310 368, 501, 505, 518, 544, 581, 583, 695, 746, 854, 865, 901, 903 910, 913
De Ath, Mr. G. H., patriotism, 1402
De Brath, Mr. S., Over pressure (review), 1380
De Butts, Dr. S. B., obituary, 917
Decomposition, rapid ante-mortem and post mortem, 1180
Defries, Mr. Wolf, filtration, 803
Degrees (see medical degrees)
Delépine, Prof. S., post graduate lectures by, 36
Delirium tremens, clinical and etiological aspects of, 169
Delivery, fever following, serum therapy in, 379, 444, 445
De Merle, Mr. H., English French Dictionary of Medical Terms (review), 722
Demographist, an eighteenth-century, 502
Demoniacal possession, alleged, 731
Demoor, Mons. Jean, Evolution by Atrophy (review), 346
Denmark, medical ethics in, 755
Dental conference in St. Petersburg 369; diploma, alleged fraudulent obtaining of a, 318, 394, 470, surgery, instruction and diplomas in, 687-691, student, the registration of the, as a medical student, 908, profession and the National Telephone Company, 1259, and medical professions, 1637, appointments at general hospitals, 1749 1858, surgery and the practice of dentistry, 1829
Dental Microscopy (review), 783, Surgeon's Daily Diary (review), 1678
Dental Hospital of London, prize distribution, 110, the Walker scholarship, 423, annual dinner, 1392, 1602, the new hospital, 1602
Dental (see also British Dental)
Derby Borough Asylum report, 121, County Asylum, colitis at, 850
Derbyshire, the water supplies of, 970
Dermatitis exfoliativa neonatorum, 263
Dermatology, An Introduction to (review), 787
Dermoid cyst simulating a bladder tumour, 29
De Schweinitz, Dr. G. E., Diseases of the Eye, Ear, &c. (review), 346
Destructors in Belfast, 310
Devis, Mr. H., presentation to, 857
Devon and Exeter Hospital, regulations for admittance, 352, County Asylum, extension of, 919; Queen Victoria Commemoration Fund, 1635
Devon (see also North Devon, South Devon)
Devonport, freemanship of, bestowal of the, 363, new workhouse infirmary for, 867; mortuary for, 1786
Dewar, Prof. James solid hydrogen, 845, 1836
Dewsbury, insanitary houses in, 223, 1031
Dharwar Plague Hospital, Report on the (review), 573
Diabetes and eye strain, 136; in a child, 144, peripheral neuritis and loss of knee-jerk in, 203, peripheral neuritis and retinal changes in, 816, mellitus, acute, supervening in a case of diabetes insipidus, 1433, 1616; lipæmia in, 1456; very acute, in a boy, 1735
Diabetic coma, saline transfusion in, 564, subjects, the diet of, 1572
Diagnosis, a case for, 1141, Practical (review), 1172; Differential, with Clinical Memoranda (review), 1379; mistakes in, 1457
Diarrhœa, summer, the prevention of, 168; in Manchester, 744, its probable cause, 1090
Diarrhœa, chronic, the treatment of, 197 (see also Psilosis), or gastro-enteritis, 971; epidemic, 1493
Dick, Dr. R., annual report for Hunter River (Combined Sanitary District), 517, 585
Dick, Mr. J., the late, 901, 966
Dickinson, Dr. W. H., treatment of disease, 115, medicine, old and new 940
Dickinson, Mr. W. G., the Royal College of Surgeons of England, 236
Dictionary of National Biography (review), 160 568; of Medical Terms, English-French (review), 722
Diet, articles of, iodine in, 1030, of diabetic subjects, 1572
Diet, School, The Essentials of (review), 1527
Dietaries, prison, in Scotland, 1117
Dietetic value of white and wholemeal bread, 852
Dinner to Prof. Ehrlich, 247, to the Council of the British Medical Association, 371, to the Otological Congress, 503; to the foreign guests of the Otological Congress, 541; given by the Dutch Gynæcological Society, 541
Dinners:—Epidemiological Society, 35 42; West London Hospital, 38, 1271, British Postal Medical Officers, 44; Irish Medical Association, 58, Glasgow University Club (London), 106, 1699, Cambridge Graduates' Medical Club, 109, Medico-Psychological Association, 228, Brussels Medical Graduates' Association, 251, Western Counties Branch of the British Dental Association, 278, Edinburgh University Club, 356, 1393, British Medical Association, 438; King's College, 482, London Hospital, 903, Durham University Medical Graduates' Association, 910, the Medical Schools 973; Charing-cross Hospital, 1259, Bristol Medical School, 1271, Dental Hospital of London, 1392, 1602, Royal Medical and Chirurgical Society, 1394, 1455, Association of Public Vaccinators 1530, 1539, Harveian Society of London, 1535, British Gynæcological Society, 1536, Irish Medical Schools and Graduates Association, 1567, Birmingham medical students past and present, 1786
Dinners, Christmas for crippled children, 1391, 1403
Diphtheria, tracheotomy in, 79, 180, the diagnosis of, a medical officer of health on, 471, 548, nasal unilateral, 725, the Manchester Ship Canal and, 934, treated with antidiphtheritic serum, 1062, Board schools and, 1389, a "remedy" for, 1789, mediastinal emphysema in, 1808
Diphtheria in Longton and Fenton, 48, in Tunbridge Wells, 112, in the Strand district, 112, in London, 132, 466, 958, in South Wales, 1586
Diphtheria antitoxin the presence of, in normal human serum, and in the serum of certain normal horses, 334, statistics of, 723
Diphtheria bacillus in milk, 449; patient, resistance to the removal of a, 869, immunity, 1298
Diphtheria-like organism found in pigeons, 1296
Diphtheritic paralysis in cases treated with antitoxin 661
Diphtheritic (?) angina and vaginitis, 1295
Diphtheritic (see also Anti-diphtheritic)
Diploma, alleged fraudulent obtaining of a, 318
Disciplines, the two, in education, 536
Disclaimer, 181
Disease, investigation of the British empire and 35, 42, soil and 3[illegible], insects and 3[illegible]; oysters and, 1382, local and constitutional, 1394, rigors in, 1425
Disease, Serum Diagnosis of (review), 31, The Bacteriological, Clinical and Microscopical Evidence of (review) 95
Diseases, deep the superficial treatment of, [illegible], 115, an eighteenth century nomenclature of, [illegible]
Disinfectants, exhibition of, 537
Disinfection by burning sulphur and formalin, 112; of articles finally injured by steam, 4[illegible]0
Dislocation of the knee in infants from muscular action 1491; between the atlas and

axis, 1514; edgewise, of the patella, 1587; of the shoulder, involuntary reduction of, 1733
Dislocation (see also Fracture-Dislocation)
Dispensary abuse in New York, 127
Dispensing by medical men, 966, 1051
Dissection of the Human Body, Directory of the (review), 1306
Distoma heterophyes in a living patient, 888
Dixon, Mr. H. G., the disunited profession, 68
Dixon, Prof., taste fibres, 530, form of the bladder, 530
Dobson, Dr. L., an appeal, 1616, 1790, 1870
"Doctor," the word, 619
Doctor, The (a novel) (review), 1597
"Doctoring by contract," 573, 790
Dodo, The Little Panjandrum's (review), 1744
Dodsworth, Mr. F. C., presentation to, 465
Dogs, infective sarcoma in, 456; the muzzling order for, in Ireland, 746, and the London County Council, 1318
Dogs, &c., lethal chamber for, 855
Dollis Hill, North London, 849
Domestic, Hygiene (review), 163; medicine, 1174
Domestic servant question, medical aspects of the, 1025
Donegal guardians and the Local Government Board, 914
Dornoch, fever hospital for, 984
Dorsal percussion, 261, 522
Dorset County Asylum, annual report, 586
Dorsetshire, lunacy in, 423
Double consciousness, case of, 354
Douty, Dr. E. H., aneurysm, 1584
Dover, meeting of the British Association at, 733, 759, 799, 803, 845
Down district asylum, annual report, 122; new wing, 186
Down Brothers, Messrs., trephining apparatus, 256
Downie, Dr. W., sarcoma of the tongue, 378, 444; coin in the larynx, 1018
Dowsing Radiant Heat Company, 354, 538
Doyen, Dr., Kinematograph demonstration, 543; fibro-myomata, 614; and Maitre Labori, 746
Dr. L., death certification, 803
domestic, at Surbiton, 291; the main, of London, 1536
rake, Mr. D. J., the Mountain Copper Company, 1790
Dress materials, mineral substances in, 1186
Dreyfus case, 507, 746, 797, 865
Drink, the sale of, to young children, 729
Drink, morphinism, and the medical profession, 1393
Drink habit, heredity and the, 259, 908
Drinking water, sterilisation of, 866
Drought, the, 575; in Wales, 582
Druggist and his medical attendant, 1414
Druggists, prosecutions of, 794
Drugs, exhibition of, 387
Drugs (see also Food and Drugs, Plants)
Drunkards, habitual, New South Wales and, 224
Drysdale, Dr. C. R., syphilis and venereal diseases, 237; New Zealand, 1695
Dual rôle, 1273
Duane, Dr. A., Ophthalmology (review), 282
Dublin: Richmond Hospital, 58, Cecilia street Medical School, 123; proposed bacteriological laboratory, 124, 133, water-supply of Rathmines, 245; public health, 367; infectious hospital accommodation, 596; infectious disease, 808, 864; army medical department, 864; St. Vincent's Hospital, 864, proposed sanitary improvements, 914; Cork-street Fever Hospital, 914; Forster Green Hospital for Consumption, 914; typhoid fever, 934, 1469, 1551, 1697, 1778, 1859; commencement of the medical session, 985; Meath Hospital, introductory address, 1003; measles, 1469, 1551, 1697, 1778, 1859
Dublin Corporation (Boundaries) Bill, 185, 245, 310; Journal of Medical Science (review), 284; Sanitary Association and Mountjoy-square, 595; University Biological Association, 1603
Du Cane, Dr. E., breach of trust, 1274
Duckworth, Sir D., medical tests for the services, 377, 439; rigors, 1425
Dudfield, Dr. O., annual report for Kensington, 976
Duel between medical men, 363
Dufferin, the Countess of, her Fund, 849
Duffett, Mr. H. A., castration, 409
Dukes, Dr. C., School Diet (review), 1527
Dulness of various regions (see Dorsal percussion)
Dum-Dum bullet, 65
Duncan, Dr. J., the late, 695; obituary, 752
Dunn, Mr. P., a new ophthalmoscope, 1382; wounds of the ciliary region, 1575
Dunn, Mr. L. A., carcinoma of the rectum, 1663
Duodenal ulcer, 215; perforating, treatment of, 1106
Durck, Dr. H., Histologie (review), 1818
Durham county, medical report for, 298; sanatoria, 1635
Durham University: nomination to the Royal Army Medical Corps, 566; pass lists, 812, 866, 918, 987; Medical Graduates' Association, annual meeting, 910
Durham University (see also Medical politics)
Dust, diseases caused by, 844
Dutch navy, the health of the, 1039
Duty, what is my? 1489
Duxhurst Inebriate Reformatory, 753
Dwelling-houses (review), 163
Dylissia (a toilet cream), 1307
Dymock, Mr. T. V., Royal Mineral Water Hospital, Bath, 1257
Dysentery, terminal, 609
Dysentery and abscess of the liver, 749
Dyspepsia, chronic, cotton-seed oil in, 294
Dyspepsia, gastric adhesions as a cause of, 522

E

Eales, Mr. H., rupture of the sclera, 412
Ear, diseases of the, Indian remedies for, 781
Ear, &c., Diseases of the, American Text-book of (review), 346
Ear diseases, adenoids in, 539
Ear (see also Middle ear, Hearing power, Auditory meatus, Otitis, Stapes, Otology)
Earle, Mr. E. R. O., intestinal obstruction, 275
Earle, Capt. H. M., rupture of the uterus, 279; Cæsarean section, 1365
Earle, Dr. E. R. C., cut throat, 1164
Ears, the loss of, through horse bites, 1572
East Suburban Medical Protection Society, 67, 111
East Sussex County Asylum annual report, 230
Eatwell, Surg.-Maj., W. C. E., the late, 737
Eberth, Prof. D. C. J., Microscopische Technik, &c. (review), 1381
Echinococcus of the liver, 126
Eclampsia, injection of saline fluid in, 28; puerperal, a theory of, 158
Eclipses, The Story of (review), 1306
Ecthol, 571
Ectopic gestation, 1332
Eden, Dr. T. W., quackery, 1350
Edinburgh: prevention of tuberculosis, 57; the Royal Society, 123, 244; public health, 863; health lectures, 1337; Sivewright, medical mission to Pretoria, 1407
Edinburgh Royal Infirmary: feuds among the resident medical officers, 101; appointment of assistant physician, 244; death of the superintendent, 854, 857, 913; a legacy, 913; a contribution obtained by deductions from workmen's wages, 913; appointment of superintendent, 1619
Edinburgh University: pass lists, 131, 389, 465, 1200; graduation ceremony, 366; prosecution of a fraudulent examiner, 367; courses on physiology, 812; meeting of the General Council, 1263; the Lord Rector, 1137; examination statistics, 1619
Edinburgh University Club (London), dinners of the, 356, 1393
Edinburgh Medical Journal (review), 30, 284, 570
Edinburgh (see also Royal Colleges, Royal (Edinburgh)
Edinger, Prof. Ludwig, Central Nervous System (review), 345
Edmonton, sewage disposal at, 420
Edmunds, Dr. J., annual report for St. James, Westminster, 906; chloroform anæsthesia, 921; chloroform administration, 1205
Education, physical, in the United States, 517
Education, the two disciplines in, 936
Education, Some Health Aspects of (review), 414; Physical, The Elements of (review), 414
Edwards, Mr. F. W., accommodation for a phthisical patient, 256
Edwards, Mr. P., curative powers claimed by, 815

EGYPT, CORRESPONDENCE FROM.—Plague in Alexandria, 60, 593, 748—Sanitary law, 61—Soudan law, 61—International quarantine, 61—Infectious diseases, 61—The Greco-Roman Museum, 748—Dysentery and abscess of the liver, 749—Troops in the Soudan, 749—The Nile flood, 915—The plague, 916—Regulations for prostitutes, 916—Public health, 916—Prison regulations, 1134—The French occupation of Egypt, 1134—Public works report, 1135—Quarantine and the Mecca Pilgrimages, 1703—Preparations for the season, 1703—Cairo to Khartoum, 1703—Helouan baths and hotels, 1703

Egypt: fanciful picture of the conscription, 49; plague, 56, 60, 169; ancient otology, 473; as a health resort (or health resorts in), 1241, 1250; discomforts in connexion with the journey to and from, 1776
Egypt (see also Cairo, Nile, Tor, Suez)
Ehrlich, Prof., dinner to, 247
Eierstocke und Nebeneierstöcke, Die Krankheiten der (review), 1595
Electric currents in arthritis, 59; light in Marylebone, 1750; current as a cause of fire, 1753
Electrical exhibition destroyed by fire, 187; illumination of the uterus, 619, 756
Electricity, medical, at the Boulogne Congress, 898
Electricity, Therapeutic, and Practical Muscle-testing (review), 1818
Electro-motor, osteotome worked by an, 1529
Electro-neurotone, 843
Electro-therapeutic Association, the American, annual meeting, 357
Elephantiasis scroti complicated by hernia, 832
Elgood, Dr. C., rickets, 487
Elliott, Dr. William Moore (Donegal), the late, 310
Elliott, Dr. William Moore (West Africa), elephantiasis scroti, 832
Ellis, Mr. Havelock, the writings of, 170
Ellison, Dr. W. A., accident to, 505
Elmslie, Dr. W. A., Among the Wild Ngoni (review), 414
Embolism, pulmonary, following abdominal operation, 276
Embryology of Invertebrates (review), 723
Emphysema, the chest in, 520; mechanical treatment of, 534; subcutaneous, in bronchitis, 1585; mediastinal, in diphtheria, 1808
Emphysematous gangrene, case of, 1229
Employer's liability, a question of, 255
Empyema of the frontal sinus, 461, 534
Encephalitis in the newly-born, due to infection from the umbilical cord, 1030
Encephalitis (see also Polio-encephalitis)
Encyclopædia Medica (review), 721
Endocarditis, infective, microbic pathology of, 323, 453, anti-streptococcic serum in, 1225
England, the medical profession in, and Indian medical reform, 300; post-graduate instruction in, 691; leprosy in, 778; the first epileptic home in, 1028
England, the West of, prevention of tuberculosis in, 176
English districts, comparative mortality of, 1421, lager beer, 1462
English speaking consultant in Italy, 1386
Englishwoman's Yearbook (review), 1678
Enophthalmos, 457
Enteric fever, inoculation against, 182, 433; oysters and, 296; Eberth's bacillus in the meninges in, 369; anti-typhoid serum in, 778; Pasteur filtration and, 803; cockle borne, 1109
Enteric fever in India, 182, 495; in Birmingham, 232, in the European army in India, 429, 739; among British officers in India, 806; among the Royal Irish Constabulary, 808, 864; in Gainsborough, 855; in Nottingham, 855, in London, 1452
Enteritis (see Gastro enteritis)
Enterocele, partial, 214
Epidermis scales, dried, skin-grafting with, 793
Epididymis, tuberculous disease of the, 1811
Epiglottis, the anterior surface of the, abscess on, 1457
Epilepsy following fracture of the skull, operation for, 207; pure psychical, 290; bromide of strontium in, 512, 958; the "Viavi" treatment of, 755; cardio vascular origin of, 770; traumatic, cases of, 1441; research in, Craig Colony prize for, 1457
Epilepsy, epileptic vertigo, and hystero epilepsy, the temperature and pulse in, 579
Epilepsy and Paralysis, Hospital for, annual meeting, 190
Epileptic children, legislation relative to, 64; certification of, 391
Epileptic insanity, bromide of strontium in, 411; home, the first, in England, 1028
Epileptics, homes for, 63; muscular hypotonia in, 148; notification of, 394; the treatment of, 603
Epileptics, do they recover? 577
Epileptoid symptoms in alcoholic subjects, 901
Epinephrin, the nature and properties of, 1313
Epistaxis due to a leech, 785, 858
Epithelial cells of the intestine, the structure of the, 1246
Epithelioma of the conjunctiva, 719
Epithelioma (?) of the vulva, 957
Epsom College, 104, 351, 357, 1317
Errata, 182, 308, 606, 1205, 1344, 1569, 1696
Errata (see also Corrections, Corrigendum)
Erskine, Dep. Surg.-Gen. J. L., the late, 737
Eructations, "nervous," and skiagraphy, 732
Erysipelas, treatment of, 829
Erythema, symmetrical palmar, 1514, 1696
Erythrol tetranitrate, cases treated with, 533, 587
Essays and Nature Studies with Lectures (review), 842
Ether, anæsthetic, of inferior quality, 493

Ether waves accompanying the Roentgen rays and destructive to animal tissues, 474, 534
Ethers, various, physiological action of, 5
Ethical difficulty in poor law, 1530
Ethics medical, congress on, 240, 1391; a question in, 619; geography of, 755, 1418; in high places, 922
Ethmoidal cells, anatomy of the, 611
Ethyl, bromide of, as an anæsthetic, 540, 850
Etiquette, points of, 756; professional, 1389, 1489; a question of, 1637
Eucaine (and *eucaine β*) as a local anæsthetic, 194, 318, 552
Eucryl (a disinfectant), 537
Euphthalmin, a new mydriatic, 458
Eurich, Dr., tuberculous tumours, 94
Europe, extension of plague to, 288; Southern, *anti-British feeling in*, 1106
Evensen, Dr. Hans, alcoholism, 793
Everard, Surg.-Maj. F. D'Arcy, the late, 430
Evidence, expert, in France, 246
Evolution by *Atrophy in Biology and Sociology* (review), 346
Evolutionary standpoint, pedal malformation *from an*, 1013
Ewart, Dr. W., diphtheria, 180, 1808; rheumatism, 237; dorsal percussion, 261, 622; inhalations of carbonic acid, 520; vomiting *relieved by laparotomy*, 1155
Exalgine, poisoning by, 890
Exeter: Hospital Sunday Fund, 132; typhoid fever, 867, 963; West of England Eye Infirmary, 1726
Exhumation in criminal cases, 1533
Exophthalmic goitre, cured by removal of one lobe of the thyroid, 384, 461; iodoform in, 516; bile in, 555
Exophthalmos pulsans, the treatment of, 438
Expert evidence in France, 246
Extension apparatus, the O'Connor patent, 539
Extra-uterine gestation, case of, 29; fibroid, 718; Pregnancy (review), 1172
"Ex votos," medical, in ancient Greece, 422
Eye, the cat's, diseases of, 40; tuberculous and syphilitic diseases of the, 145; lens of the, removal of, in myopia (or high myopia), 155, 383, 457, 1358; contracted socket of the, plastic operation for, 159; orbit of the, wound of the, followed by meningitis, 159; various diseases of the, glass models of, 285, 611; one sympathetic irritation in connexion with injuries to, 382, 456; sclera of the, subconjunctival rupture of the, with retroflexion of the iris, 412
Eye, &c., *Diseases of the, American Text-book* of (review), 346
Eye strain, diabetes and, 136; accidents, the prevention of, 382; protectors, 382; symptoms in hay fever, 458
Eye (see also Chromoscope, Retinoscopy)
Eyelid, melanotic sarcoma of the, 458; ulceration of the, 458
Eyelids, both, drooping of, operation for, 1363
Eyes, myopic, operative treatment of, 17, 27; sensori-motor palsies of *the*, 1604
Eyesight of school children, 1340
Eyesight, Defective, its Relief by Glasses (review), 217
Eyre, Dr. J. W. H., diphtheria bacillus, 449; *anti-pneumococcic serum*, 1297

F

Face, sensori-motor palsies of the, 1604
Face presentation, mento-posterior, 158
Fæces, red colouration of the, simulating the presence of blood, 1432
Falla, Mr. W., hernia, 1513
Falmouth, beri-beri at, 132; water-supply, 737, 1002; typhoid fever, 812, 867, 943
Family, a large, 300
Famine in Russia, 187, 811
Farkas, Dr. Eugène, the physician in Shakespeare, 1789
Farmer, Mr. J. B., Botany (review), 892
Farmer's Year (review), 1676
Farrow, G. E., The Little Panjandrum's Dodo (review), 1744
Fathers, as our, have told us, 793
Fatigue, the influence of, on the structure of the nerve-cells, 1087
Faulkner, Surg.-Maj. A. S., malarial neuralgia, 610
Fees, a question of, 193; of medical witnesses, 417
Fees, medical, Poor-law guardians and, 245; under the Poor-law, 278; *various scales of, in* Ireland, 307; actions for the recovery of, 466, 667; in Alsace-Lorraine, 619; for lunacy certificates, 830; for assisting at an amputation, 914; for attendance on a medical man, 921; a county-court judge on, 1723
Fees, vaccination, 64; lunacy, action for the *recovery of*, 313; *magistrates, for lunacy* certificates, 756; lunacy, who pays? 1125, 1193; lunacy, a question of, 1775
Female quack fined, 186; health visitors (or sanitary inspectors), 232, 233, 243
Femoral hernia, the sac of a, hydrocele of, 157, 710
Femoral hernia following hypostatic pneumonia, 278; double strangulated, 1513
Femoral thrombosis after cœliotomy, 340
Femur, gummatous disease around the, 962
Fenton, diphtheria in, 48
Fenwick, Dr. P. C., jaundice, 1296
Fergusson, Dr. W. B., dislocation of the spine, 88
Fermentation, the Pfaudler vacuum system of, 1104
Ferments, The Soluble, and Fermentation (review), 1237
Fever following delivery, serum therapy in, 379, 444, 445
Fevers, anomalous, 321; Indian (review), 1744
Fevers, some ancient methods of treating, 397
Fibroid, extra-uterine, 718
Fibroma, multiple, 492, 1086
Fibro-myomata, the surgical treatment of, 614, 615
Filarial metamorphoses in the mosquito, 171; periodicity, 386
Filter, the Chamberland, 363
Filtration (see Pasteur filtration)
Finger, *needle-point in the*, 1438
Fingers (see Acro-arthritis)
Finland as a health resort, 419
Fire, outbreaks of, in cold weather, 1686; electric current as a cause of, 1753
First-aid, the literature of, 1571
First Aid, the Editor of, horse ambulances, 1696
Firth, Dr. J. L., sarcoma of the thyroid, 667
Fish, toxic effect of sulphones on, 74
Fish powder, 1307
Fishes, nine, delivery of a woman of, 1312
Fistula, perineal, suprapubic drainage in, 344
Fitzgerald, Mr. J., Pyorrhœa Alveolaris (review), 788
Flat foot, operation for, serious results of, 125
Flemming, Mr. C., achondroplasia, 548
Fletcher, Dr. W. W. E., diphtheria, 48
Flies as disseminators of disease, 386, 776
Flies (see also Tsetse fly)
Floor polishes, 638
Flora of Kent (review), 723
Flour, alum in, dispute as to, 861
Flower, Sir W. H., obituary, 128
Fluoroscope in medicine, 36
Fœtal pelvis, sexual differences of the, 157; anomalies, 837, 1663
Fœtus, hydrocephalic, 489
Fœtus, arm of the, entangled in the midwifery forceps, 490; a male, extraordinary development of the genital organs in, 1587
Fog, the *recent*, 1183
Fogo, Surg.-Gen. J. M. S., the late, 907
Folkestone, Notes on (review), 570
Food preservatives and colouring matters in, 173, 252, 423, 497, 544, 1394, 1434, 1568, 1786, 1868; wholesale poisoning by, 290; *unwholesome, seizures of*, 293, 298; chemical preservatives in, the influence on health of, 1427, 1577; of the feeding cow, 1571, 1638
Food and Drugs (Sale of) Act (1900), 1389
Food and Drugs Act and the new London Bill, 35; *prosecutions under the*, 174, 370, 794, 812
Food and Drugs (Sale of) Bill, the new, 37, 103, 133, 253, 289, 314, 390, 544
Food and water-supply, report of the Local Government Board on, 1292
Food preservatives, threatened prosecutions for using, 112; *adulteration*, 370
Food (see also Diet)
Foods, infant, and scurvy rickets, 1181, 1256, 1330
Foods and food products, exhibition of, 462
Food poisoning, gastro-enteritis due to, 1223
Forbes, Mr. Athol, A Son of Rimmon (review), 1103
Forbes Leslie, Dr. W., typhoid fever of *malarial countries*, 1153
Forceps, midwifery, delivery by, accidents in, 29, 490; as used and abused, 1021
Forceps for intestinal anastomosis, 522; ovum, improved, 1104
Foreign body in the rectum, 278; in the larynx, 1018; in the bronchus, 1315
Foreign Press Association in London, 1753
Forensic medicine, 1827
Forensic medicine, Roentgen rays and, 1682
Formaldehyde in tuberculosis, 583
Formalin, disinfection by, 112; in atrophic rhinitis, 364; in phthisis, 521; anatomical preparations in, 637; in tuberculosis, 747; as a milk preservative, 1282, 1617
Formalin inhalation in phthisis, 194
Ford, Mr. G. S., sterilisation of milk, 238
Foster, Sir M., Claude Bernard (review), 217; growth of science, 733, 759; Physiology and Histology (review), 1240
Foulerton, Mr. A. G. R., blastomycetes, 108; streptothrix infections, 773; preservatives in food, 1427, 1577
Foulis, Dr., the testicle, 160
Fowler, Dr. J. K., pulmonary tuberculosis, 399, 1366
Fous (les) sont plus nuisibles que les méchants, 1789
Fox, Dr. R. H., endocarditis, 1225
Foxwell, Dr. A., heart murmurs, 359, 1209
Foy, Dr. G., the word "doctor," 619
Fracture, ununited, in childhood, 383, 458; multiple, case of, 1440
Fracture-dislocation of the spine, 477
Frain, Madame, the case of, 1540
France, medical unions in, 239; naval and military medical services of, 329; post-graduate instruction in, 692
France or French (see also PARIS, CORRESPONDENCE FROM)
Francken, Dr. W., Scheveningen (review), 284
Frankland, Sir E., the late, 601
Fraser, Mr. C. L., tetanus, 553
Freemasonry, 1138, 1710
Freemasons, medical, an appeal to, 870
French view of the Indian medical service, 114; soldiers, medical history sheets for, 300; naval surgeon, official testimonial of "satisfaction" given to, 300; army, typhoid fever in the, 363; Dictionary of Medical Terms (review), 722; Association for the *Advancement of Science*, 865, 898
French Academy of Medicine (see Medical Societies)
French, Judge, on medical fees, 1789
Freyer, Mr. P. J., stone in the ureter, 205
Friedlaender, Prof. Dr. Carl, Mikroscopische Technik (review), 1381
Friendly societies; the medical profession and the, 202
Friendly societies (see also Conciliation board)
Frontal sinus, chronic empyema of the, 461, 534; anatomy of the, 611
Frost, Mr. W. A., myopia, 155
Fry, Sir Edward (a judge), on secret com*missions*, 725, 793
Fry (see also Herbert Fry's)
Fry's Law of Vaccination (review), 218
Fuchs, Dr. Ernest, Ophthalmology (review), 282
Fuller, Dr. A., South Africa (review), 163
Fungi, edible, 969
Fungus culture against locusts, 514
Furth, Dr. Karl, an advertisement, 1790, 1870

G

Gainsborough, enteric fever in, 855
Gairdner, Sir William T., K.C.B., guest of the Glasgow University Club, 106; address at Birmingham on the two disciplines in education, 744, 836
Galeotti, Dr., on Prof. Lustig's anti-plague serum, 303
Gall-bladder, supposed perforation of the, [illegible]
Gall-stones, *ball-valve action of, in the common bile-duct*, 1247
Galvanic and faradic battery, a new combined, 460, 539; a new combination, 573
Galvanism in gout, 38
Ganglion, the Gasserian, operations on the, 524
Gangrene, pulmonary, operation for, 125; emphysematous, case of, 1229; complicated by glycosuria, 1730
Garbage mongers, 293, 1454
Garden (see Chelsea Physic Garden)
Gardening, Amateur (review), 213
Gardner, Surg.-Maj. H. G., army medical officers, 1258
Garstang, Dr. W., *obituary*, 1126
Gas (see Coal gas, Water gas)
Gasserian ganglion, operations on the, 524
Gastric adhesions as a cause of dyspepsia, 522; obstruction due to pressure of an aneurysm, 1155
Gastric Methods, Modern (review), 1677
Gastric ulcer, hæmorrhage from a, the surgical treatment of, 601
Gastric ulcer, perforated, operation for, 45[illegible], 1091; in a man, 483; diagnosis and treatment of, 522; treatment of, 1106; pyo-pneumothorax from, 1255
Gastro-enteritis, Marlborough, 971; an epidemic of, 1223
Geburtshülflichen Diagnostik und Therapie, Atlas der (review), 1173
Gelatin, subcutaneous injection of, in aneurysm, 795, 855
Gelatin capsules, *flexible*, 572
General Medical Council: penal business, 31; medical aid societies (or associations), 43, [illegible], 426, 548, 673, 790; Hunter *versus* Clare, 50, 426, 1040; the recent meeting, 101; proposed board of conciliation, 202, 426, [illegible]; direct representation, 373; the election of the representatives of the medical corporations, 377; structural alterations at the offices, 473; report by Mr. J. Horsley to the registered practitioners of England and Wales, [illegible]

511; finances of the Irish Branch Council,
512; medical reform, 513; unqualified assist-
ants, 548; regulations for registration of
students, 628; the Medical Register, 1032,
1041; conference at Newcastle attended by
the Direct Representatives for England and
Wales, 1312, 1395, 1403, 1474; meetings of
the East York and North Lincolnshire
Branch of the British Medical Association,
1401, 1542, 1563; the representative of the
Society of Apothecaries of London, 1550; Mr.
B. Carter and the reporting of the proceed-
ings, 1617; the representative of Birmingham
University, 1683; retrospect, 1840
General Medical Council: the impending
meeting, 1450; opening of the session,
1558; introductory comments, 1558; Society
of Apothecaries of London, statement by Mr.
B. Carter, reply by Mr. V. Horsley, 1558,
1560, 1617; President's address, 1558;
standard of preliminary education, 1558;
death certification, 1558, 1562, 1627; penal
and disciplinary powers of the Council, 1558,
1627; international reciprocity of medical
actice, 1559, 1629, 1632; the Hunter case,
59; service examinations, 1559, applica-
ions for restoration to the Register, 1562,
563, 1566, 1622, 1624, 1704; alleged illegal certi-
icates of medical proficiency, 1562; a large
lemand from the provinces, 1563; midwifery
certificates, 1563; the midwives question,
the certificate of the Obstetrical Society of
London, 1563; conjoint boards for the quali-
fying examination, 1565; the case of
William Stewart, 1622; the case of C. M.
Kershaw, 1622; the case of H. L. Goodman,
1623; the case of R. T. Williams, 1623, 1624;
the case of W. M. Joyce, 1624; the case of
F. W. Kirkham, 1624; the Society of Apothe-
caries of London, licentiates and the title
they may use, 1624, 1631; financial position
of the Irish Branch Council, 1631, 1704; the
Royal Colleges in London and the recogni-
tion of scientific institutions, 1632; the
Council and its work, 1679; Apothecaries'
Hall of Ireland, 1685, 1706; fraudulent per-
sonation of medical graduates, 1704; the pre-
liminary examination—the minimum re-
quirements, 1705, 1706; new Standing Order,
1707; the Pharmacopœia, 1707; Penal Cases
Committee, 1707; public health diploma,
1707; Students' Registration Committee, 1707;
unqualified dispensers, 1707; Companies Act
Amendment Bill, 1708; medical aid associa-
tions, 1708; infamous conduct, 1708; foreign
practitioners and the British medical curri-
culum, 1708; belated registrations, 1709;
practitioners in Rhodesia, 1709; a colonial
entrant, 1709; end of the session, 1709
General Medical Practitioners' Union, the
Birmingham and District, 1866
General practitioners and public vaccinators,
98, 176
Generation, to the third, 1456
Genital organ, extraordinary development of
the, in a male fœtus, 1587
Genito-urinary Organs, Tuberculosis of the
(review), 1102
Geography of medical ethics, 755, 1418
orge, Dr. R. J., presentation to, 867
rman Plague Commission, report of the,
03; sanatoria for consumption, the object of,
81
rmany, naval and military medical services
of, 328; post-graduate instruction in, 693
ermany and German (see also BERLIN,
CORRESPONDENCE FROM)
errard, Dr. P. N., otitis, 837; colonial medical
officers, 1332
estation, extra-uterine, case of, 29; ectopic,
1332
Gibbings, Mr. A., obituary, 543
Gibraltar, sanitary condition of, 64; the con-
dition of, 252; venereal disease at, 391
Giffen, Grace Haxton, Materia Medica (review),
723
Gilberd, Dr. William, statue of, 171
Gillespie, Dr. A. L., Gastric Methods (review),
1677
Gillies, Dr. H. C., the death rate, 212
Gimlette, Fleet Surg. T. D., tetanus, 89
Girls, A Queen among (review), 1596
Girl's Own Paper (review), 1240
Givin, Dr. R. D., the Medical Register, 1041
Glands, ductless (see Anæmia)
Glasgow: treatment of casualty cases, 252;
report of medical officer of health, 435, 906;
Western Infirmary, 515; suggested cre-
matorium, 746; medical appointment, 863;
Victoria Infirmary, 863, 1043; bequests to
hospitals and infirmaries, 863, 914
Glasgow, Faculty of Physicians and Surgeons
of, examinations of the, 426 (see also Royal
Colleges); tercentenary of the, 1619
Glasgow Prison, medical provision in, 64;
Royal Infirmary, 515, 1130; Cancer Hospital,
operating theatre of the, 713; fever and
small-pox hospitals, 732; Lunacy District
Board, 853; Lecture Association, 914;
Glasgow Parish Govan and Lanark District
Asylum, Kirklands, annual report for 1898,
1023
Glasgow University: pass list, 62, 1137; gradua-
tion, instruction in tropical diseases, retire-
ment of professors, 309; changes in the profes-
sors and lecturers, 366; criminal charge against
a member of the University Court, 366, 435;
resignation of Lord Kelvin, 745; candidates
for, and elections to, vacant chairs, 863, 1043;
bequests, 863, 1198; the Rectorial election,
913; death of Mr. Lachlan Macpherson, 913
Glasgow University Club (London), dinner, 106,
1699
Glasgow and West of Scotland Coöperation for
Trained Nurses, 185
Glasson, Dr. C. J., double uterus and vagina,
1226
Glaucoma, galvanisation of the cervical sym-
pathetic in, 898; resection of the cervical
sympathetic in, 899
Gloucester General Infirmary, resignation of a
physician, 31
Glover, Dr. J. G., medical politics, 1479
Glover, Dr. Jules, secretary of the Paris con-
gress on medical ethics, 240
Glycerinated calf lymph, 40, 124, 133
Glycerine (see Nitro-glycerine)
Glycosuria, gangrene complicated by, 1730
Gnats, the bites of, 729
Goat's milk, the supply of, 314
Goitre, operations for, 600
Goitre, exophthalmic, cured by removal of one
lobe of the thyroid, 384, 461; iodoform in,
516; bile in, 555
Gold, chloride of, in snake bite, 609
Golden Rules of Psychiatry (review), 788
Golden syrup, adulteration of, 1032
Gonorrhœa, trophic affections following, 900;
new remedies for, 963; joint affections of,
1349
Gonorrhœal rheumatism, 1467, 1548, 1617;
arthritis, surgical treatment of, 1585
Goodall, Dr. E., anthropological work, 149
Gooddy, Mr. E., 136
Gordon, Surg.-Gen. Sir C. A., the late, 978
Gordon, Dr. H. L., alcoholism, 1192
Gordon, Dr. J., subcutaneous emphysema, 1585
Goslings, The Story of the Seven Young
(review), 1597
Gospel According to Darwin (review), 723
Gossage, Dr. A. M., convulsions in infancy, 459
Gould, Mr. P., papillomatous cysts, 490
Gout, massage and galvanism in, 38; straw-
berries in, 52; pathology of, 377, 440, 441;
treatment of, 828; causation and treatment
of, 1361
Government laboratories, work of the, 497
Gown for M.R.C.S. Eng., 302, 1119, 1308, 1761
Gradenigo, Prof., the hearing power, 539
Graham, Dr. J., presentation to, 130
Grant, Mr. A., sanitary inspectors, 1774
Grant, Dr. L., diseases of the eye, 145
Gratitude, 1417, 1490
Graves's disease, the administration of bile in,
in various ways, 555
Great Britain, the early decay of teeth in, 527
Greco-Roman museum in Alexandria, 748
Greece, ancient, medical "ex-votos" in, 422
Green, Mr. J. L., formalin in phthisis, 521
Green, Dr. J. R., Ferments and Fermentation
(review), 1237
Greene, Lieut.-Col. J. J., the late, 737, 746
Greenish, Mr. H. G., Materia Medica (review),
723
Greenwood, Dr. M., equality of practitioners
116; a breach of trust, 1343
Griffith, Dr. W. S. A., Medical Defence
Union and the London and Counties Medical
Protection Society, 1774
Griffith, Mr. J., sarcoma of the eyelid, 458
Griffiths, Dr. H. T., Mondorf Les Bains, 1587
Grimsdale, Dr. T. B., puerperal septicæmia,
719
Grocco, Prof., on the health of Leghorn, 187
Grogono, Mr. W. A., hernia, 1734
Groin, œdema of the, in acute peritonitis, 210
Groves, Dr. J., tuberculosis, 448
Grube, Dr. Karl, diabetes, 203
Guaiacol vapour baths in bronchiectasis, 210;
carbonate in bronchitis and pneumonia, 710
Guaiacum resin, tabloid, 1307
Gubb, Dr. A. S., dispensing, 1051
Guerrini, Guido, influence of fatigue on the
nerve cells, 1087
Guilds, medical, an appeal to, 967
Gumma of the heart, 604, 839
Gummatous disease around the femur and hip-
joint, 962
Gunshot wounds, skiagrams of, 536
Gunshot wound (or wounds) of the abdomen,
26, 377, 441; of the brain, 1508
Guthrie, Dr. L., cerebellar tumour, 1232
Guy's Hospital Medical School, distribution of
prizes, 189
Gymkhana (see Bicycle)
Gymnastic belts, 1392, 1713
Gymnastics in city parks, 294
Gynæcological methods, 619, 756, 815
Gynæcology, conservative, 378; congress of,
541, 614; antisepsis and improved technique
in, discussion on, 541
Gynæcology (see also ANNUS MEDICUS and
under Brit. Med. Assoc.)
Gynäkologie, Handbuch der (review), 97;
Atlas und Grundriss der (review), 1173
Gynäkologischen Operationskurs, Leitfaden
für den (review), 1528
Gynécologie et de Chirurgie Abdominale,
Revue de (review), 414, 892, 1381; et
d'Obstétrique, Annales de (review), 414, 570,
1104, 1381

H

Hackney, the milk-supply of, 849
Hæmatocele, intra-peritoneal, 1259, 1334, 1468
Hæmato-chondro-sarcoma of the scrotum, 1658
Hæmatogen, Hommel's, 388
Hæmaturia an early symptom in tuberculosis
of the kidney, 558
Hæmochromatosis, 440
Hæmoglobinuria (see Blackwater fever)
Hæmorrhagic effusions, primary, into the
pleuræ and peritoneum, 1028; ascites, 1286
Hæmorrhoids, treatment of, 246
Haffkine, Mr. W. M., investigation of disease,
35, 42; preventive inoculation, 41, 100; his
plague prophylactic fluid, 743
Haggard, Mr. H. R., Farmer's Year (review),
1676
Hague, the, peace conference at, 179, 300
Haig, Dr. A., plumbism and appendicitis, 238;
uric acid, 377, 440
Haight, Dr. A. T., adenoids, 539
Hainworth, Mr., wound of the orbit, 159
Hair, sudden loss of, due to mental shock, 109;
superfluous, removed by the Roentgen rays,
534
Hale, Dr. W. S., Central Nervous System
(review), 345
Halifax, medical report for, 976
Hall, Dr. F. de H., plumbism and appendicitis,
302; epistaxis, 858; heart disease, 1514
Hall, Mr. W., presentation to, 753
Hall, Mr. J. B., warty growth of the vulva,
957
Hall, Mr. H., medical reform, 1401
Hall-Edwards, Mr. J., the Roentgen rays in
lupus, 534
Halliwell, Mr. J., hat-pin in the stomach,
1732
Hamilton, Dr. T., obituary, 1703
Hamilton, Mr. G. G., eucaine β, 552
Hammersmith, medical report for, 906
Hammer toe, treatment of, 756
Hammond, Mr. T., obituary, 1322
Hampton, Middlesex, sewage disposal at, 420,
1116
Hanbury, Mr. F. J., Flora of Kent (review),
723
Handle, improved universal, 1240
Handrails, staircases without, 515
Haphazard method, 870, 992, 1052
Hare, Dr. H. A., Practical Diagnosis (review),
1172
Harley, Dr. K., aromatic sulphates, 461
Harris, Dr. F. D., annual report for St. Helens,
232
Harris, Dr. S., a chance which may not recur,
430
Harris, Mr. C. J., chloroform anæsthesia, 1273
Harrison, Mr. R., the enlarged prostate, 331
Hart, Dr. B., fibrous mole, 281
Hart, Dr. F. L., medical defence, 376; illegal
certificates of proficiency, &c., 511, 567
Hartmann, Dr. A., absence of the auditory
meatus, 539; the frontal sinus, 611
Hartnell, Mr. E. B., an appeal, 394, 548, 620,
1052
Harvard Medical College, endowment of chairs
in, 749
Harveian Oration of the R.C.P. Lond., 1071;
lectures of the Harveian Society, 1538
Harvey, Dr., Syllabus of Materia Medica
(review), 163
Haslar Hospital, appointment at, 109, 133, 164;
specimens from, in the museum of the
British Medical Association, 536; clinical
instruction at, 791
Hasten slowly, 1107
Hat-pin, removal of a, from the stomach, 1732
Hat-pins, 921
Haultain, Dr., specimens exhibited, 29
Havana, sanitation in, 851
Haw, Mr. W. H., strychnine poisoning, 835
Haward, Mr. J. W., influenza, 22; gonorrhœal
rheumatism, 1548
Hawkins, Dr. F., intestinal obstruction, 53
Hawkins, Dr. H. P., typhoid fever, 1004
Hawthorne, Dr. C. O., peripheral neuritis, 876
Hawthorne, Mr. E. S., permanganate of
potassium, 1467
Hay fever, eye symptoms in, 458

Haycock, Mr H E, dislocation of both knees, 342
Head, tuberculous adenitis of the, 383, 459
Headaches and their treatment, 324
Heald, Mr G. H, presentation to, 465
Healey, Capt C W. R., gastro-enteritis, 1223
Health, the influence on of chemical preservatives in food, 1427, 1577
Health Aspects of Education (review), 414; Resorts, South African (review), 1306
Health resort, Madeira as a, 301, Finland as a, 419, Canary Islands as a, 430, Bath as a, 1065
Health resorts in Egypt, 1241, 1250, 1703
Hearing power, the measurement of the, 539, the examination of the, 539
Heart, hernia of the, 522, dissecting aneurysm of the, 604; gumma of the, 604, 839, wound of the, suture of 747; effects of influenza upon the, 972, 1075, 1309 wounds of the, 1111; Chronic Diseases of the, The Schott Treatment of (review) 1448
Heart disease, inhalation of carbonic acid in, 520, mercury in, 1147, 1333; extensive congenital and acquired a case of, 1514
Heart murmur, functional, the causation of, 359, 1209
Heart muscle, insufficiency of the, 899
Heart (see also Mitral Disease)
Heat, radiant (see Tallerman Dowsing)
Heat fever, heat stroke, heat apoplexy, 608 609
Heath, Mr C, gonorrhœal rheumatism, 1467
Heaton, Mr, splenectomy 607
Hebrides, medical officers of parishes in the, 302, the medical service of the, 1243, 1328
Hedley, Dr W S, Therapeutic Electricity (review), 1818
Heider, Dr K, Embryology of Invertebrates (review), 723
Hellier, Dr J B, inversion of the uterus, 151
Helmholtz (see Von Helmholtz)
Hemiplegia, infantile contracted hand and arm after, 460, associated with aphasia 1733
Hen laye sanatorium 985
Henery, Mr R, points of etiquette, 756
Henty Mr G A, No Surrender (review), 1597
Hepatic (see Supra hepatic)
Hepburn Dr, craniometer 123
Herbert, Maj H, changes in the conjunctiva, 158
Herbert Fry's Royal Guide to the London Charities (review), 1818
Herbertson, Mr. A J., Physical Atlas (review), 1743
Heredity and the drink habit, 259, 908, and tuberculosis, 324, alcoholism in its relation to 381, 451
Herman, Dr G E, ligature of the uterine arteries, 1094, anti streptococcic serum, 1299
Hermaphroditism (see Sex mistaken)
Hern, Dr J, hay fever, 458
Hernia, femoral, the sac of a hydrocele of, 157, 710, following hypostatic pneumonia, 278, double strangulated, 1513
Hernia, inguinal, in an infant 279; and scrotal strangulated laparotomy for, 341; cases of and new operation for, 554, in infancy and childhood 606, complicating elephantiasis scroti, 832, strangulated in an infant, 889, 1016, 1094, strangulated Richter's, with hydrocele of the sac 960 in the young the etiology and treatment of 1353
Hernia, Richter's, cases of 214 900, ventral, the prevention and cure of 280, of the heart, 522; the vermiform appendix in relation to, 601, subperitoneal sacless, containing the bladder, 1158, through a congenital opening in an abnormal fold of peritoneum, 1439; ischiatic 1734
Heron Dr. G A, serum therapeutics 1018, the Medical Defence Union and the London and Counties Medical Protection Society, 1858
Herschell, Dr G, galvanic battery, 460 533, Constipation (review), 1173 apparatus for washing out the stomach 1289
Hewlett Dr R T organism in pigeons, 1296
Hicks, Mr F L, obituary 617
Hicks the Right Rev Dr J W, obituary, 1136
Hill Dr. A, annual report for Birmingham, 232
Hill, Dr E, annual report for Durham, 298
Hill, Dr L, Physiology (review), 413
Hill, Dr. J H illegal certificates &c., 587
Hime, Dr M C, Schoolboys Special Immorality (review) 843
Hinshelwood, Dr. J ophthalmia 456
Hip disease, the management of the deformity of, 878
Hip joint gummatous disease around the, 932
Hippocrates on the treatment of fevers, 397
Hispano-American War Correspondence (review), 722
Histologie Atlas und Grundriss der Speciellen Pathologischen (review), 1317
Histology (see Physiology and Histology)
History, the medical factor in, 792
Hockridge, Dr T. G, illegal certificates, &c., 587
Hodges, Mr J, obituary, 1049
Hodges, Dr J F, obituary, 1863
Hodgson, Dr R H., patriotism, 1194
Hogarth, Mr. R G, injury to the peroneal nerve, 270
Holiday for Scotch parish medical officers, 1334
Holiday fund, children's country, 293
Holidays on the Continent, 303, medical men and, 416, 547
Holidays or vacations for Poor-law union hospital and dispensary medical officers, 310, 367, 516, 914, 985, 1176
Holland, Dr P. M, Central Nervous System (review), 345
Hollis, Dr W A pedal malformation, 1013
Hollis, Dr. H, dislocation between the atlas and axis 1514
Holocaine hydrochloride, 962
Holy water, microbes in, 1782
Homatropine in muscular asthenopia, 383, 457, 960
Home, Staff Surg W E, beri beri 50, mosquitoes and malaria, 1191
Homes wanted, 815, 870, 1274, 1418, 1489 1637
Hong Kong, plague in, 308, 365 514 799
Honours to medical men 50, 110 115, 355 586, 737, 1251, 1846, 1857, American to an Italian professor, 60, 311, 617, municipal honours, 1388, 1461
Hope, Dr, annual report for Liverpool, 232
Hope, Mr J L A., lunacy fees 1775
Hopkins, Mr H C, obituary, 1412
Horder, Mr E G new method of staining, 889, blood dust, 1015
Horder, Mr T G, Hospital Reform Association, 52, 587, 739, 1550, the late Dr F J A Waring 1859
Hornabrook, Dr. W. R, Dharwar Plague Hospital (review) 670
Horne, Dr J E, certificates, 364
Horne Dr J, pachydermia laryngis, 607
Horse bites, loss of ears through, 1572, ambulances at London hospitals, 1599 1696
Horsley, Mr V, Hunter *versus* Clare, 50, an appeal, 318; report to the registered practitioners of England and Wales, 425, illegal certificates of proficiency, &c., 426 511, medical politics, 1474, the Society of Apothecaries and 1550
Horwich, &c. isolation hospital for, 595
Hospital, Napper's flying, 1193
Hospital infectious, or isolation, or fever (see Infectious or Isolation hospital or hospitals, Sanatorium)
Hospital Service United States Marine 127, ships in naval actions, 330, medical officer unfounded allegations against a, 417, 430, abuse, 512, 574, 1027, 1244 Expenditure, the Commissariat (review) 843, patients, free and paying the relative cost of, 986, appointments in Paris, public examinations for, 1198, 1621, 1700, 1781 1861, ships, 1467
Hospital Fund for London, the Prince of Wales's 300 674 1124 1818
Hospital Fund, the Metropolitan 1841
Hospital Reform Association, 52, 587, 739, 972, 1027, 1038, 1550
Hospital Saturday Fund the metropolitan, 1270
Hospital Saturday Fund in Birmingham, 122, in Birkenhead 123, in Exeter, 132, in Liverpool, 295, 365, in Bolton, 595, in Ilfracombe, 928
Hospital Saturday Fund in Birmingham, the proposed consulting institution of the, 43, 514
Hospital Sunday Fund the Metropolitan 47, 122, 178, 220, 229 296, 359 574, 1684
Hospital Sunday Fund in Liverpool, 123, 296, 365; in Bristol, 940, 1786, in Plymouth, 1786
Hospital assistants (see Indian Medical Service, and Dufferin Countess of, her Fund)
Hospital (see also Out patient department)
Hospitals, the rating of, 222, in Brussels, questions of precedence at 305; distribution of milk at, 357; the Paris municipal council and the, 808, convalescents in, work for 809, humanity in 899, London horse ambulances at, 1599 1696, general, dental appointments at, 1749 1858
Hospitals, nursing homes, nursing societies, &c., bequests and donations to, bazaars, concerts conditional promises of aid appeals on behalf of, 36, 39 41 90, 98, 110, 130, 174 179 229, 313, 366, 423, 437, 593, 733 812, 813, 863, 913, 914, 940 972
Hospitals, temporary or partial closing of, also re-opening of 110, 174 229 296 854 1112
Hospitals institutions for the blind for convalescents, &c, annual or half yearly meetings or reports of 156, 163, 190, 243, 244, 292, 326, 572, 732, 746, 751, 788, 851
Hospitals, reports of (see also Asylum reports, Metropolitan Asylums Board)
Hot weather in Italy, 437
Hotel, the poor man's, 417
Houghton, Mr M., midwives, 67, Workmen's Compensation Act, 393
House, a dirty, 1710
House of Commons, the temperature of the. 314
House Books Ten Shillings a Head per Week for (review), 1023
Houses, insanitary, 229, 1031; and bad milk, 1533
Housing of the poor in Ancoats, 1313
Housing (see also Re-housing)
Housman, Mr Lawrence, Seven Young Goslings (review) 1597
Howard Association, 1414
Howard Jones, Dr., medical report for Newport, (Mon), 112
Howgrave, Mr. W, vitality of a caterpillar, 1051
Howse, Mr H G, surgery 1717
Hubbard, Dr W. L., case of multiple injuries, 156
Huddersfield medical report for, new fever hospital, 855; the exemption of, from the Infectious Disease (Notification) Extension Act (1899) 1182, 1259 1332
Huggard Dr W. R., "tubercular" and "tuberculous 364, 512
Hughes Capt. M. L., undulant (Malta) fever, 610, gastro-enteritis, 1223, obituary 1766
Hughes, Prof. A W., medical education 1000, 1015
Hull, small pox at, 133, 1315, 1536, the East York and North Lincoln Branch of the British Medical Association 1401 1542
Hulme cavalry barracks, the question of 308
Human Body, Dissection of the, Directory of, the (review), 1306
Humanity in hospitals, 899
Hungary, hygiene in, 105, post graduate instruction in, 693
Hunter *versus* Clare, 50, 425
Hunter case, 1040
Hunter, Mr H K, the widow of, appeal on behalf of, 136, 256 921
Hunter, Mr G H., volvulus, 483
Hunter, Brig-Surg G Y., the late, 507; obituary, 752
Hutchinson, Prof. Woods, tuberculous lesions of animals 533, Gospel according to Darwin (review), 723
Hutchinson, Mr Jonathan, jun, vermiform appendix 601
Hutchison, Dr F. W. F, hemiplegia 1733
Hydatid of the liver, case of, 1435
Hydatiform degeneration of the chorion 1019
Hydraulic distension of tuberculous bladder, 1587
Hydrencephalocele, case of, 159
Hydrocele of the sac of a hernia, 157, 710, 960
Hydrochloric acid poisoning by, 160
Hydrogen solid, 645, 1836
Hydrometra in animals, 200
Hydronephrosis, case of 215
Hydrosalpinx in animals and in the human subject, 200
Hygiene, practical for school teachers, 846, a statesman on, 986, international, 1534
Hygiene, Domestic (review), 163
Hymen imperforate, case of, 719
Hyoscine and hyoscyamine, physiological action of, 141
Hyperphoria, correction of, 458
Hypnotics, some points connected with, 1, 71, 139, 165
Hypnotism, congress of, 293
Hysterectomy, vaginal, cases of 406, 1359
Hysteria in a male subject, 354
Hystero-epilepsy (see Epilepsy)

I

Ice, great demand for in Italy, 437
Icterus gravis case of, 1563
Ideal, the quest of the, 829 933
Idiocy, infantile paralysis simulating 1033
Idiots, notification of 334
Ileum, intussusception of the, 159
Ilfracombe, Hospital Saturday at 933
Imbeciles, the treatment of, 603, the accommodation of, 744
Immorality, Schoolboy's Special (review), 843
Immunity, susceptibility *versus* 322
Imperial Institute, London University and the, 110, 173 370
Impetigo, the clinical position of 1752
Income tax, the repayment of, 331, 429, 617, 816, 1670
Incompatibility in treatment, the law of, 527
India, cantonment hospitals, 64, cholera, 66, inspection by the surgeon general, 115; venereal disease, 133, 436 [illegible] mortality, 242; Anti vivisectionists, 365, medical registration, 373; vaccination, 433, lepers, 434; [illegible], 434; disease among soldiers, 427, 492; abscess of the liver [illegible] report of the Imperial Bacteriologist [illegible], tuberculin, 520; candidates for plague duty [illegible], scarlet

fever, 1385; the Viceroy and the plague, 1390, 1693
India, the sanitary commissioner with the Government of, report of, for 1897, 297, 495;
the Women of, Association for Supplying Medical Aid to, 849
India, notes from, 56, 121, 182, 238, 303, 364, 433, 514, 588, 743, 858, 909, 982, 1042, 1125, 1196, 1335, 1406, 1468, 1550, 1693, 1779 (see also letter from this correspondent on p. 511)
India, plague in, 56, 121, 182, 238, 303, 364, 433, 514, 588, 743, 806, 858, 909, 982, 1042, 1087, 1125, 1196, 1335, 1390, 1406, 1468, 1550, 1693, 1779
India, enteric fever in, 182, 391, 429, 495, 739; among British officers in, 806
Indian finance, 429; jails, pneumonia in, 496; reliefs 507; remedies for diseases of the ear, 781
Indian medical reform, the medical profession in England and, 200
Indian Fevers, a record of (review), 1744
Indian hemp, pharmacology of, 140
Indian Medical Service, 978
Indian Medical Service, and civil surgeoncies (or appointments), 238, 365, 373; selection of lieutenant-colonels for grade promotion, 238; the subordinate department (assistant surgeons or hospital assistants), 238, 364, 607; contemplated changes in the, 300; the condition of the, 328; surgeons on probation, 363. 516; pass-list, 429; various regulations of the, 640
Indian medical services (see also Services)
Indicators, soloid, 1307
Indigestion attended with difficult diagnosis, 1534
Inebriate Reformatory, Duxhurst, 753
Inebriates Act, reformatories under the, the want of, 243, 344, 466; homes under the, 913, 1866
Inebriates Acts, retreats under the, annual report on, 799, 853
Inebriates Acts (review), 218
Inebriates, well-to-do; the need of legislation for 381, 450; in Australia, 518
Inebriates (see also Drunkards)
Inebriety, maternal, influence of, on the offspring, 898
Inebriety, Society for the Promotion of the Study and Cure of, 251, 259; election of president, 903
Infancy, convulsions in, causation and treatment of, 459; inguinal hernia in, 606
Infant, ossification of parietal bones in an, 460; hypertrophy of the pylorus in an, 1511; a male, lactation in, 1734
Infant foods and scurvy rickets, 1181, 1256, 1330
Infant (see also Newly-born)
Infantile paralysis combined with Strümpell's paralysis, 23; hemiplegia, contracted hand and arm after, 460; mortality in the West Riding of Yorkshire, 1030; general paralysis simulating idiocy, 1033; hemiplegia associated with aphasia, 1733
Infants, hand reared, the feeding of, 357, 437; adoption of, 502, 588; high death rate among, in Liverpool, 515; intussusception in, 551; strangulated hernia in, 889, 1016, 1094, a sanatorium for, at Hendaye, 985; dislocation of the knees in, 1459
Infants and Children, The Wasting Diseases of (review), 1238
Infected organism, influence of the agglutinins in the, 1727
Infection, public vehicles and, 172, 182; in schools, the prevention of, 526; sick-room, in typhoid fever, 527
Infectious disease, notification of, and unqualified practitioners, 181; clothing, removal of, prosecution for, 367; case, resistance to the removal of an, 869
Infectious Disease (Notification) Extension Act (1899), 1182, 1259, 1332
Infectious Diseases (Notification) Act, difficulties under the, 547, 598, 620; duplicate notifications under the, 869, 922; a point under the, 1571
Infectious Diseases Hospitals (review), 1678
Infectious hospital (see also Sanatorium)
Infectious hospitals: Ham Green, Bristol, 250; Horwich, &c., 595; proposed, for Dublin, 596; Sydney, 733; Llanelly, 813; Huddersfield, 855; Stirling and district, 863; Langholm, 913; Manchester, 983; Dornoch, 984
Infective diseases, the rôle of insects, &c., in the propagation of, 386, 775
Infectivity of malignant growths, 1165
Infirmaries, county, in Ireland, paid officers disqualified as governors, 985
Inflammations, simple and specific, 382, 452, 606
Influenza, surgical sequelæ of, 17; bacillus of, 604; effects of, upon the heart, 1075; disappearance of post-nasal adenoids after, 1112; reappearance of, 1753; treatment of, 1776
Influenza throat, 605
Infusion of saline solution into a vein, 487
Infusion (see also Transfusion)
Ingram-Johnson, Mr. R. E., medical men and holidays, 547
Inguinal hernia in a child, 279; cases of, and new operation for, 554; in infancy and childhood, 606; strangulated, in an infant, 889, 1016, 1094; strangulated, Richter's, 960; in the young, the etiology and treatment of, 1353
Inguinal and scrotal hernia; strangulated, case of, 341
Inhalations, apparatus for, 384
Inhibition, nervous, 821
Inoculation of scarlet fever, 1031; by mosquitoes of malarial fever, 1191
Inoculation, preventive, 41; 100, 324; against enteric fever, 182, 433; against plague, 238, 1390
Inquests, the holding of, 869, 921; comments at, on medical men refusing to attend cases, 870
Insane, cup for feeding the, 31; the care of the, in the United States, 127; the treatment of the, punitive measures in, 580; general paralysis of the, in early life, 838; the chronic, employment of, 1179; asylums for the, phthisis in, 1751
Insane persons, furious, a new form of cell for, 597
Insanity, incipient cases of, the temporary care of, 381, 528; epileptic, bromide of strontium in, 411; the Study of, An Introduction to (review), 1596
Insects, the rôle of, in the propagation of disease, 386, 775
Insomnia, causes and treatment of, 142
Institut Pasteur, Annales de l' (review), 30
Insurance case, an important, 514; societies, American, 1638, 1714, 1869; Company, Anglo-American, 1571, 1638, 1718, 1790, 1870
Inter-scapulo-thoracic amputation, 273
Inter-university boat race, Scottish, 58
Intestinal antisepsis, 460; anastomosis, forceps for, 522
Intestinal obstruction simulated by pancreatitis, 26
Intestinal obstruction, operation for, 275; the vermiform appendix in relation to, 601
Intestine, the small, hæmorrhagic infarction of, 85; resection of, 279; lumbricoids obstructing, 786; volvulus of, 889
Intestine, localised tuberculosis of the, 970; epithelial cells of the, 1246; the large, resection of, 1277
Intestine (see also Bowel)
Intestines, strangulation of the, by the omentum, 159
Intoxication, sexual intercourse during, the effect of, on the offspring, 452
Intra-cerebral injection of antitetanic serum, 89
Intra-cranial blood-vessels, innervation of, 52; lipoma, ptosis produced by, 1437
Intra-peritoneal hæmatocele, 1259, 1334, 1468
Introductory addresses (see Medical schools)
Intussusception, case of, 159; in infants, 551
Invalids, confirmed, home for, 111
Invertebrates, Embryology of (review), 723
Iodine in articles of diet, 1030
Iodoform in exophthalmic goitre, 516
Ipswich, the sewage of, 39; the British Medical Association to meet at, 372, 376

IRELAND, CORRESPONDENCE FROM.—Poor-law medical officers in far-away districts, 58—Richmond Hospital, Dublin, 58—Workhouses and trained nurses, 58—Irish Medical Association, 58, 367, 1700—Belfast workhouse, 59, 1264—Maintenance of the lunatic poor of Belfast, 59—The Roman Catholic University question, 123—The Anti-tuberculous Association, 123, 185—Government bacteriological laboratory in Dublin, 124—The Local Government Board of Ireland, 124, 185, 914—Royal College of Surgeons in Ireland, 185—Dublin Corporation (Boundaries) Bill, 185, 245, 310—Health of Belfast, 185, 1044, 1338, 1700—Down District Asylum, 186—Belfast charities (football) competition, 186—Belfast Royal Hospital, 186, 864, 1264, 1408—Water-supply of Rathmines, 245—Sewerage of Belfast, 245—Ulster Medical Society, 245, 1338, 1553—Poor-law guardians and medical fees, 245—Battle of the clubs at Cork, 245—Holidays for Poor-law union hospital (or dispensary) medical officers, 310, 367, 435, 516, 914, 985, 1338—Fatal accident to a medical man, 310—Death of Mr. W. A. Atkinson, 310—Belfast Hospital for Diseases of the Skin, 310—Dispensary and infirmary appointments, 310, 367, 985—Sanitary destructors in Belfast, 310—Health of Dublin, 367, 1264, 1338, 1407, 1470, 1553, 1619, 1780—Improvements in Belfast, 367—"Nordrach" treatment for tuberculosis in Ireland, 435—Tobacco and whisky in the Belfast Union Infirmary, 435, 746—Payment of medical locum-tenents, 435, 914, 985, 1338—Armagh Workhouse, 435—Queen's College, Belfast, 435, 516, 808, 864, 1131, 1407, 1470, 1553—Rainfall, 436, 1044, 1620—Belfast Hospital for Sick Children, 436—Order of St. John of Jerusalem, 515—Claro Lunatic Asylum, 515—The blind of Ireland, 516—Services examinations, 516—Study of tropical diseases, 516—Disposal of lunatics, 516—Dublin Sanitary Association and Mountjoy square, 595—Increased hospital accommodation for Dublin, 596—Monaghan water scheme, 596—New medical school (Roman Catholic) in Belfast, 596, 864—Death of Lieut.-Col. J. J. Greene, 746—Medical appointments in West Africa, 746—Death of Prof. Cuming, 746—Proposed water scheme for Portadown, 746—Bangor Cottage Hospital and Home, 746—The muzzling order for dogs, 746—Typhoid fever in Dublin, 808, 984, 1470—Honours to hospital nurses, 808—British Association, 808—Infectious disease in Dublin, 864—Proposed isolation hospital for Dublin, 864, 1044, 1131—Army medical department in Dublin, 864—St. Vincent's Hospital, Dublin, 864—Proposals for the sanitary improvement of Dublin, 914—Cork-street Fever Hospital, Dublin, 914, 1470—Boards of guardians and medical officers' fees, 914, 1407—Forster Green Hospital for Consumption, 914, 1198—Belfast ambulance system, 914—Lunatics in the Belfast Workhouse, 914—Suicide of a criminal lunatic, 914—Commencement of the medical session in Dublin, 985—Officers of county infirmaries, 985—New hospital for county Tyrone, 985, 1407, 1620—Belfast medical school, 985—Banbridge district nursing society, 1044—Lunacy appointments, 1044—Bangor district nursing society, 1044, 1131, 1264—Small-pox in Belfast, 1044, 1131—Mater Misericordiæ Hospital, Dublin, 1131, 1198—Poisoning by water parsnips, 1131—Ulster Hospital for Women and Children, 1131—Death of Dr. J. M. Lynn, 1131—Opening of the winter session in Belfast, 1131—Midwife charged with manslaughter, 1132—Accommodation in Belfast national schools, 1198—Newry Fever and General Hospital, 1193—Examinations of the Royal University of Ireland, 1198—Clinical teaching in Belfast Union Infirmary, 1193—Royal Academy of Medicine in Ireland, 1264—St. John Ambulance Association, Belfast, 1264—Cork Medical and Surgical Association, 1264—Death of General Sir W. P. Symons, 1264—Sanitation of Larne, 1338—Scarlet fever in Waterford, 1407—Royal Victoria Hospital, Belfast, 1407, 1700—Letterkenny Lunatic Asylum, 1407—Medical evidence at inquests, 1471—Surgical volunteers from Ireland, 1553—Dublin anatomy classes, 1553—Fellowships of the Royal University of Ireland, 1553—Royal Victoria committee, Belfast, 1554—The late Dr W I. Wheeler, 1620—The late Dr. E. Hamilton, 1620—Death rate of Dublin, 1700—Belfast Medical Students' Association, 1700—Memorial to Prof. Cuming, 1700—Small-pox, 1700—Typhoid fever near Dublin, 1780

Ireland, pharmacy in, the history of, 260; Report of the General Prisons Board, 1111; lunacy in, 1462; sanitation in, 1842
Irish constabulary (see Royal Irish, &c.)
Irish Medical Schools and Graduates' Association, 372, 1567; medical schools, 668-671; dental schools, 691; Royal Colleges, diploma in public health of the, 1468
Irish Poor-law medical officers, superannuation for, 59; locum tenents of, 191, 367, 435, 516
Irish Poor-law union hospitals (or dispensaries), medical officers of, holidays (or vacations) for, 310, 367, 516, 914, 985, 1176
Iron and Steel Institute at Manchester, 744
Iron tonic, Sandrons's, 219
Irwell, condition of the, 434
Ischiatic hernia, 1734
Isle of Man, Consumption in the (review), 891
Isle of Wight (see Royal Isle of Wight)
Islington, the low birth rate of, 1315
Isolation Hospitals (Amendment) Bill, 64, 390, 544
Isolation Hospitals Act, the working of, in Wales, 1032
Italian Red Cross, 1029
Italy, post-graduate instruction in, 693; the English-speaking consultant in, 1386; Queen Victoria in, 1458
Italy or Italian (see also ROME, CORRESPONDENCE FROM)
Italy's opportunity, 895
Iveagh, Lord, his gift to the Jenner Institute of Preventive Medicine, 38, 799
Izal (a disinfectant), 537

J

Jackman, Mr C H, medical sickness assurance, 647
Jackson Dr G. T., Diseases of the Skin (review), 1306
Jackson, Mr R A., a single kidney, 755
Jackson, Mr T. V., multiple nævi, 1363
Jackson, Dr. J H, neurological fragments, 1659
Jacob, Dr. A H., organisation of the profession, 1333
Jaffrey, Mr S vomiting relieved by laparotomy, 1155
Jaksch (see Von Jaksch)
James Mr. P, epilepsy, 207
James, Mr. J. B, the coroner's court, 449, death certification, 449
Janes, Emily, Englishwoman's Yearbook (review), 1678
Japanese, the relation between mosquitoes and malaria known to the, 1114
Jappelli, Professor Gaetano Esplorazione dei Tubercoli Quadrigemelli (review), 97
Jardine, Dr R, eclampsia, 28, specimens exhibited, 29
Jaundice in a diabetic, disappearance of the sugar during, 144, due to floating kidney, 1296
Jaundice (see also Icterus)
Jaws, operations on the 378, 444
Jenks (see William F Jenks)
Jenner Institute of Preventive Medicine, annual meeting, 38; bacteriology at the, 696, *alteration of memorandum of association*, 799, Dr Macfadyen's address, 1029; Transactions (review) 1171
Jenner Society, 1791
Jepson, Dr E, medical men and their grievances, 430
Jerusalem, British Ophthalmic Hospital at, 851, 972
Jessett, Mr F. B, hysterectomy, 1359
Jessop, Dep-Surg Gen C. M., the late, 973
Jigger (an insect) in Bombay, 56, 238, 434, 514, 1301
John Dalton's tomb, 40 184
John Usher Institute of Public Health, 813
Johnson, Mr L., a macula chromoscope, 159
Joint affections of gonorrhœa 1349
Joints, excision of, in rheumatoid arthritis, 1400, 1586
Joke, is it a? 1713
Jones, Dr. H., convulsions in children 459
Jones Dr J, hydatid of the liver, 1435
Jones Dr R Ll, epilepsy, 770
Jordan, Mr J. F., removal of the uterus, 1098
Joshua, Mr F W, Cæsarean section, 1089
Joubert, Lieut Col, rupture of the uterus, 279
Jubilee of a medical man, 928
Judson, Dr A B, hip disease, 877
Jugular vein, removal of a portion of the, 342

Kala azar, 352
Kanthack, Mrs, pension for, 110
Kay Shuttleworth, Mr L R milk, 318
Keane, Mr A H, *Man Past and Present* (review) 242
Kedarnath Das, M D, dermatitis exfoliativa, 268
Keegan Brig. Surg Lieut Col D F, suprapubic lithotomy, 1467
Keele, Mr G T., the late Mr J W Barnes, 1344
Keeling Dr J. H Quarto (review), 723
Keith, Dr A, bullets 1439
Keith Dr S pelvic trouble caused by bicycling, 1583
Kellock, Dr T H skin grafting 1434
Keloid varieties of, 492
Kelso, Dr A S, presentation to, 544
Kelvin, Lord, resignation of professorship by, 745
Kelynack, Dr T. N., renal tumours, 531
Kennedy, Dr R, regeneration of nerves, 831
Kensington, *prevention of tuberculosis in*, 175; medical report for, 976
Kent Flora of (review), 723
Kerr, Dr M, puerperal septicæmia, 29
Kerr, Dr N., the late, 251
Kidd, Dr H C the Medical Defence Union, 430; hernia, 1016
Kidd *versus* Crane, 417, 430
Kidney, fibrocysto-adenoma of the, 126; tuberculosis of the, 508; a single 755; kidney floating jaundice due to, 1296, abscess of the, 1436
Kinderkrankheiten, Lehrbuch der (review), 1303
Kinematograph surgical operations shown by the, 543; dangers of the, 870
King, Mr E. F, obituary, 915
King's College, examination of plumbers at, 220, the medical faculty of, prize distribution, 466; scholarships awarded, 1014
King's College Hospital, re-opening of, 1112
Kingscote, Dr E, Asthma (review), 1022
Kinnier, Mr R S, presentation to, 130
Kissing the Book, 353, 853, 908
Klein, Dr, pseudo tuberculosis, 1297
Knee, tuberculous disease of the, 1811
Knee jerk, loss of, in diabetes 203
Knee joint, excision of the, 1347
Knees both, antero-posterior dislocation of, 342, dislocation of, in infants, 1459
Knight, Dr. C. F., colonial degrees 117
Knopf, Dr J. A, Pulmonary Tuberculosis (review), 1303
Knowledge (review) 98
Koch Dr Robert, investigations on malaria by, 517
Korschelt, Dr E, Embryology of Invertebrates (review), 723
Kowinsky, Dr Alexander, Clinical Lectures (review), 30

L

Laboratories, the Government, work of, 497
Laboratory meetings of the Pathological Society, 1107, 1248
Labori, Maitre, Dr Doyen and, 746
Labour, missed, 29 379 446, premature induction of, indications of, 616
Labourer worthy of his hire, 870, 1789
Labours difficult, of civilised women, 602
Lack, Mr H. L, cancer, 181
Lacroix, Dr. P, apparatus for inhalations, 384
Lactation in a male infant, 1734
Lager beer, English, 1462
Lake, Mr R, exophthalmic goitre, 384, 461
Lamb, Capt G Mediterranean fever, 701, agglutinins 1727
Lambeth, typhoid fever in 1849
Laminectomy in fracture of the spine, 460
Lamont, Mr, the case of, 221, 262, 373, 391
Lancashire asylum accommodation required for, 503, boarding-out versus cottage homes in, 730
Lancashire Asylums Board, 744
LANCET, THE, Commissions on Plumbers' Work and Water supply and Disposal of Sewage, criticisms on 109
LANCET, THE, Commission on Bath as a Health Resort, 1055-70
LANCET, THE, Commission on American cigarettes, 1607
LANCET, THE, Laboratory Analytical Notes from, 219 256 571, 962, 1307
LANCET, THE, Analytical and other Commissions of, 1843
LANCET, THE, the Special Commissioner of on the White Slave Traffic, 53, on the Medical Congress in Paris, 118, on the Congress on Poor Relief, 183, on medical unions in France 239 on the Battle of the Clubs 304, on the Colliery Surgeons' Strike, 569, on the Organisation of the Profession 741 859 910 980, 1126, 1194, on the Drainage of Paris and the Exhibition, 1404, on Measles and Typhoid Fever Epidemics in Dublin, 1469, 1551, 1697 1778, 1859
LANCET, THE, the representatives of, at the meeting of the British Medical Association, 319
LANCET, THE, the Founder of 568
LANCET, THE, Students' Number, 623-698
LANCET, THE, anniversary of the birthday of, 972
Lane Mr J., London Charities (review), 1818
Langholm, proposed infectious hospital for, 913
Langley, Prof. J N., motor nerves 819, 848, Physiology and Histology (review), 1240
Langton, Mr J, hernia, 600
Laparotomy, the mechanism of, in tuberculous peritonitis 729, vomiting relieved by, 1155
Laplace, Prof F, intestinal anastomosis, 522
Larking Dr A E, Notes on Folkestone (review), 670
Laryngitis pachydermia, 607
Laryngology (see under Brit Med Assoc)
Larynx, coin in the for four weeks, 1018
Latest, the very, 815
Latin article in a Rome newspaper, 368
Laudanum drinker, death of a, 434
Lauria Mr W B, the widow of, appeal on behalf of, 318 394 548, 620, 1062
Law, the and the sale of poisons, 1393, and the Leicester guardians, 1749
Law-courts, medical certificates in the, 921
Lawrie, Dr Macpherson, cœliotomy, 601
Lawson, Dr A., trachoma 438
Lazarus Barlow, Dr W S, specimens exhibited, 604
Lea Dr A W W., puerperal septicæmia 372, 445, hysterectomy, 406
Lead compounds in the pottery trade, 1772
Lead poisoning, 133, 190, 229; and pottery manufacture, 286, the theoretical and practical treatment of, 826
Leadless glaze on pottery, the Government and, 355

LEADING ARTICLES

Royal College of Surgeons of England, 32, 164—*Sanitation and water*, 33—The penal business of the General Medical Council 34—The debate on the Military Works Bill, 99—Mr. *Haffkine on preventive inoculation* 100—The resident medical officers of the Edinburgh Royal Infirmary, 101—The recent meeting of the General Medical Council, 101—The appointment at Haslar Hospital, 164—Hypnotics, 165—The medical profession and the St. John Ambulance Association, 166—The London Government Act, 221—The case of Mr. Lamont, 221—The rating of hospitals, 222—Lead poisoning and pottery manufacture, 285—Medical legislation in Southern Rhodesia, 286—The report of the Royal Commission on licensing laws, 288—The possibilities of the extension of plague to Europe, 288—The British Medical Association: the president's address, 348—The British Medical Association: the addresses in medicine and surgery, 349—The statesman and the schoolboy, 351—Medical men and holidays, 416—The case of Kidd v Crane, 417—The poor man's hotel, 417—The work of the Government laboratory, 497—The lunacy report for 1898 and the alleged increase of insanity, 498—Preventive and remedial treatment of tuberculosis, 499—The pay of colliery surgeons, 574—Hospital abuse 574—The drought, 575—Address to students, 623—'Secret commissions and the medical profession' 725—Mosquitoes and malaria, 726—The epidemic of plague, 727—Le phénomène des orteils a new clinical symptom in lesions of the pyramidal system, 728—Anti vaccination tactics, 789—*Truth* on "doctoring by contract," 790—The report of the Lords Commissioners of the committee on the training of naval medical officers, 791—The medical factor in history, 792—The meeting of the British Association for the Advancement of Science, 1899, 845—Examination in practical hygiene for school teachers 846—The Brussels Conference on the Prevention of Syphilis, 847—The Congress of the Royal Institute of Public Health at Blackpool, 894—"Italy's opportunity," 895—Mental and physical deviations from the normal among school children 896—The introductory addresses, 964—Report of the Commissioners of Prisons, 965—Dispensing, 966—The bacterial treatment of crude sewage, 1024—Medical aspects of the domestic servant question 1025—The recent vaccination return 1026—Anti British feeling in Southern Europe, 1106—The treatment of perforating gastric and duodenal ulcers, 1106—Hasten slowly, 1107—Bishops and medicine, 1174—Domestic medicine 1174—Irish dispensary medical officers and their holidays, 1176—The annual report of the Local Government Board 1898 1899 on food and water-supply, 1242—The medical service of the Hebrides, 1243—Hospital abuse in Australasia, 1244—*The organisation of the profession*, 1309—Cardiac pathology, 1309—Vaccination officers and their duties, 1310—The therapeutic use of anti-streptococcic serum, 1384—Scarlet fever in India and the bacteriology of the disease, 1385—The English speaking consultant in Italy, 1386—Research v resource in medical education 1387—The impending meeting of the General Medical Council, 1450—The annual meeting of the Royal College of Surgeons of England, 1450—The Conference on Medical Politics at Newcastle, 1451—The Association of Public Vaccinators, 1530—An ethical difficulty in Poor law, 1530—The jurisdiction of coroners, 1531—Anti vaccination reverses, 1598—Horse ambulances at London hospitals, 1599—Superfœtation, 1600—The General Medical Council and its work, 1679—Bullet wounds, 1679—"Union is strength," 1680—*The open air treatment of tuberculosis*, 1746—Conscription from a medical point of view, 1747—Sir Richard Thorne Thorne, 1748

Lean's Royal Navy List, 300

LECTURES

ALLBUTT, Prof T. C:—
Introductory Address on Theory and Practice, delivered at the opening of the Winter Session at St Thomas's Hospital Medical School on Oct 2nd, 925
ANDERSON, Mrs GARRETT:—
Introductory Address, delivered at the opening the Winter Session of London (Royal

Lethal chamber for dogs and cats, 805
Letter file, the "Ceres," 611
Leukæmia, lymphatic, 730
Lewers, Dr A H N, pan hysterectomy, 82, face presentation, 158, tumour of the vagina, 1810
Lewis, Dr P, Some Health Aspects of Education (review), 414
Licensing laws, Royal Commission on the, 283
Life, what is it? 991
Life insurance (or assurance), books on, 68, medical privilege and, 1108
Life assurance examinations, 1694, 1853
Light (see Bicycle light)
Lightning a regiment struck by, 430, 742, deaths from, in Italy, 437
Lille, congress of internal medicine at, 436, 516
Lime juice cordials 610, 611
Lincolnshire County Asylum, annual report, 361
Lindsay, Mr B, Zoology (review) 892
Lindsay, Prof J A., our position and outlook, 1797
Lipæmia in diabetes, 1456
Lipoma, intracranial ptosis produced by, 1437
Lisbon, "Indian typhoid" at, 734
Lister's discoveries, the effect of, 325
Liston prize medal essay, 86
Literary intelligence 63 133 245, 466, 617, 867, 987 1000 1139 1270, 1341 1379
Lithgow Surg Maj Gen S A, the late, 854, 857, 913
Lithotomy, suprapubic, 1295, 1467
Little, Dr E G, night terrors in children, 460
Littlejohn, Mr H, specimens exhibited, 159
Liver, echinococcus of the, 126 abscess of the, in India 496, the dividing lines of the 530, anæmic infarct of the 604, carcinomatous cyst of the, 605, abscess of the, dysentery and, 749, hydatid of the, 1435

LIVERPOOL, CORRESPONDENCE FROM —Joint parochial hospital scheme for the treatment of tuberculosis 122, 243, 745 862—Hospital Sunday and Saturday Funds in Liverpool, 123, 365, 1619—Hospital Saturday collection in Birkenhead 123—University College, Liverpool 123, 366, 515—The discharge of sewage into the Mersey the Bebington sewage scheme 243—Scarcity of accommodation for lunatics 234, 1470 1619—New Hospital for Wallasey and Liscard 243—Liverpool Convalescent Institution, Woolton, 244—Liverpool Royal Infirmary 244—Death of Mr W H Manifold, 244—Tropical diseases expedition to West Africa 365—Liverpool summer assizes, 365—Bequests to hospitals, 366, 1780—Cancer and Skin Hospital, 366 515—Samaritan Hospital for Women, 366—Victoria University, 366, 1780—High death rate among infants, 515—Precautions against plague, 745—Discovery of the malarial mosquito, 745—Tuberculosis and milk, 862—Seaforth overcrowding case, 862—Liverpool corporation hospitals, 863—Rehousing of the poor, 863—Result of the new Vaccination Act 1043—Return of Major Ross I M.S, from West Africa 1043—Poisoning by contaminated food 1043—The s s *Oceanic* and Liverpool hospitals, 1043—Water-supply, 1197—Increase of infectious diseases, 1197—Rating of Liverpool charities, 1197—Dinner of the Liverpool Medical Institution 1197—Bacteriological research 1197—Seamen's eyesight 1336—Liverpool County Hospital for Chronic Diseases of Children, 1337—Liverpool School of Tropical Diseases 1337 1618—New isolation hospital at Chester, 1337—Royal Southern Hospital 1470—Proposed sanatorium for consumptive patients, 1470—Infant mortality in Cheshire boroughs 1470—Influenza amongst horses 1470—Presentation to Dr James Barr, 1619—The City Council and the sale of tuberculous milk 1780—Demolition of insanitary property, 1780

Liverpool, medical report for, 232, medical treatment of the poor in, 579, University College 1109 1124
Liverpool Cancer and Skin Hospital, scandal at the, 295, 366 515
Liverpool School of Tropical Medicine (or Diseases) 38, 173, 365 583, 694, 696, 724, 743, 745 806 912, 1041
Living animals experiments on 314, 543
Livingstone Mr T H, hernia 960
Llanelly infectious hospital for 813
Lloyd Dr J H neurology, 794
Local Government Board and calf lymph 40, 124, medical inspectors of the reports of, 48, 112, 857 1120, 1187, 1325, 1763; and plague prophylactic fluid, 983; and the St Olave's Board of Works 1112; annual report of the (1898-99), on food and water-supply, 1242, annual report of the (1898-99) 1443, the official examiner to the, of the metropolitan water supply, 1538
Local Government Board, the Irish, 124, 185, 516, 914
Loch, Mr C S, a warning 470
Locum tenents of Irish Poor-law medical officers 191, 367, 435 516, and agents 256
Locusts fungus cultures against, 614
Lodge, Dr. S, jun., removal of the lens in myopia, 383, 457
Lodge, Mr P G., removal of the ovaries, 1228
London, successful outdoor treatment of tuberculosis in, 211; the smells of, 470, observations on, in 1751, 502 unfounded rumour of plague in, 583, the plague in, during the seventeenth century, 620, plague in, the prospect of, 734, the removal of the muzzle in, 1250, enteric fever in, 1452, the main drainage of, 1536; Foreign Press Association in 1753
London, congress in: White Slave Traffic, 53, Otological, 227, 464, 473, 503, 539, 611
London the Prince of Wales's Hospital Fund for, 300 574 1124, 1818
London, vital statistics of, monthly, 233, 508 800, 1121, 1326, 1770, weekly (see Vital Statistics, weekly, Health of English towns)
London, diphtheria in (see Diphtheria in London)
London, the City of, medical report for, 298
London, the Port of, health of, 1383
London, North, proposed new lung for, 849
London Bill, the new, the Food and Drugs Act and, 35
London Charities (see Herbert Fry's)
London County Asylums, the Pathological Laboratory of the, Archives of Neurology from (review), 1447
London County Council, the Asylums Committee of the, annual report of, 903, street noises dogs, and the, 1318
London Government Act, 221
London Hospital Medical College distribution of prizes, 41, 251, opening of new buildings 231; dinner of old students, 903, entrance scholarships 919
London hospitals, horse ambulances at, 1599, 1696
London School Board, male and female medical examiners of children under the, 41, and underfed children, 1602, 1696
London School Nurses Society, 110
London School of Medicine for Women, science laboratories, 252, education at, 694, opening of the session, 950, scholarships awarded, 1004
London School of Tropical Medicine, additions to the teaching staff, 505, instruction at the 696, inaugural address 956
London medical student, the burden of the 1870
London University and the Imperial Institute 110, 173, 370, pass lists, 312 1483, 1709 1785 1865 the medical degrees 695 and early medical studies, 1392, the final examination for the Bachelor degree in medicine, 1713 1790, 1869, retrospect, 1839
London water-supply and the condition of the rivers Thames and Lee, 235, communication between the mains of various companies 391
London and Counties Medical Protection Society Limited and the Medical Defence Union, Limited, 1257, 1680, 1774, 1858
Long *versus* Stocker, 176
Longton, diphtheria in 48
Lopes Sir Massey presentation to, 867
Lords and the ladies, 103 190
Love, Mr H, home wanted, 1418
Lowestoft Hospital the recent trouble at 1179
Lowndes Mr F W., kissing the Book 909
Luc, Prof frontal sinus empyema, 461
Lucae, Prof, middle-ear suppuration 540
Lucas, Mr R C, Roentgen rays in surgery, 378
Lucy, Mr R H., perineal operations 599
Lüer's aseptic syringe, 1308
Luff Dr A P., gout, 52, 1361, sodium biurate 377, 441, somatose, 883
Lumbricoids obstructing the small intestine 786
Lunacy the Commissioners in for England and Wales annual report of, 416, 433; for Scotland, annual report of, 1254
Lunacy in Dorsetshire 423, in Somerset, 461, in Victoria, annual report on, 750; in Scotland, 864, in Queensland, 1112, in Ireland, 1462
Lunacy fees action for the recovery of 313, cases, the reproachable differences of medical opinion in, 361, 450, Bill, withdrawal of the 330, 544; certificates, magistrates fees for, [illegible]; certificates medical fees for, [illegible]; fees, who pays? 1125, 1193, fees, a question of 1775
Lunacy (see also Asylum)
Lunatic, a criminal [illegible] of, 914
Lunatic asylum, a new, 490; [illegible]
Lunatic asylums, anthropological work in, 149, overcrowded, 503
Lunatics in Lancashire, want of accommodation for, 243, 744, harmless, provision for, 422, criminal, the treatment of, 467; in Ireland, 516, a new form of cell for 597; in the Belfast workhouse, 914
Lung, physical signs in the, in incipient phthisis, 420, the apex of the, why phthisis attacks, 500 519
Lungs the entrance of oxygen into the blood in the, 530, the post-mortem changes in the, 961
Lupton, Mr H, medical man's motor car, 1192, 1402
Lupus vulgaris, the Roentgen rays in, 534
Lustig, Prof, the plague serum of, 116, 303, 511
Lyddite, a constituent of, in milk 1852
Lye, alkaline, treatment of anthrax by, 1114
Lying in chamber, the lighting and heating of the 67
Lymph (see Calf lymph, Vaccine lymph)
Lymphadenoma, long periods of fever in, 1683
Lymphatic leukæmia, 730
Lyon, Dr. J. M., Weir-Mitchell treatment, 1638
Lyons, the Faculty of Medicine of, disturbances at, 60

M

Maberly, Mr J, South African plants, 873
McAllister Dr J F, the late 518
Macara, Dr J F, medical service of remote Scotland, 1776
McCartie, Lieut Col C J, heat apoplexy, 609
Macartney, Dr D., hydrocele, 710
Macaskie, Mr J G, dislocation of the patella, 1587
MacCormac, Dr. J McG., narcolepsy, 565
MacCormac, Sir W, with the wounded in South Africa, 1182, 1203, 1251 1308, and the medical profession in South Africa, 1314, notes from, 1754
Macdonald, Dr. P W, general paralysis, 529, 604
Macfadyen, Dr A., organism in pigeons 1296
McFarland, Dr J, Pathogenic Bacteria (review) 495
McFarlane Dr W missed labour, 29
MacGill Dr. H M, labourer worthy of his hire, 1789
Macgregor, Dr A., chinosol, 90, 238
Mackay, Dr J. W., Dissection of the Human Body (review), 1306
Mackay, Dr W. A, œsophagotomy, 1516
McKendrick, Prof. J. G, Hermann von Helmholtz (review), 1741
Mackey, Mr S., the widow of, appeal on behalf of, 1616 1790 1870
Mackie, Dr W., phosphoric acid in blood 484
Macklin Dr T T, presentation to, 465
Maclaren, Dr R., gastric ulcer and strangulated hernia, 1094
McLaurin Dr W obituary, 811
Macleod, Surg-Col. K, thermic fever, 608
Macleod, Mr W. B., the late, 913
MacMahon, Dr J. R., leprosy, 778; acro-arthritis, 1156
MacMunn, Dr. C. A, red colouration of the fæces, 1432
McNab, Frances, British Columbia (review), 162
Macnaughton-Jones, Dr H., a sad case, 1618
Macpherson, Dr J, Mental Affections (review), 1596
MacRae, Dr. D M, lumbricoids, 786
MacVail, Dr. J. C., annual report for Stirlingshire, 684
MacVie, mother *versus* child, 281
MacWharrie, Hon Dep Insp-Gen R., the late 737
Madagascar plague in 862
Madden Dr T. M, uterine cancer, 602; medical progress, 1143
Madeira as a health resort, 301, 430, leprosy in, 855
Magersfontein, the Royal Army Medical Corps at, 1753
Maggs Mr W A, registration of students, 9[illegible]8
Maguire Dr R, pleuritic effusions in childhood 383 458
Mahon Dep Insp-Gen, syphilis, 523
Maid, A Loyal Little (review), 1744
Mair, Dr L W. D, enteric fever, 855
Maisch, Mr J M, Materia Medica (review), 725
Maisey, Mr C. T D, puerperal septicæmia, 6[illegible]
Makins Mr G H, wound of the rectum, 1145, with the wounded in South Africa, 1[illegible]
Makuna, Mr M., carcinoma of the scrotum 1[illegible]
Malaria, recent investigations relative to, 57[illegible]; investigations on, by Dr Koch, [illegible]; mosquitoes and 583, 691, 72[illegible] 743, 745, 777, 806, 912 1114 1161; extirpation of [illegible]
Malaria expedition (see Africa, West)
Malarial fever, the etiology of, 734; fevers, the treatment of, [illegible]; neuralgia, 6[illegible]; blood, the

staining of, 889, 1041; malarial parasite, the quartan, in blackwater fever, 1229
Malarial Countries, Typhoid Fever of (review), 1153
Male subject, hysteria in a, 354
Malformation, malposition, or absence, congenital: fœtus, 489, 837, 1663; heart, 522; external auditory meatus, 539; bowel, 566; hymen, 719; kidney, 755; brain, 901; uterus and vagina, 1226; pylorus, 1511; transposition of viscera, 1513; colon, 1605
Malformation, pedal, from an evolutionary standpoint, 1013
Malherbe, Dr., middle-ear otitis, 612
Malignant disease of the jaws, 378, 444; growths, the infectivity of, 1165; growth of the large intestine, 1277
Malins, Dr. E., *inversion of the uterus*, 238; simulated inversion of the uterus, 277
Mallins, Dr. H., rare obstetric accident, 490; vaccination, 1418
Malmesbury, water supply of, 1734
Malpraxis, a trumpery action for, 52
Malta fever, geographical distribution of, 610; *agglutinating substances in the blood*, 701
Mammæ, tumours of the, 831
Mammary glands, the ovaries and the, 381, 529
Man, hysteria in a, 354; perforated gastric ulcer in a, 489
Man, Past and Present (review), 842
Man, the Isle of, Consumption in (review), 891
Manasseh, Mr. A. J., epistaxis, 785
Manby, Dr. E. P., meat inspection, 381, 448

MANCHESTER, CORRESPONDENCE FROM.—The deaf and dumb, 56—Manchester and Salford Sanitary Association, 57—The corporation gas products, 57, 184—Manchester Royal Infirmary, 57, 1552—Notification of phthisis, 184—Manchester companies volunteer medical staff corps, 174—Dalton's tomb, 184—Owens College, 185—Hulme Barracks, 308—Public slaughter-house for Oldham, 308—The Medical Guild, 309—A large family, 309—The Infirmary site, 434, 595, 744, 1407, 1553—Condition of the Irwell, 434—"Laudanum Lily," 434—Hospital inquiry at Horwich, 595—Hospital Saturday at Bolton, 595—Oldham and vaccination, 595—The *Iron and* Steel Institute 744—Water supply, 744, 862—Summer *diarrhœa*, 744—*Chorlton Union*, accommodation for imbeciles, 744—Lancashire Asylums Board, 744—Analysts differ, 861—Precautions against plague, 862—Opening of the medical session, 933—The corporation baths, 983—Hospital accommodation for small-pox, 983—The Ship Canal and diphtheria, 984—Strange death at Oldham, 984—Manchester sewage, requirements of the Local Government Board, 1130—St. Mary's Hospital, 1130—The Rylands Library, 1130—Poor-law guardians in conference, 1262—Salford Royal Hospital, 1263—*Ancoats* Hospital, 1263—Sewage disposal at Swinton, 1263—A story told at a Gorton inquest, 1263—Manchester crematorium, 1406—Medical practitioners and police notices, 1406—The ex-Lord Mayor on noxious fumes, 1406—Proposed small-pox hospital for Bury, 1552—Nuisance near the Clinical Hospital, 1552—Prevention of tuberculosis, 1699—Manchester Ear Institution, 1699—Lamp fatality, 1699—A coroner on flannelette, 1699—Strychnine poisoning, 1860—The evening papers and the Chorlton Workhouse, 1861

Manchester: prevention of tuberculosis and voluntary notification of phthisis, 175, overcrowding, 421; Owens College, opening of the winter session, 505; organisation of the profession, 950; Victoria *Dental Hospital*, 1201
Manchester Infirmary site, sale of the, 355; *Medical Guild*, 796, 805
Manchester and Chorlton unions, the question of amalgamation, 918; and Salford provident dispensaries and Mr. G. H. Broadbent, 1334
Manchester *Port* Sanitary Authority, precautions against plague, 853, 862
Manchester sewage, the experts' report on, 1454
Manchester's new hospital, 1031
Manganese (see Permanganate)
Manifold, Mr. W. H., the late, 244
Manila, the American army in, small-pox and vaccination in, 969
Manson, Dr. P., filarial periodicity, 386; inaugural address at the London School of Tropical Medicine, 956; *Congo sleeping sickness*, 1096
Margarine, new legislation on, 1389
Margarine sold as butter, 174
Margarine cheese, 544
Margate Hospital, new wards of, 42
Marley, Mr. H. F., inquests, 921
Marmorek's serum treatment of puerperal fever, 445
Marr, Dr. H., general paralysis, 836
Marriage after removal of the uterus or ovaries, 525
Marriage certificates required at a maternity *hospital*, 248
Marsden, Dr. S., overcrowding in schools, 381, 448
Marsh, Mr. H., excision of the knee joint, 1347
Marshall, Mr. E. S., Flora of Kent (review), 723
Marshall, Dr. C. F., gonorrhœal rheumatism, 1617
Martin, Dr. C. J., cardiac thrombosis, 762
Martin, Mr. J. S., foreign body in the rectum, 278
Martin, Prof. A., Die, Krankheiten der Eierstöcke und Nebeneierstöcke (review), 1595
Martindale, Mr. W., Syllabus of Materia Medica (review), 163
Marylebone (see St. Marylebone)
Masonry, bacteria as destroyers of, 853
Massachusetts *State Hospital* for Consumptive and Tuberculous Patients, 505
Massage in gout, 38
Massage scandals, 37
Massart, Mons Jean, Evolution by Atrophy (review), 346
Mastoid, the indications for opening the, 540
Mastoid cells, tuberculous disease of the, 539
Masturbation, neurectomy a preventive of, 838
Masturbation (see also Immorality)
Matabeleland, medical ordinance in, 250, 286, 359, 504
Materia Medica and Therapeutics (review), 96
Materia Medica, Syllabus of (review), 163
Materia Medica, An Introduction to (review), 723
Materia Medica, Organic, Manual of (review), 723
Materia Medica, Practical (review), 723
Maternal inebriety, influence of, *on* the offspring, 898
Matriculation Directory (review), 163
Matron, the sphere of a, 353, 423, 504
Matthews, Mr. V., Royal Army Medical Corps Manual, 52, 181
Maurice, Mr. O. C., vaccine lymph, 194; *septicæmia*, 409
Mauritius, plague in, 514, 799, 854
Maxwell, *Dr. T., gratitude*, 1490
May, Mr. J., presentation to, 363
Mead, Mr. G. O., income tax, 469
Meade, Mr. R. H., obituary, 1864
Measles, the first signs of, 110; *Surgical complications and sequelæ of*, 313, in Dublin, 1469, 1551, 1697, 1778, 1859; notification of, 1865
Measures taken at *Tor and Suez* against ships coming from the Red Sea and the Far East, 1801
Meat, *American*, 185
Meat inspection, 381, 448; extracts, somatose and, 883
Medals: Liston, 86; Albert, 110; Bissett-Hawkins, 359; Baly, 359, 515
Médecine, Archives Générales de (review), 570
Mediastinal emphysema in diphtheria, 1808
Mediastinitis, chronic, cases of, 24
Medica (see Encyclopædia Medica, Materia Medica, Mens Medica)

MEDICAL SOCIETIES

ABERDEEN UNIVERSITY MEDICAL SOCIETY.—Medical manners and economy, 1337
ÆSCULAPIAN SOCIETY.—Recurrent appendicitis, 1170—Fatal appendicitis, 1303—*Importance of early recognition and removal of naso pharyngeal adenoids*, 1446—X ray production and its medical uses, 1595—The advisability of licensing and registering midwives, 1741
ANATOMICAL SOCIETY.—Meeting at Cambridge, 41—Annual meeting, 1318
BEDFORD MEDICAL SOCIETY.—Exhibition of cases, 1378
BIRKENHEAD MEDICAL SOCIETY.—Notes on the *association of medicine and art*, 1169—Music and medicine considered from a physiological, pathological, and therapeutical standpoint, 1815
BOMBAY MEDICAL AND PHYSICAL SOCIETY.—Plague toxins and atropine; The jigger parasite, 1301
BRADFORD MEDICO-CHIRURGICAL SOCIETY.—Erysipelatous anthrax, 94—Suppurative pelvic cellulitis, Addison's disease; Exhibition of cases, 1594—Tuberculosis in its relation *to public health*, 1813
BRISTOL MEDICO-CHIRURGICAL SOCIETY.—Medical Bristol in the eighteenth century; Election of officers, 1100—Exhibition of *cases and specimens*, 1379, 1740
BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A retrospect and forecast, 1237—The *duties* of medical men in the public life of health resorts; Sidmouth as a winter health resort, 1813
BRITISH GYNÆCOLOGICAL SOCIETY.—Prevention and cure of ventral hernia, 280—Exhibition of specimens; After-results of operations *for the removal* of the uterus and appendages, 1093—Physico-chemical changes concerned in the production of version of the uterus, 1372—Annual dinner, 1536
BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—Sudden nerve-deafness of the right ear, 1302
BRITISH ORTHOPÆDIC SOCIETY.—The surgical treatment of infantile spastic paralysis, 1376
CAMBRIDGE MEDICAL SOCIETY.—Dorsal percussion, 261
CAPE TOWN MEDICAL SOCIETY.—Some South African plants, 873
CARDIFF MEDICAL SOCIETY.—Notification of tuberculosis, 214—*Prevention of tuberculosis*, 1115
CHARING-CROSS HOSPITAL MEDICAL SOCIETY.—Ancient and modern quackery, 1350
CHELSEA CLINICAL SOCIETY.—Prevention of tuberculosis, 198—Deviation in nature and its clinical bearing, 1377—The use of baths in skin diseases, 1526
CHESTER MEDICAL SOCIETY.—Post-graduate instruction (clinical bacteriology), 36
CLINICAL SOCIETY.—Acute streptococcal meningitis *supervening on chronic nephritis*; Aneurysm of the aorta; Obscure case of anæmia with complications, 1097—Exhibition of cases, 1232—Acute intestinal obstruction due to an intussusception of Meckel's diverticulum; Primary nephrectomy for complete rupture of the kidney; Enlarged spleen due to congenital volvulus of the stomach and transverse colon, 1369—Senile tuberculosis; Excision of the cæcum for carcinoma of the ileo-cæcal valve; Obstruction of the vena *cava*, 1519—*Cases of perforated gastric ulcer* treated by operation; A case of arrested development of the speech centre, 1668
CONTINENTAL ANGLO-AMERICAN MEDICAL SOCIETY.—Luncheon, 372
CORK MEDICAL AND SURGICAL ASSOCIATION.—Annual dinner, 1264
DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—Exhibition of cases, 94—Exhibition of cases; The treatment of leprosy, 1237—Exhibition of cases, 1526
DUTCH GYNÆCOLOGICAL SOCIETY.—Dinner at International Congress of Gynæcology and Obstetrics at Amsterdam, 541
EDINBURGH MEDICO CHIRURGICAL SOCIETY.—Exhibition of cases and specimens; Cerebellar tumour; Development of the testicle, 159—The importance of the examination of the blood in doubtful cases of disease, 1375—Exhibition of cases and specimens; The radical cure of hernia, 1672
EDINBURGH OBSTETRICAL SOCIETY.—Mistaken *sex in adult life*; Eclampsia; Exhibition of specimens, 28—Mother *versus* child, 281—Valedictory address, 1523
EKATERINOSLAV MEDICAL SOCIETY.—Memoirs (review), 1677
EPIDEMIOLOGICAL *SOCIETY*.—Annual *dinner*; Speech by Mr. Haffkine, 35, 42—Transactions (review), 1239—Comparative mortality of English districts, 1421—The behaviour of plague at Oporto, 1814
FOLKESTONE MEDICAL SOCIETY.—Inaugural meeting, 1100—The morphia habit and its *treatment*, 1378—A few points in surgery, 1741
FORFARSHIRE MEDICAL ASSOCIATION.—Exhibition of cases and specimens, Symphysiotomy; Ankylosis of the temporo-maxillary articulation, 1168—Treatment of tear-duct obstruction, 1376—Tracheal stenosis; The value of intubation in laryngeal *diphtheria*, 1674
FRENCH ACADEMY OF MEDICINE.—Imperfectly developed vaccine vesicles, 59—Club-foot; Penetrating wounds of the chest, 124—*Milk* serum, 248—Rhinoplasty by the Italian method, 310—Hand reared infants, 436—Dia*gnosis between* tuberculosis and intermittent fever, 935—Syphilis, 1044, 1554—Tuberculosis, 1199—Vaccination, 1265—Intracranial foreign bodies; Cacodyle, 1408
GLASGOW *OBSTETRICAL AND GYNÆCOLOGICAL* SOCIETY.—"Missed labour". The bacillus coli communis as a cause of puerperal septicæmia; Exhibition of specimens, &c., 29
GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—Exhibition of cases and specimens, 1099, 1446, 1740
GLASGOW SOUTHERN MEDICAL SOCIETY.—Election of officers, 1013—Annual dinner, 1198—Remarks on tuberculosis, 1302—Exhibition of cases, 1816
HAMPSTEAD MEDICAL *SOCIETY*.—The death rate, 212
HARVEIAN *SOCIETY*.—Vomiting relieved by laparotomy, 1155—Exhibition of cases and specimens, 1167—*Treatment* with anti-streptococcic serum, 1299—Annual dinner,

1318, 1635—*Fibroid tumours of the uterus*, 1443—Harveian lectures, 1538, 1641, 1724, 1793
Hunterian Society.—The increase of cancer, 765—Effects of influenza on the heart, 972, 1075, 1309
Ipswich Clinical Society.—Exhibition of cases, 1235—Extra uterine fœtation, 1524
Islington Medical Society.—Mercury in heart disease, 1147
Kidderminster Medical Society.—Malignant disease of the ascending colon, 1595—Exhibition of cases, 1815
Kief Medical Society.—Enteric fever, 1556
Leeds and West Riding Medico Chirurgical Society.—Inversion of the uterus, 151—Inaugural address; Tumours diagnosed as sarcomata; Œdema without albuminuria; Exhibition of cases and specimens, 1234—Removal of the lens in high myopia, 1358, 1373—Diphtheria; Abscess of the sphenoidal sinus, 1373—Fallacies connected with tests for albumin, Exhibition of cases and specimens, 1521—Suprarenal extract in nasal surgery; Hernia of the bladder; Exhibition of cases and specimens, 1739
Liverpool Medical Institution.—Introductory address by the President on the midwifery forceps, 1021—Acute sacro-iliac joint disease, 1168—Biennial dinner, 1197—Exhibition of cases; A foreign body in the eye; Follicular conjunctivitis, 1301—Exhibition of specimens, 1446—Gastric ulcer, Vaginal enucleation and vaginal hysterectomy in the treatment of uterine fibroids, 1522—Exhibition of specimens, The association of albumosuria with bone disease; the etiology of cancer, 1740
Manchester Clinical Society.—Election of *officers*, 1221—*The prognosis in certain* chronic diseases of the nervous system, 1235—Torsion of the pedicle of an ovarian cyst, 1525
Manchester Medical Society.—Simple fracture of the tibia and fibula, 1021—A peculiar form of hypertrophic alcoholic cirrhosis, 1377—Cerebellar abscess secondary to acute suppurative middle-ear disease; *Cerebellar tumour affecting* the middle lobe, 1740
Manchester Pathological Society.—Election of officers, Exhibition of specimens, 1100—*Acute disseminated myelitis*, 1525—Exhibition of cases and specimens, 1815
Manchester Therapeutical Society.—The dietetic treatment of disease, 1236—The use of glycero-phosphate of soda, The comparative value of *Galenical preparations and* isolated active principles, 1671
Medical Society of London.—Stone in the ureter, 205—Annual meeting, President's address; Serum therapeutics and the antitoxin treatment, 900, 1018—Medicine in the nineteenth century, 995—The infectivity of malignant growths, 1165—Exhibition of cases, 1368—*The prognosis of appendicitis*, 1518—The surgical treatment of ascites; Fifty successful consecutive cases of ovariotomy, 1667
Medical Society of University College Hospital.—Ancient method of treating fevers, 397
Medico-Psychological Association.—Annual meeting, 228—Meeting of the Northern and Midland Division, 961—Meeting of the South-Eastern Division, 1000
Middlesex Hospital Society.—Introductory address, 1033, 1387
Midland Medical Society.—Treatment of consumption, 1336—A case of scleroderma, 1378—Appendicitis, a review of 117 cases of operation, 1414—Exhibition of cases, 1675
Newcastle-on-Tyne Clinical Society.—Election of officers; Exhibition of cases and specimens, 1302—Exhibition *of cases and specimens; Prescribing from a pharmacist's* standpoint, 1814
North of England Obstetrical and Gynæcological Society.—Exhibition of cases and specimens, 1236—Extirpation of the uterus for extreme hypertrophy and prolapse, 1673
Northumberland and Durham Medical Society.—Election of officers; *Tuberculous phthisis; Quotidian ague*, Exhibition of cases, 1099—Exhibition of cases and specimens, 1374—Mitral and tricuspid incompetence, 1816
Nottingham Medico Chirurgical Society.—*Puerperal sepsis*, 1445—The treatment of tetanus with antitoxin, 1816
Obstetrical Society.—The fœtal pelvis; Persistent mento posterior position of the face; eclampsia, 157—Pathology and symptoms of hydatidiform degeneration of the chorion; Exhibition of specimens, 1019—Tubercle of of the uterus, *anti streptococcic serum*; Exhibition of specimens, 1151, 1298—Midwives' certificates, 1341—The *certificate for midwives*, 1451, 1563—Tubal molar pregnancy; Idiopathic peritonitis; Exhibition of specimens, 1670
Odontological Society.—Inaugural address, 1378—General hypertrophy of the gums, 1675
Ophthalmological Society.—Operative treatment of eyes exhibiting high degrees of myopia, 17, 27—Changes in the conjunctiva produced by chronic inflammation; Plastic operation for contracted socket; A case of penetrating wound of the orbit followed by meningitis, trephining, recovery; Card specimens; Election of officers, 158—Presidential address, *Interstitial keratitis in acquired syphilis; Recurrent superficial necrosis of the* cornea; radiant heat in treatment of eye diseases; Exhibition of specimens, 1166—Primary neoplasm of the optic nerve; Iritis, a sequel to gonorrhœa, 1371—Exhibition of cases, 1811
Otological Society.—The initiating committee, 63—Election of officers, 1741
Oxford Medical Society.—Election of officers; Exhibition of cases, 1169
Pathological Society.—President's address The Congo sleeping sickness: its etiology *and histology; Specimens of bubonic plague*, of pyonephrosis, and of aortic aneurysm, 1095—Laboratory meetings, 1107, 1248—Laboratory meeting: Diphtheria like organisms found in pigeon canker; The bacillus of pseudo-tuberculosis; Chromocyte clumping, 1296—The pathology of tabes dorsalis and general paralysis of the insane, 1442, 1591, 1736
Plaistow and Canning Town Medical Society.—Surgical complications of measles, 313—The pathology and treatment of immature pregnancies, 1379
Plymouth Medical Society.—Exhibition of cases and specimens, 1377, 1526
Reading Pathological Society.—Annual meeting, 1170
Reading Pathological Society and Reading Medico Chirurgical Society.—Amalgamation, 1181
Rochdale and District Medical Society.—The prevention of tuberculosis, 1446
Royal Academy of Medicine in Ireland.—Exhibition of specimens, 1444—Cerebro spinal disseminated sclerosis, Senile dementia, 1522—Venereal Diseases and their Therapeutics, *The treatment of a fractured patella* by an improved method; Urinary infiltration, 1673—Exhibition of specimens; Cæsarean section, 1738—*Beri beri; Sarcoma of lip*, 1812
Royal Medical and Chirurgical Society.—The library, 296—The open-air treatment of tuberculosis, 1366, 1517, 1590, 1665—Dinner, 1394, 1455
Sheffield Medico Chirurgical Society.—*Election of officers*, 1170—*Exhibition of cases* and specimens; Aseptic surgery, 1236—Asthenic bulbar paralysis, 1445—The serum *treatment of diphtheria*, 1524—*Excision of gangrenous umbilical hernia with secondary* enterorrhaphy, 1674
Society of Anæsthetists.—The relationship *between the use of anæsthetics and insanity*, 1300
Society of Medical Officers of Health.—Annual dinner, 1114—West of England and South Wales Branch, 1152—Epidemic diarrhœa, 1318, 1493
Southport Medical Society.—*Formation of the society and election of officers*, 712
Stockport and District Medical Society.—The Stockport centre of the St. John Ambulance Association, 1181
Ulster Medical Society.—Annual meeting, 245—Sanitary history of Belfast, 1338—Annual Dinner, 1553—Abdominal section for ruptured tubal pregnancy; *The surgery of perforated gastric ulcer*, 1739
West Kent Medico Chirurgical Society.—Election of officers, 1022—The causation and treatment of gout, 1361, 1379
West London Medico-Chirurgical Society.—Election of officers, 229—Inaugural address on the progress of rhinology, 1021—Some modern methods of treatment in chronic urethritis, 1303—Exhibition of cases, 1591
Wigan Medical Society.—Presentation to the president, 474—Inaugural meeting, 1170—Medical politics, 1279—The treatment of typhoid fever, 1816
Windsor and District Medical Society.—Formation of the society and election of officers, 313—Exhibition of specimens, 1169—Some uncommon affections of the skin, 1526
Wood Green and District Medical Society.—Proposed registration of midwives, 63, 111—The certificates of the London Obstetrical Society, 1341

Medical—degrees, registration of, 117; Naval Minister, 123; *Supplemental Fund, the* Naval, 179, history sheets for French soldiers, 300, botanist, 356; curriculum, pharmacology in the, 383, 627; "ex votos" in ancient Greece, 422; sickness assurance, 469, 547; battery, a new combination, 573; reports of the Chinese Maritime Customs, 579; book keeping, 611; teachers, 697; factor *in history*, 782; *organisation*, 796, 805; Freemasons, an appeal to, 870; electricity at the Boulogne Congress, 896; "roman à scandale," 915, column in a newspaper, 902, aspects of the domestic servant question, 1025; privilege and life assurance, 1108; *charities, the use of*, 1323; *attendant, a* druggist and his, 1414; point of view, conscription from a, 1747; Directory for 1900, 1776
Medical—Science, Modern, Twentieth Century Practice of (review), 283; Terms, English-French Dictionary of (review), 722; Handbook for the Use of Practitioners and Students (review), 1240; Annual Synoptical Index (review), 1676
Medical aid *societies* (or associations), the General Medical Council and, 46, 246, 426, 548; the Medical Defence Union and, 300; *Truth* on, 573
Medical aid associations (see also Battle of the Clubs, Doctoring, Friendly Societies, Organisation of the profession)
Medical aid to the women of India, 849
Medical appointments and vacancies: university and collegiate, 185, 296, 864, 972; hospital, infirmary, dispensary, asylum, &c., 244, 249, 310, 367, 436, 515, 518, 808, 864, 1619; in West Africa, 746
Medical appointments (see also Appointments, Services)
Medical arrangements for the Transvaal, 970; with the field force in South Africa, 1033
Medical Association
Medical Association (see British &c., Irish &c., Metropolitan Provident &c., Volunteer &c.)
Medical attendance, accounts for, details necessary in, 185
Medical Benevolent College (see Royal Medical &c.)
Medical certificates, the giving of, 193, 255; in the law courts, 921
Medical Congress (or Congress of Medicine), the International, in Paris, 41, 107, 118, 229, 1246, 1752, Intercolonial, of Australasia, 246, 1353
Medical corps, army (see Royal Army Medical Corps)
Medical and clerical cricket match, 390; cricketer, 1049
Medical defence, the British Medical Association and, 376
Medical defence association, the value of a, 52
Medical Defence Union, Limited, 300, 417, 430, 1257, 1473, 1680, 1774, 1858
Medical education of women, 694
Medical education, the present condition of, 1000, 1015; research *versus* resources in, 1327
Medical Ethics, congress on, 240, 1391; a question in, 619; geography of, 755, 1418; in Denmark, 755; in high places, 922
Medical examination of criminals, 314; of candidates for commissions in the army, 803
Medical examinations for R.A.M.C. and I.M.S., pass lists, 363
Medical examining bodies, regulations of the, 623-640, 684-689
Medical faculties, the German, the Prussian Minister of Education and, 809
Medical fees, Poor-law guardians and, 245, under the Poor law, 278; various scales of, in Ireland, 367; actions for the recovery of, 466, 867, in Alsace-Lorraine, 619; for assisting at an amputation, 914; *for attendance on a medical man*, 921; a county court judge on, 1789
Medical Graduates' College and Polyclinic, 174
Medical Guild, the Manchester, 309, 735, 806, *guilds and unions, an appeal to*, 967
Medical inspectors of the Local Government Board, reports of, 48, 112, 855, 1120, 1187, 1325, 1768
Medical legislation (see Medical Ordinance)
Medical magistrates, 63, 130, 312, 545, 919, 1049, 1786
Medical man called to the bar, 63; *the relations of the, to his assistant*, 67; assassination of a, 125, 170; the sacred person of the, 135, privileged communications from a, to his assistant, 135; conviction of a, for assisting a quack, 186; prosecution of a, for neglect *of notification*, 233; refusing to attend a patient, 670, poisoned by medicine dispensed by himself, 901, 966; medical fees for attendance on a, 921; jubilee of a, 965
Medical Man, can he be the legatee of his wife (in France)? 915
Medical man's motor car, the expenses of a, 1027, 1127, 1242, 1331 1402, 1510
Medical men [illegible] for [illegible] 52, 67, 178, 296; [illegible] assaults [illegible] 425

ght by, 67, 252, 617, free rail
g for, in Hungary, 106, rifle
a, 174, 229, 296; Widows and
Society for Relief of, 251, 1138,
, 310, 505, duel between, 368,
commissions, 372, 583, and
.6, 547; and their grievances,
ing to (or imposition on), 470,
turalists, congress of, at Munich,
tion in cookery for, 810, at the
ial, 865, prescribing without
patient, 870, civilian, attending
nd their families, remuneration
spensing by, 966, and dispensing,
rations for, 1139; foreign, in Cuba,

n, honours to, 50, 110, 115, 355, 586,
1846, 1857, municipal honours to,
l, an Italian professor, American
o, 60, 311
en, presentations to (see PRESENTA
prosecutions of (see also Hunter
lare), eminent foreign, deaths of
ths, &c.), or their families, appeals
lf of, defence funds, &c (see Sub
s)
observations, the publication of, a
n of professional secrecy, 60
officer of health on the diagnosis of
ria, 470, 548; threats against a, 598
officer of health of Paisley, 123, of
09, 753, a county, for Monmouthshire,
St Olave's, 852, 1112
officer, a veteran Poor law, 1605
officers, naval, the training of, 791
officers, army, who have resigned on
ity, 1258
officers of health reports of, 112, 232,
35, 584, 855, 906, 1120, 1383 1691, 1769,
tenure of office of, 1734, fixity of
re for, 1760
l Officers, British Postal, dinner, 44,
resident, of the Edinburgh Royal
mary, 101, resident, and the Workmen's
pensation Act, 500, colonial, study leave
1332, to the tea plantations of Assam,
remuneration of, 1637
cal officers, Poor law, and boards of
rdians, 543
cal officers, Scottish Poor law, their right
appeal, 110, 221, 252, 373, of parishes in
e Hebrides, 302, Scotch parish, holiday
r, 1334
ical officers, Scottish Poor-law (see also
mont, Mr)
ical officers, Poor law, in far away districts,
3, Irish Poor law, superannuation for,
9, Irish Poor-law, locum-tenents of, 191,
67, 435 516, of Irish Poor law union hospitals
or dispensaries), holidays (of vacations) for,
510, 367, 616, 914, 985, 1176, workhouse, the
duties of, 1865
edical opinion, the reproachable differences
of, in lunacy cases, 381, 450
edical ordinance (or legislation) in Southern
Rhodesia (or Matabeleland), 250, 286, 359, 504,
1031
Medical politics, address on, at Wigan, 1279,
conference on, at Newcastle-on Tyne, 1312,
1395, 1403, 1451, 1474, 1696, 1777
Medical practice, international reciprocity of,
426, by companies, 426, 466, 544, a query as
to commencing, 815; in Brazil 1865
Medical practice (see also Doctoring)
Medical practitioner, an old 905 938
Medical practitioners, civil, for the army,
987
Medical profession, the disunited, 68, and the
St John Ambulance Association, 166, a
case of interest to the 185, and the friendly
societies, 202, in England and Indian
medical reform, 300; in Cuba, 370, the
position and remuneration of the, 623,
secret commissions and the, 725, 798, the
German, statistics of, 809, members of the,
and their families, gratuitous attendance on,
991 1051, in South Africa Sir W MacCormac
and the, 1314, morphinism, and drink, 1393
Medical profession (see also Profession)
Medical and dental professions 1638
Medical progress, 35 years of, 944, introductory
address on, 1149
Medical Protection and Medico Ethical Society,
East Suburban 67, 111
Medical Protection Society, the London and
Counties Ltd and the Medical Defence
Union, Ltd, 1257, 1680
Medical provision in Glasgow prison, 64; on
board ship 391
Medical reform, 513 1542
Medical reform, Indian, 300, in East York and
North Lincoln, 1401, at Rochester, 1704
Medical reform (see also Corporate, &c.)
Medical Register, names of deceased persons
retained on the 53, 1041; personation and
the, 426, the Colonial List of the, 427
Medical registration in India, 373, notification
of change of address, 1032
Medical relief, the Revision Court and (i e,
medical relief does not pauperise), 912
Medical school, the army, close of, the session,
179, 356, 424
Medical school, a new, in Belfast, 598, Cam-
bridge as a, 1181, 1258
Medical schools, metropolitan, 645-656, 685,
696; provincial, 656-663, 685; in Scotland,
663-668, Irish, 668-671
Medical schools, opening of the, 671, 985,
changes in the 734, London and provincial,
introductory addresses &c, delivered at the
, 925-956 964, 983, 1000, 1003, 1149, dinners of
the, 973; entries at the, 1119, 1187
Medical Schools and Graduates Association,
the Irish, 372
Medical service, the army, date of examina-
tions for, 236, 253, an insult to, 1183
Medical service, the Royal navy, 224, the
public, in Trinidad, 731, the Indian, 978, of
the Hebrides, 1243, 1328, in remote Scotland,
1618, 1776
Medical service, the naval, military, and Indian
(see also, Indian Medical Service and
Services)
Medical service in state at St. Paul's Cathedral,
968, 1201
Medical services of the army and navy, 325, 349,
439, 588, 740, the unsatisfactory condition of
the, 326
Medical services, military and naval of
Germany, 328, of Russia, 329, of France,
329
Medical services, the army, navy, and Indian,
various regulations of, 640
Medical services, recognition of, 812
Medical staff corps, Aberdeen volunteer, 58,
Manchester volunteer, 184
Medical staff of the Bureaux de Bienfaisance,
915
Medical student, fatal accident to a, 310, the
registration of the dental student as a, 908,
the London, the burden of, 1870
Medical student (see also Student)
Medical studies, early, London University and,
1392
Medical study, scholarships given in aid of,
672-683
Medical study in France, new regulations for,
596
Medical tests required for admission to the
public services 377, 439
Medical treatment of the poor in Liverpool, a
"superior person" on the, 579
Medical Union, Bradford and West Riding, 176,
1321, New South Wales, 347
Medical unions in France, 239
Medical unions and guilds, an appeal to, 967,
Medical unions and kindred associations, a
unions, guilds, and kindred associations, a
list of, 1126
Medical witnesses, the fees of, 418
Medical witnesses (see also Expert evidence)
Medical and Surgical Consultative Institution,
Birmingham, 1403
Medical (see also British Medical, Quarterly,
and various titles of journals under PERIODI-
CALS, following REVIEWS)
Medical, service de nuit, 59
Medicine, the fluoroscope in, 36, practical,
recent advances in, 321, 375 376, the combi
nation of surgery with, 322, and surgery,
the century's progress in, 348, 373, the
Roentgen rays in, 474, old and new, 940, the
outlook in 951, the study of, 952, progress
of, in the nineteenth century, 995, music in,
1159, 1815, bishops and, 1174, domestic, 1174,
colour photography in, 1535, forensic,
Roentgen rays and 1682
Medicine, Congress of (see Medical Congress)
Medicine, forensic, 1827
Medicine, forensic, Roentgen rays and, 1682
Medicine, Internal, Congress of, at Lille, 436,
516
Medicine, post graduate instruction in, in
various countries 691-694
Medicine, preventive, bacteriological research
and, 372, 379, 510, future progress of, 376
Medicine Preventive, Jenner Institute of,
annual meeting 38, instruction, 696, altera
tion of memorandum of association, 799, Dr
Macfadyen's address, 1029, Transactions
(review) 1171
Medicine, State, instruction for diplomas in,
684
Medicine, Tropical, the Liverpool School of,
38 173, 365, 585, 694, 696, 726, 743, 745 806,
912, 1041
Medicine tropical, schools for, the establish-
ment of, 385, instruction in, 695; the London
School of inaugural address at, 956
Medicine, &c, illegal certificates of proficiency
in, 426, 511, 587
Medicine, State, Journal of (review), 31, 218;
Medicine, State, the History of, An
System of (review), 493, the History of, An
Epitome of (review), 843
Medicine Stamp Acts, 1113
Medicine and State medicine (see also under
Brit. Med As oc)
Medicine (see also Twentieth Century Practice,
Position and Outlook, ANNUS MEDICUS)
Medicines "patented in all countries," 255, 317
Medico-ethical and medico-political questions,
proposed conference on, 796
Medico-Psychological Association (see Medical
Societies)
Mediterranean fever, 701
Melancholia, long standing, sudden recovery
from, 968
Melbourne Women's Hospital, 248, 751; Queen
Victoria Hospital, 737
Melbourne Hospital and contributions from
patients, 518, annual report, 751
Melbourne University, the new medical cur-
riculum, 753
Membranous (see Angina and Vaginitis)
Memorials to William Gilbert, 171, Professor
Rutherford, 185; Dr. Giovanni Inverardi,
248
Meninges, Eberth's bacillus in the, 369
Meningitis, cerebro-spinal, without fever or
retraction of neck, 156
Meningitis following wound of the orbit, 159;
streptococcal, 1097; peculiar, 1287, trau
matic (tuberculous?), 1364
Menopause, natural, and produced by removal
of the uterus or uterine appendages, 524
Mens medica, the achievement of the, 1003
Menstrual fluid, retained, retention of urine
caused by, 719
Mental shock, sudden loss of hair due to, 109,
explosiveness in children, 292, deviations
from normal among school children, 896;
symptoms, serious, periodical vomiting
accompanied by, 1249, activity, the influence
of alcohol on, 1391, contagion, 1453; Affec
tions (review), 1596
Mercurial injections, poisoning by, 1685
Mercury in heart disease, 1147, 1333
Mercury, perchloride of, as a disinfectant, 975
(see also Corrosive sublimate)
Mercy and Truth (review) 570
Merry, Dr. W. J. C, perforation of the nasal
septum, 1227
Mersey, discharge of sewage into the, 243
Mescal button and mescaline, physiological
action of, 142
Mesenteric vein, the superior, thrombosis of,
85
Mesopotamia, plague in, 811
Meteorological daily readings, 68, 136, 195 257,
319, 395 471, 549 621, 757, 817, 871, 923, 993,
1053, 1142, 1206, 1274, 1344, 1419, 1491, 1572,
1639, 1715 1791, 1871
Meteorological (see also Royal Meteorological)
Meteorology, Atlas of (review), 1743
Metropolitan Asylums Board, annual report,
230, diphtheria cases, 561
Metropolitan medical schools, 645-656, 685, 696,
dental schools, 689, hospital funds, 1841
Mexico, survivals of paganism in, 284
Meyer, Dr Hans Wilhelm, the discoverer of
"pharyngeal vegetations," 375, 384, 473
Mice, the detection of after-damp in collieries
by means of, 577
Micrococcus Melitensis 701
Microscopic stains, soloid, 962, organisms
harmless, but objectionable, in water sup-
plies, 1178
Microscopical Science, Quarterly Journal of
(review), 892
Microscopische Technik, &c (review), 1381
Microscopy, Dental (review), 788
Microscopy, new methods of staining in, 889,
1041, Neisser's stain, 1172, 1274, 1344
Middle ear disease, caries of temporal bone and
suppuration of scalp following, 294; suppu
ration, chronic, the radical operation in, 540,
suppuration, cerebellar abscess following,
603, otitis, treatment of, 612
Middle ear, tuberculous disease of the, 539
diseases of the, opening the mastoid in,
540
Middlesex Hospital Reports of the Medical
&c Registrars for 1897 (review), 98, alleged
case of plague at the, 583, entrance scholar
ships at the, 958, and the investigation of
cancer, 1601
Middleton, Dr. G. S, hæmorrhagic ascites,
1286
Midwife, the scope of the, 909
Midwifery, &c, illegal certificates of pro-
ficiency in 426, 511, 587
Midwifery forceps, delivery by, accidents in,
29, 490, as used and abused, 1021
Midwifery question, the conference at New-
castle and the, 1696, 1777
Midwifery (see also Presentation)
Midwife's under study, 1344
Midwives the registration of, 228, and still-
births, 503
Midwives Bill, 67, 111, 373 427, 544, Bills,
1542; Registration Bill, 1616
Midwives Institute and the Bill for the
Registration of Midwives, 52
Mikroscopische Technik (review), 1381
Milan, the health of, 902

Military Works Bill, the debate on the, 99; surgery, xeroform in, 1459; bullets, modern; 1499, 1538
Milk, boric acid in, 112; goat's, the supply of, 314; distribution of, at hospitals, 357, 437; the diphtheria bacillus in, 449; in the Sale of Food and Drugs Act, 544; the spread of tuberculosis by, 849, 862; and tuberculosis, legislation as regards, in America 1248; new legislation on, 1389; bad, insanitary houses and, 1533; a constituent of lyddite in, 1852
Milk secretion, preservation of, after removal of an ovarian cyst, 29; serum, therapeutics of, 246; preservative, the nettle as a, 394; supply, Australian Health Society and the, 750; preservatives, boric acid and formalin as, 1222, 1617; *sterilisers*, 1638
Milk, sterilised, the public supply of, 63; sterilisation of, 238, 318
Millard, Dr. C. K., membranous angina, 1295
Miller, Mr. W. J. C., Essays and Nature Studies (review), 842
Milligan, Dr. W., disease of the middle ear, 539
Mills, Mr. H. W., sero-therapy, 1806
Milne, Capt. C., home wanted, 1637
Milner, Dr. E. A., presentation to, 867
Mind, *Concrete Revealings of the* (review), 723; The Unconscious (review), 1103
Mineral waters various, 219 610; poisoning, 805; substances in dress materials, 1186

MIRROR OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Ancoats Hospital, Manchester.—Two cases of abdominal surgery (under the care of Mr. E. Stanmore Bishop), 91
Birmingham and Midland Eye Hospital.—Two cases of subconjunctival rupture of the sclera, with retroflexion of the iris without dislocation of the lens and with the subsequent retention of practically normal vision in each case (under the care of Mr. Henry Eales and Mr. Wood White), 412
Bristol General Hospital.—A case of primary sarcoma of the thyroid; thyroidectomy; relief of symptoms (under the care of Dr. J. Lacy Firth), 567
British Hospital, Buenos Ayres.—Two cases of acute rheumatism treated surgically (under the care of Dr. O'Conor), 95
Buff Bay Hospital, Jamaica.—Two cases of cut throat with opening of the air passage (under the care of Dr. Edward R. C. Earle), 1164
Butterworth Hospital, Cape Colony.—A case of multiple fibroma (under the care of Mr. J. H. Nankivell), 492
Christchurch Hospital, New Zealand.—A case of jaundice due to floating kidney; lumbar fixation; recovery (under the care of Dr. P. Clennell Fenwick) 1296
City Hospital, Birmingham.—Case of membranous angina and membranous vaginitis of a doubtfully diphtheritic nature occurring in a patient convalescing from scarlet fever and associated with an unusual erythematous eruption (under the care of Dr. C. Killick Millard), 1295
Cumberland Infirmary.—A case of perforated gastric ulcer and a case of strangulated hernia (under the care of Dr. R. Maclaren), 1094—A case of multiple fracture (under the care of Dr. H. A. Lediard), 1440
Derbyshire Royal Infirmary.—A case of icterus gravis (under the care of Dr. W. Benthall), 1588
Eden Hospital, Calcutta.—A case of rupture of the gravid uterus, abdominal section and removal of fœtus and universally adherent placenta, enterectomy; recovery (under the care of Lieut.-Col. Joubert, I.M.S., and Captain Hubert M. Earle, I.M.S., resident surgeon), 279—A case of Cæsarean section during labour for obstruction to delivery per vias naturales due to cancer of the cervix after considerable dilatation of the latter and rupture of the membranes had taken place; recovery of the mother and survival of the child for three and a half days (under the care of Captain Hubert M. Earle, I.M.S.), 1365
English Hospital, Huelva, Spain.—A case of œsophagotomy; the after treatment (under the care of Dr. W. A. Mackay), 1516
Fulham Infirmary.—Four cases of otitis media (under the care of Mr. Vaughan Pendred), 1363
Government Civil Hospital, Hong-Kong.—A case of exalgine poisoning, recovery after a very large dose (under the care of Mr. J. Bell), 830—A case of bubonic plague treated with large doses of carbolic acid; recovery (under the care of Dr. J. Mitford Atkinson, Principal Civil Medical Officer), 1589
Guy's Hospital.—Two cases of unilateral nasal diphtheria (under the care of Mr. C. J. Symonds), 785—A case of ruptured aortic aneurysm and gumma of the heart at 26 years of age (under the care of Dr. L. E. Shaw), 839—A case of carcinoma of the rectum; colotomy; death from suppression of urine of 21 days' duration (under the care of Mr. L. A. Dunn), 1663
Leeds General Infirmary.—A case of injury to the spinal cord (under the care of Mr. B. G. A. Moynihan), 840—A case of acute paralytic dilatation of the stomach (under the care of Mr. W. H. Brown), 1017—A case of traumatic (tuberculous?) meningitis (under the care of Mr. W. H. Brown), 1364
London Hospital.—A second case in which ligature of the uterine arteries was followed by arrest of excessive hæmorrhage and shrinking of a fibroid) under the care of Dr. G. E. Herman), 1094—Two cases of tumour of the vagina (under the care of *Dr. A. H. N.* Lewers), 1810
London Temperance Hospital.—A case of compound, comminuted, depressed, impacted fracture of the vault of the skull, wound of the dura mater; elevation by primary operation; recovery (under the care of Dr. W. J. Collins), 1017—A case of calculus vesicæ in a man, aged 53 years; suprapubic lithotomy, bladder sutured, catheter tied in for 12 days, uninterrupted recovery (under the care of Dr. W. J. Collins), 1295
Manchester Royal Infirmary.—A case of retro-peritoneal cyst and a case of hydronephrosis (under the care of Mr. Wright and Dr. Judson Bury), 215
Middlesex Hospital.—Two cases of papillomatous cysts (under the care of Mr. Pearce Gould), 490
North West London Hospital.—A case of congenital atresia of the bowel (under the care of Mr. J. Jackson Clarke), 568—A case of emphysematous gangrene (under the care of Mr. J. Jackson Clarke), 1229
Preston Royal Infirmary.—A case of rheumatoid arthritis (?); ankylosis of both elbows, excision (under the care of Dr. F. W. Collinson), 1230
Provincial Hospital, Port Elizabeth, Cape Colony.—A case in which lumbricoids were a cause of obstructing the small intestine; sequel to a case of alleged poisoning, necropsy (under the care of Dr. Donald M. MacRae, late resident superintendent), 786
Rotherham Hospital.—A case of volvulus of the small intestine; laparotomy, recovery (under the care of Mr. Reid), 829
Royal Albert Edward Infirmary, Wigan.—Two cases of traumatic epilepsy; trephining; recovery (under the care of Mr. R. H. Cowan and Mr. E. H. Monks), 1441—A case of tuberculous disease of the right knee and right epididymis; death under chloroform (under the care of Mr. William Berry), 1811
Royal Cornwall Infirmary, Truro.—A case of strangulated complete prolapse of the rectum released by abdominal section, ultimate cure of the chronic prolapse by anchoring the sigmoid to the abdominal wall (colopexy) (under the care of Dr. F. Harold Carlyon), 1664
Royal Free Hospital.—A case of partial enterocele, operation, recovery (under the care of Mr. W. H. Battle), 214
Royal Infirmary, Liverpool.—A case of puerperal septicæmia in which antistreptococcic serum was used with success (under the care of Dr. T. D. Grimsdale), 719
Royal Hospital for Sick Children and Women, Bristol.—Case of very acute diabetes in a boy aged five years (under the care of Dr. E. Leonard Lees), 1735
Rugeley District Hospital.—A case of severe multiple injuries; laparotomy; death in three months (under the care of Dr. W. L. Hubbard), 156
St. Mary's Children's Hospital, Plaistow, E.—A case of strangulated inguinal hernia, of cæcum and vermiform appendix, in a child six weeks old successfully treated by operation (under the care of Mr. E. A. T. Steele), 279
St. Mary's Hospital.—A case of gunshot wound of the abdomen (under the care of Mr. A. J. Pepper), 26—A case of sarcoma of the carotid sheath; removal of the growth together with portions of the carotid arteries, internal jugular vein, and pneumogastric nerve; recovery (under the care of Dr. Seymour Spicer and Mr. H. Stansfeld Collier), 342—A case of virulent acute rheumatism with extensive purpura, temporary improvement followed by death from cardiac failure; necropsy; microscopy (under the care of Dr. D. B. Lees), 1163
St. Thomas's Hospital.—A fatal case of poisoning by crystals of permanganate of potassium (under the care of Dr. Charles E. Box), 411—Case of tuberculous bladder greatly improved by hydraulic distension (under the care of Mr. W. H. Battle), 1587
Sheffield Royal Infirmary.—Three ophthalmic cases (under the care of Mr. Simeon Snell), 1735
Teignmouth Hospital.—A case of hydrocele of the sac of a femoral hernia (under the care of Dr. F. C. H. Piggott), 157
Victoria Hospital for Children, Chelsea.—A case of strangulated inguinal hernia in an infant, aged ten and a half months; operation; recovery (under the care of Mr. D'Arcy Power), 829
West Ham Hospital.—A case of ischiatic hernia (under the care of Mr. W. A. Grogono), 1734
Western General Dispensary.—A case of hernia through a congenital opening in an abnormal fold of peritoneum (under the care of Mr. W. D. Parsons), 1439
Western Infirmary, Glasgow.—A case in which a small silver coin was lodged in the larynx for four weeks; removal with forceps under cocaine (under the care of Dr. Walker Downie), 1018
Western Ophthalmic Hospital.—A case of *epithelioma of the conjunctiva; enucleation* (under the care of Mr. Arthur W. Wheatly), 719
Westminster Hospital.—A case of extensive gummatous disease around the femur and the hip-joint with chronic periostitis of the linea aspera; amputation; recovery (under the care of Mr. W. G. Spencer), 902—A case of extensive congenital and acquired heart disease (under the care of Dr. F. de Havilland Hall), 1514
Wolverhampton and Staffordshire Hospital.—*A case of acute hæmorrhagic pancreatitis* simulating intestinal obstruction; necropsy (under the care of Dr. E. Deanesly), 26

Mirror of Hospital Practice, retrospect, 1834
Miskin, Dr. G. A., vaccine lymph, 193
Mitchell, Mrs. Chalmers, Evolution by Atrophy (review), 346
Mitral Disease, The Murmurs of (review), 891
Mole, fibrous, case of, 281; hydatidiform, case of, 419
Monaghan, Dr. T. J., presentation to, 405
Monaghan water scheme, 596
Mondorf Les Bains, 1587
Mondy, Mr. S. L. C., gastric ulcer, 489, a case for diagnosis, 1141
Monks, Mr. E. H., epilepsy, 1441
Monmouthshire, a county medical officer for, 419
Montague, Dr. A. J. H., *uterine fibroids*, 457
Montrose: Royal Lunatic Asylum annual report, 586
Moore, Dr. J. W., the mens medica, 1003
Moore, Mr. W. G., presentation to, 130
Moos pappe, 1870
Morgagni medal, 1254
Morgan, Mr. G., tuberculous adenitis, 383, 457
Morgan, Mr. W. L., obituary, 1557
Morison, Dr. A., intra-cranial blood vessels, 52; mercury in heart disease, 1147
Morison, Dr. B. G., alcoholism, 1329
Morley, Mr. F., obituary, 1412
Morphine, physiological effects of (on blood-pressure, &c.), 75, derivatives of, physiological action of, 139, subcutaneous injections of, for wounded men, 1775
Morphinism, drink, and the medical profession, 1393
Morris, Mr. C., an eighteenth-century demographist, 502
Morris, Mr. H., nephrectasis, 9; calculus in the ureter, 1644
Morris, Mr. J., presentation to, 973
Morrison, Dr. J. T. J., an appeal, 136, 255, 909
Mortality in India, 242, comparative, of English districts, 1421
Morton, Dr. A. S., the Royal College of Surgeons of England, 237
Morton, Mr. C. A., resection of the stomach, 600
Mortuary for Devonport, 1796
Moscow University, *Clinical Lectures delivered at* (review), 30
Mosquito, filarial metamorphosis in the, 171
"Mosquito" pest, 729
Mosquitoes, the destruction of, 182; and malaria, 394, 483, 608, 725, 743, 745, 777, 806, 912, 1114, 1131; war to the, 507
Moss Blundell, Mr. C. B., uterine fibroids, 457
Mosso, Dr. Angelo, a visit to America by, 60, 311, 517
Mother versus child, 251
"Mother's Guide, Aunt Kate's," 193
Motor car, development of the, 225, 779; medical man's, the expenses of a, 1027, 1125, 1192, 1331, 1462, 1550; the Dunkley, 1194; evolution of the, 1596
Motor cars for medical men, 60

Motor nerves, the relation of, to the tissues of the body, 819; the peripheral, their actions, 848; the excitability of, 1248
Motor (see also Sensori-motor)
Mott, Dr. F. W., tabes dorsalis, 1442, 1738; Archives of Neurology (review), 1447
Mould, Mr. J. T., obituary, 1136
Moullin, Mr. C. M., the Roentgen rays, 474; Enlargement of the Prostate (review), 1304; inflamed appendix, 1657
Moynihan, Mr. B. G. A., injury to the spinal cord, 840; joint affections of gonorrhœa, 1349
Mountain Copper Company, 1790
Mracek, Prof. Dr. Franz, Atlas of Syphilis (review), 1103
Mullick, Dr. Sarat K., Indian medical reform, 300
Multiple injuries, case of, 156
Mumps, rare complications of, 1182; primary testicular, 1633
Munich, congress of naturalists and medical men at, 748
Municipal honours and medical men, 1388, 1461
Murray, Mr. J., address at the opening of the Session at the Middlesex Hospital, 953
Murray, Dr. W., Rough Notes on Remedies (review), 1677
Muscular hypotonia in epileptics, 148; activity, the influence of alcohol on, 1391; action, dislocation of the knees in infants from, 1459
Music in medicine, 1159, 1815
Mussels, bacilli in, 232; vesicular eruption from eating, 1316
Musson, Mr. W. E. C., Algiers, 922
Muzzle, the removal of the, in London, 1250
Muzzling order for dogs in Ireland, 746
Myoidema, a symptom in phthisis, 519
Myomata (see Fibro-myomata)
Myopia, operative treatment of, 17, 27; removal of the lens in, 155, 383, 457, 1358
Myriapods, the rôle of, in the propagation of diseases, 386, 775
Myrtle, Dr. J. A., illegal certificates of proficiency, &c., 511, 587
Myxœdema, the early diagnosis of, 877

N

Nævi, multiple, 1363, 1550
Nairne, Mr. J. S., colporrhaphy, 526; seats for shopwomen, 528
Nankivell, Mr. J. H., fibroma, 492
Napper, Mrs. S., Napper's flying hospital, 1193
Napper's flying hospital, 1193
Narcolepsy, case of, 565
Nasal septum, removal of outgrowths from the, 68, 181; diphtheria, 182; sinuses, the accessory, chronic suppuration of, 340; diphtheria, unilateral, 785; speculum, a modified, 1173; septum, the bones of the, idiopathic perforation of, 1227
Nasal (see also Post-nasal)
Naso pharyngeal adenoids, 539
Nature, searching out the secrets of, 1071
Nature Studies (see Essays)
Naval Minister, a medical, 124; actions, hospital ships in, 330; medical officers, the training of, 791
Naval Medical Supplemental Fund, 179
Navy, the medical services of the army and, 325, 349, 439, 588, 740
Navy, syphilis in the, 377, 523
Navy, the Austrian, vital statistics in, 857
Navy medical service, various regulations of the, 640
Navy (see also Services, Haslar Hospital, Royal Navy, Lean's)
Neale, Dr. R., multiple nævi, 1550
Neale's Digest, 1453, 1550
Nebeneierstöcke, Eirestöcke und, Die Krankheiten der (review), 1595
Neck, tuberculous adenitis of the, 383, 459
Needle-point in the finger for nine months, 1438
Neisser's stain, 1172, 1274, 1344
Nephrectasis, plastic surgery in, 9
Nephritis caused by sorrel, 126; interstitial, erythrol tetranitrate in, 533
Nerve, the cervical sympathetic, galvanisation of, for glaucoma, 893; resection of, for glaucoma, 899
Nerve cells, the structure of the, influence of fatigue on, 1087
Nerves, the motor, the relations of, to the tissues of the body, 819; peripheral motor, their actions, 848; excitability of, 1248
Nerves, regeneration of, 822, 831
"Nervous" eructations and skiagraphy, 732
Nervous System, the Central Anatomy of (review), 345; An Introduction to Diseases of the (review), 1022
Nesham, Dr. T. G., obituary, 249
Netley Hospital, the advantages of, as a school of tropical medicine, 385, 695; skiagrams from, in the Museum of the British Medical Association, 536
Nettle as a milk preservative, 394
Neuralgia, malarial or climatic, 610
Neuralgia, injection of osmic acid in, 1220
Neurasthenia, Clinical Lectures on (review), 1238
Neurectomy a preventive of masturbation, 838
Neuritis, peripheral, in diabetes, 203, 876; alcoholic, in a child, 504
Neuroglia, the histology of, 1535
Neurological fragments, 1659
Neurological Association, the American, presidential address at, 794
Neurology, Archives of, from the Pathological Laboratory of the London County Asylums (review), 1447
New Caledonia, leprosy in, 797
New Century Library (review), 1678

NEW INVENTIONS.

An ejector for vaccine lymph, 31—A cup for use in the feeding of the insane, 31—An improved chloroform mask, 163—A new vaccinating instrument: the "O.P.P.," 220—Stockinette underwear, 256—Glass models of various diseases of the eye, 285—Pipe filters, 317—New aseptic water-tap and ward wash-stand, 572—A new combination medical battery, 573—A new splint, 724—The electro-neurotone, 843—A new truss, 893—New temperature chart, 993—Improved ovum forceps, 1104—The Dunkley (gas) motor car, 1104—A urine test case, 1105—An improved x ray tube, 1105—Sterilised ophthalmic dressings, 1173—A modified nasal speculum, 1173—Improved universal handle, 1240—A portable x ray apparatus, 1240—"Stowaway" suspensory bandage, 1274—Luer's patent aseptic syringe, 1308—A new ophthalmoscope, 1382—An improved clinical chart, 1449—A new cranial osteotome worked by an electro motor, 1529—The Empress puncture-proof bands, 1744—The Raston bed rest and pillow support, 1745—The "killgerm" typhoid bracket and bed-pan, 1870

New South Wales: habitual drunkards, 224; Royal Commission on charities, 248; Medical Union, 347; Board of Health, 419; vital statistics, 517; abortionists, 517; medical report for Hunter River district, 517, 585; report for metropolitan, combined medical report for sanitary districts, 584
New Sydenham Society, 1393

NEW YORK, CORRESPONDENCE FROM.—The dispensary abuses, 127—Extermination of yellow fever, 127—Improvements in the treatment and care of the insane, 127—Reorganisation of the army medical corps, 127—United States Marine Hospital Service, 127—National bureau of public health, 128—Medical Profession in Cuba, 370—Leprosy in Porto Rico, 370—Suit for return of a husband's legs, 370—Vaccination in Porto Rico, 370—Food adulteration, 370—Statistics of diphtheria antitoxin, 749—Opticians as oculists, 749—Harvard Medical College, 749—Modern bullets, 750—Relative cost of free and paying patients, 936—Quarantine at New York, 936—The phenomenon of pain, 937—Prize essay on the tropical army ration, 937—A corps of female army nurses, 937—Registration of dentists, 1267—The negro's record, 1267—Restrictions on tenement houses, 1267—State School of Public Health, 1267—New York Society for the Prevention of Cruelty to Children, 1620—Immigration for 1899, 1620—Condition of the United States army, 1620—Plague in America, 1783—Housing the poor problem in New York, 1783—History and literature of appendicitis, 1862—Opinions as to the parasitic origin of cancer, 1863

New York: tea-drinking saloons, 228; quarantine, 936; subsidies to charities, 1314
New Zealand, vital statistics of, 1695
Newcastle-upon-Tyne, conference on medical politics at, 1312, 1395, 1403, 1451, 1474, 1695, 1777
Newland-Pedley, Mr. F., dental appointments, 1858
Newly-born, encephalitis in the, 1030
Newman, Dr. D., tuberculosis of the kidney, 558
Newman, Dr. G., Bacteria (review), 1448
Newport (Mon.) waterworks scheme, 363
Newsholme, Dr. A., Vital Statistics (review), 95; infection in schools, 526; diarrhœa, 1493
Newspaper, the "medical" column in a, 992
Newton Abbot, insanitary dwellings at, 47; vaccination at, 252
Ngoul, Among the Wild (review), 414
Nichol, Mr. J. T., nurse wanted, 1344
Nicholson, Dr. W. T., obituary, 1557
Nicolson, Dr. D., medical opinion in lunacy cases, 381, 450
Nicotine preparations, are they poisons within the meaning of the Pharmacy Act? 1606
Night terrors in children, 460
Night (see also Nuit)
Nile flood, 915
Nine fishes (!) at a birth, 1312
Nitrites in water, test for, 363
Nitrogen in peace and war, 1317
Nitroglycerine, therapeutic uses of, 1249
No Surrender, A Tale of the rising in La Vendée (review), 1597
Nobody's child, 502, 588
Noises, street, 581, 1318
Nomenclature of diseases, an eighteenth-century, 755
Nordrach treatment of tuberculosis in Ireland, 435; in Scotland, 1247
North Devon Infirmary, annual meeting, 572
Norvril (fish powder), 1307
Norway, alcoholism in, 793
Nose, &c., Diseases of the, American Text-book of (review), 346
Nose (see also Rhinoplasty)
Notification of phthisis (or pulmonary tuberculosis), 57, 175, 184, 448, 449, 499, 521, 1333; of infectious disease and unqualified practitioners, 181; of diseases in Aberdeen, 244; of diseases in Dublin and the vicinity, 245; of yellow fever, neglect of, prosecution for, 293; proposed, of venereal diseases, 301; proposed, of epileptics, idiots, and imbeciles, 394; of mineral poisoning, 805; duplicate, 869, 922; of measles, 1865
Notification Act, difficulties under the, 547, 598, 620
Notification (see also Infectious Disease)
Nottingham: annual medical report, enteric fever, lethal chamber, 855; organisation of the profession, 910
Nottingham General Hospital, 1002
Nuclein in infective endocarditis, 1225
Nuisances, street, 1685
Nuit, service médical de, 59
Nurse, an English, death of, from plague, 910, 983
Nurse wanted, 1344
Nurses and massage, 37; trained, workhouses and, 58; for the Philippine Islands, 823; Queen Victoria's Jubilee Institute for, 863; female army, a corps of, 937; for the sick, registry offices for, 1205; cottage, a training held for, 1490
Nurses, District and Private, The Pocket Case Book for (review), 722
Nurses (see also London School, Glasgow and West of Scotland)
Nurses homes: Norfolk and Norwich Hospital, 229; Queen Charlotte's Lying in Hospital, 229; Alexandra, 808
Nursing, the due limitation of, 67; in Vienna hospitals, 1314
Nursing homes or societies, bequests or donations to (see Hospitals)
Nutrient powder, 1307
Nuttall, Dr. F. H., insects and the propagation of disease, 386, 775

O

Oath, methods of taking the, 353, 1567

OBITUARY.—Sir Wm. Henry Flower, K.C.B., F.R.S., F.R.C.S. Eng., 128—H. Naunton Davies, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A., 128—Richard Congreve, M.R.C.P. Lond., 188—Sir Alexander Armstrong, K.C.B., F.R.S., F.R.G.S., LL.D. Dub., M.D. Edin., F.R.C.P. Lond., 249—Thomas Cargill Nesham, M.D. Edin. & Durh., M.R.C.S. Eng., 249—James Coupar Rait, M.B., C.M. Edin., 250—G. Hewlett Bailey, M.R.C.S. Eng., 438—Ashley Gibbings, M.R.C.S. Eng., L.D.S., 543—Francis Edward Hicks, F.R.C.S. Eng., 617—George Burn, M.D. Edin., J.P., 617—James Cuming, M.A., M.D., D.Sc.R.U.I., F.R.C.P. Irel., 751—David Hughes Charles, M.D. Glasg., L.R.C.S. Edin., J.P., 752—John Duncan, M.A., M.D., LL.D., F.R.C.S., F.R.S. Edin., 752—G. Yeates Hunter, M.R.C.S. Eng., L.S.A., 752—William McLaurin, M.B., C.M. Glasg., 811—John Barlow Stuart, M.R.C.S. Eng., L.R.C.P., F.R.C.S. Edin., 812—Samuel Punnett Budd, M.R.C.S., L.S.A., 866—James Vose Solomon, F.R.C.S. Eng., 917, 992—Henry John Rope, F.R.C.S. Eng., 917—Stanley B. de Butts, M.D. Brux., M.R.C.S. Eng., L.R.C.P. Lond., 917—Edward Pendrill King, M.R.C.S. Eng., L.S.A., 918—Alexander Wallace, M.D. Oxon., M.R.C.P. Lond., 1048—James Hodges, M.R.C.S. Eng., L.S.A., 1049—The Right Rev. John Wale Hicks, D.D., M.D. Lond., F.R.C.P. Lond., 1136—John Thomas Mould, F.R.C.S. Eng., L.S.A., 1136—Walter Garstang, M.D. St. And., M.R.C.P., F.R.C.S., 1136—Philip Burnard Chenery Ayres, C.M.G., M.R.C.S. Eng., L.R.C.P. Edin., 1190—John Thomas Arlidge

M.D., F.R.C.P. Lond., 1269—J. Wickham Barnes, F.R.C.S. Eng., 1269—William Christopher Armison, M.D., D.C.L., 1322—Thomas Hammond, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A., 1322—Henry Gilliford Hopkins, M.R.C.S. Eng., L.R.C.P. Edin., 1412—Frederic Morley, M.R.C.S. Eng., 1412—Reginald Southey, M.D. Oxon., F.R.C.P. Lond., 1472—W. Lewis Morgan, M.A. Oxon., M.R.C.S. Eng., L.R.C.P. Lond., 1557—Hugh Rhodes, M.D. Glasg., M.R.C.S. Eng., 1557—William Thomas Nicholson, M.B., C.M. Glasg., 1557—Frederic William Skrimshire, M.R.C.S. Eng., L.S.A., 1557—Joseph Samuel Prendergast, B.A., T.C.D., M.D., F.R.C.P., 1557—Charles William Cooper, B.A., M.B. Cantab., M.R.C.P. Lond., 1555—William Ireland De Courcy Wheeler, M.D., M.Ch. Dub., M.R.C.P.I., F.R.C.S. Irel., 1621—Edward Hamilton, M.D. Dub., F.R.C.S. Irel., 1703—Albert E. Boulton, M.R.C.S. Eng., L.S.A., 1704—George R. Cubitt, M.R.C.S. Eng., L.S.A., 1704—Sir Richard Thorne Thorne, K.C.B., F.R.S., M.D., F.R.C.P. Lond., LL.D. Edin., D.Sc. R.U.I., 1762—Captain Matthew L. Hughes, R.A.M.C., L.R.C.P. Lond., M.R.C.S. Eng., 1766—John Frederick Hodges, M.D., R.U.I., J.P., 1863—Richard Henry Meade, F.R.C.S. Eng., J.P., 1864—James Adams, M.D. Aberd., F.F.P.S. Glasg., 1864—Andrew Spearing, M.D. Glasg., M.R.C.S. Eng., 1865

Obituary retrospect, 1847
O'Brien, Dr. M., *sale of poisons*, 68
O'Brien, Mr. J. R., chinosol, 181; Neisser's stain, 1274, 1344
Obstetric accident, a rare, 490
Obstetrical (see Geburtshilflichen, &c.)
Obstetrics, congress of, 541, 614; up-to-date, 1274
Obstetrics (see also ANNUS MEDICUS and under Brit. Med. Assoc.)
Obstetrique (see Gynécologie)
Oceanic, the largest ship afloat, 620
O'Conor, Dr. J., rheumatism, 93; hernia, 554; varicose veins, 1015; gonorrhoeal arthritis, 1585; *infective arthritis*, 1775
Oculist-seals, 1753
Oculists, opticians as, 749
Œsophagotomy, case of, 1516
Official preparations, proprietary *versus*, 1682
Ogston, Prof. A., the medical services of the army and navy, 325, 349, 439, 583, 740
Oil, cotton-seed, as food, 294
Old St. Thomas's (review), 98
Oldham: unlicensed slaughter-houses, 308; vaccination, 595; strange death of a woman, 934
Oliver, Dr. T., diabetic coma, 564
Omentum, strangulation of the intestines by the, 159
On Her Majesty's service, 870, 909
Oöphorectomy or ovariotomy of cattle, 1603
Open-air sanatoria for (or treatment of) tuberculosis (or consumption), 724, 733, 851, 1291, 1366, 1458, 1517, 1590, 1665, 1746
Open air (see also Outdoor)
Open Court (review), 284
Operating theatres, the construction of, 713
Ophthalmic Congress in Utrecht, 824
Ophthalmic dressings, sterilised, 1173; cases, 735
Ophthalmic (see also British Ophthalmic, Royal Ophthalmic)
Ophthalmology in the Paris hospitals, 368
Ophthalmology (see also ANNUS MEDICUS *and under Brit. Med. Assoc.)*
Ophthalmology, Text-book of (review), 282
Ophthalmoscope, a new, 1582
Opie, Dr. T. A., hæmothorax, 547
Opium alkaloids, physiological effects of, 75
Opium, poisoning by, 434, 1016
Oporto, plague in, 506, 985, 1254, 1397
Opticians as oculists, 749
Optics (review), 1675
Orteils [illegible], 727
Orthmann, Dr. E. G., Gynäkologischer *Operationskurs* (review), 1528
Orthopædic surgery, accidents in, 125
Orwell estuary, the sewage-fed, 33
Osler, Prof. W., hypertrophic cirrhosis, 440
Osmic acid, *injection of, in neuralgia*, 1220
Osteotome, a new cranial, 1529
Otitis externa tropica, 837; media, *cases of*, 1383
Otitis, middle-ear, treatment of, 612
Otological Congress, 227; opening meeting, 464; President's address on the growth of otological science, 464, 473; the museum, 464, 613; dinner, 505; papers read, 530, 611, 731; next meeting to be in Bordeaux in 1902, 612, 1332
Otology (see also under Brit. Med. Assoc.)
Outdoor treatment of tuberculosis in London, 211
Out-patient department, treatment of rickets in an, 607
Ovarian cyst (or cysts), removal of, preservation of milk secretion after, 29; cœliotomy for, 93; papillomatous, 490; papillomatous, pedicle of a, a twisted, 1438
Ovarian pregnancy, 542
Ovaries (see also Eierstöcke)
Ovaries, the removal of, 379, 1228; and the mammary glands, 381, 529; the glandular character of the, 524; and thyroid glands, points of resemblance between, 525
Ovariotomy, case of, 959
Ovariotomy or oöphorectomy of cattle, 1603
Ovary, tumours of the, 830
Overcrowding in Calcutta, 307
Overcrowding, prosecution for, 862
Over-pressure (review), 1380
Overstrain, cardiac, 607
Ovum forceps, improved, 1104
Owen, Mr. E., ununited fracture, 383, 458; straightening of carious spines, 1331
Owens College (see Manchester)
Oxford: the Radcliffe Infirmary scheme, 227
Oxygen in sea-sickness, 436; the entrance of, into the blood in the lungs, 530
Oyster Bill, 252, 295, 351, 390
Oysters, bacilli in, 232; and enteric fever, 296; and disease, 1388
Ozone in the air, 423

P

Pachydermia laryngis, 607
Paget, Miss Rosalind, midwives, 52
Pain, the phenomenon of, 987
Paine, Mr. W., The Inebriates Acts (review), 218
Paisley, the medical officer of health, 123
Pakes, Mr. W. C. C., staining process for blood, 1041
Pall Mall Magazine (review), 219
Palmar erythema, symmetrical, 1514, 1696
Palsies, sensori-motor, of the face and eyes, 1604
Pancreatic juice, the proteolytic action of, 1851
Pancreatitis, acute, case of, 26
Pan-hysterectomy, abdominal, cases of, 82
Paper convenience cover, 963
Paper sanitary toilet, 571
Papillomatous cysts, 490
Paraldehyde, physiological action of, 5
Paralysis, Strümpell's, and infantile combined, 23; general, syphilis and, 629; congenital general, 529, 604; diphtheritic, 561; general, *of the insane in early life*, 838; *right-sided*, during pregnancy, 888; infantile general, simulating idiocy, 1033; asthenic bulbar, 1110; general, the antecedents of, 1390
Paralytic dilatation of the stomach, 1017
Parasites, animal, the spread of diseases due to, 776
Parietal bones, abnormal ossification of, in an infant, *460*

PARIS, CORRESPONDENCE FROM.—Observations on imperfectly developed vaccine vesicles, 59—High frequency electric currents in arthritis, 59—*Service médical de nuit*, 59—Disturbances at the Faculty of Medicine of Lyons, 60—The State and the cost of university education, 60—The publication of medical observations, 60—Motor-car for medical men, 60—Treatment of club-foot, 124—Antisepsis in extremis, 124—A medical naval minister, 124—Treatment of penetrating wounds of the chest, 124—Sewage and the Seine, 186—Extract of the corpora lutea, 186—Conviction of a medical man, 186—New regulations for expert evidence, 246—Operative treatment of hæmorrhoids, 246—Therapeutics of milk serum, 246—Paris Medical Club, 310—Rhinoplasty by the modified Italian method, 310—The Academy of Medicine, 310, 985—New ophthalmic department at the Necker Hospital, 368—Fatal duel between medical men, 368—Medical congress at Lille, 436—Treatment of *sea-sickness*, 436—Feeding of hand-reared infants, 436—Exophthalmic goitre treated by injections of iodoform solution, 516—Hygiene of railways, 516—Death of Prof. [illegible], 516—The International Hospital, 596—New regulations for medical study, 596—Precautions against plague, 596, 747, 1045—*Dr. Doyen and Maître Labori*, 746—*Decline of typhoid fever*, 747—Water-supply and sewage disposal, 747—Baby shows, 747—Paris Municipal Council and the hospitals, 808—Pasteur Institute, 809—Ambulance vehicles, 864—Boulogne congress, 865—Medical men at the Rennes trial, 865—Fire at the Faculty of Medicine, 865—Notes on News, 865—Can a medical man be the legatee of his wife? 915—*Medical staff of the Bureaux de Bienfaisance*, 915—Medical woman, a scandal, 915—The new sanatorium at Hendaye, 925—Return of the Pasteur Institute Plague Commission, 925—Periods of latent activity in syphilis, 1044—Anti-rabic inoculations at the Pasteur Institute, 1132—"Doctor in Pharmacy," 1132—Bacillus of Dysentery, 1132—Congresses, 1133—Public examinations for hospital appointments, 1198, 1621, 1700, 1781, 1861—Fulminating *tuberculosis after childbirth*, 1199—*Abuse of* the truss, 1199—Resection of the perineal nerve for painful cystitis, 1264—The army medical corps manœuvres, 1264—Vaccination in the colonies, 1265—Hæmostatic effects of nausea, 1338—The *new hospital in the Rue* [illegible], 1339—Prof. Calmette on the plague, 1339—*Extraction of intracranial foreign bodies by* means of the Contremoulin localising apparatus, 1408—Cacodyls, 1408—Rabies, 1408—False alarms of plague, 1471—Protest against sewage farms in the suburbs of Paris, 1471—Lectures on medical deontology, 1471—Medical prophylaxis of *syphilis*, 1554—The legal right to answer criticisms in the medical press, 1621—Criticisms upon incubators, 1621—Incentives to research, 1781—Arsenic in the normal organism, 1761—Parish *mortuaries*, 1862

Paris, treatment of puerperal infection in, 603; the drainage of, and the Exhibition, 1404
Paris, congresses to be held in: International Medical (or of Medicine), 41, 107, 118, 229, 1246, 1752; Poor Relief, 183; Medical Ethics, 239, 1391; Experimental and Therapeutic Hypnotism, 293
Paris Medical Club, 310; *water-supply, insufficiency of the, in summer*, 972
Park, Dr. R., cancer, 680; History of Medicine (review), 843
Parker, Dr. R. D., rheumatoid arthritis, 1400
Parks, city, gymnastics in, 294

PARLIAMENTARY INTELLIGENCE.—Isolation Hospitals (Amendment) Bill, 64, 390—Defective and epileptic children, 64, 391—Sanitary *condition of Gibraltar*, 64, 252—*The sale of* carbolic acid, 64—Testing of army recruits, 64—Vaccination of school teachers, 64, 314—Vaccination in Scotland, 64, 252—Medical provision in Glasgow prison, 64—The Dum-Dum bullet, 65—Lead poisoning, 133, 190—Small-pox at Hull, 133—Glycerinated calf lymph for Ireland, 133—Protection of water supplies, 133—Venereal *disease in India*, 133—Vaccination proceedings, 133, 314—Administration of Haslar Hospital, 133—Manufacture of cider, 133—Seats for shop assistants, 190, 252—Vaccination prosecutions, 190, 466—Ventilation of the metropolitan underground railways, 190—Women as councillors and aldermen, 190—Cubicles for soldiers, 190, 390—Vaccination questions, 190, 467—Phosphorus poisoning, 190—Assaults on medical men in the East End, 191—Vaccination penalties, 191—Increase of cancer, 191—Locum tenents during vacation of dispensary officers in Ireland, 191, 1202—Oysters Bill, 252, 390—Treatment of casualty cases in Glasgow, 252—Preservatives and colouring *matter in food*, 252—*Smoke nuisance* at Westminster, 252—The case of Mr. Lamont, 252, 391—The Plague Convention, 253—Army medical service examinations, 253—Sale of Food and Drugs Bill, 253, 314, 390—Chiropody and *the Royal Army Medical Corps*, 314—Medical examination of criminals, 314—Goat's milk, 314—Experiments on living animals, 314—*Leicester Poor-law guardians*, 314, 467—Temperature in the House of Commons, 314—Withdrawal of the Lunacy Bill, 390—Venereal disease in the Straits Settlements, 391—Vaccination returns, 391—*Aldershot sewage farm*, 391—London water-supply, 391—Venereal disease at Gibraltar, 391—Medical provision on board ship, 391—*Typhoid fever in India*, 391—Condition of the Thames, 391—Companies and medical practice, 466—Rabies, 466, 1202, 1268—Tuberculosis in animals, 467—Operation of the new Vaccination Act, 467—*Treatment of criminal lunatics*, 467—Disease among soldiers in India, 467—Contagious Diseases Act in Cape Colony, 467—*The work of the session*, 544—*The Sale of* Food and Drugs Act, 544—Notes on current topics, 1139—Meat-supply for the troops in South Africa, 1202—Army medical establishments, 1202—Treatment of inebriates, 1202—Venereal disease among the troops in India, 1202—Revocation of the dog muzzling order in London, 1202—Treatment of [illegible] the wounded in South Africa: Sir William MacCormac's offer, 1268—Bullets used by our troops, 1268—Khaki helmets and haversacks, 1268—*Rejections for* active service, 1268—Death of Gen. Symons, 1268—Risks of public drinking troughs, 1268—Close of the special session, 1269

Parotitis, acute, after cœliotomy, 340; and its nervous sequelæ in pregnancy, 731
Parry, Dr. G. H., bronchiectasis, 210
Parry, Dr. T. W., herniotomy, 278; ingrowing toe-nails, 1016
Parsees, disposal of the dead by, 121
Parsons, Dr. A. R., gastric ulcer, 522
Parsons, Mr. W. B., hernia, 1439
Parsons, Dr. I., prolapse of the uterus, 525
Parsons, Dr. H. F., mortality of English districts, 1421
Partnership, a question of, 1850
Pass Lists (including lists of recipients of degrees and diplomas): Cambridge University, 61, 131, 1709, 1785, 1865; Society of Apothecaries of London, 62, 189, 312, 617, 918, 1049, 1200, 1484, 1865; Glasgow University, 62, 1137; Royal College of Surgeons in Ireland, 62, 1567; Examining Board in England by the Royal Colleges of Physicians and Surgeons, 131, 188, 1137, 1709; Royal College of Surgeons of England, 131, 1635; Edinburgh University, 131, 389, 465, 1200; Brussels University, 131; London University, 312, 1483, 1709, 1785, 1865; Aberdeen University, 312; Service examinations, 363, 516; Victoria University (Manchester), 388; Royal Colleges of Physicians and Surgeons of Edinburgh and Faculty of Physicians and Surgeons of Glasgow, 390; Royal Army Medical Corps, 429; Indian Medical Service, 429; Apothecaries' Hall, Ireland, 465; Durham University, 812, 866, 918, 937; Royal University of Ireland, 1138; Royal College of Physicians and Royal College of Surgeons in Ireland, 1413
Pasteur filtration and enteric fever, 803
Pasteur Institute, the Paris, 809; Plague Commission of the, 985
Pasteur Institute, expected, in India, 365
Pasteur (see also Institut Pasteur)
Patella, two separate fractures of the same, 1113; edgewise dislocation of the, 1587
"Patented in all countries," 255, 317
Pathology, A Textbook of (review), 1170
Pathology (see also under Brit. Med. Assoc.)
Patient (see Out-patients, Hospital patients)
Patients, telling the truth to, when they are past hope, 1869
Patrick, Dep. Insp.-Gen. W., the late, 978
Patriotism, practical, 1182, 1194, 1402; athletics and, 1245
Patti-Cederström, the Baroness, concert by, 423
Pattin, Dr. H. C., pulmonary tuberculosis, 1333
Paul, Mr. A., vaccination statistics, 1330, 1549
Pauli, Mr. H., home wanted, 1489
Pauperise, medical relief does not, 912
Payne, Mr. J. C. C., pharmacy, 260
Payne, Dr. J. F., the question of simple and specific inflammations, 382, 452, 606; cancer, 765
Peace and war, nitrogen in, 1317
Peace Congress (or Conference), 179, 300
Péan, Dr., the late, the International Hospital of, 596
Pearse, Mr. T. F., fibromata, 1086
Pearson, Mr. H. B. A., home wanted, 870
Peck, Dr. H., typhoid fever, 527
Peculiar People, prosecution of, 356
Pedal malformation from an evolutionary standpoint, 1013
Pedicle (of an ovarian tumour), a twisted, 1438
Peel, Mrs. C. S., Ten Shillings a Head per Week for House Books (review), 1023
Peel, Sir C. L., the late, 583
Peking Hospital, annual report, 163
Pellotine, physiological action of, 142
Pelvic disease in women, cœliotomy for, 337; trouble caused by bicycling, 1583
Pelvis, the fœtal, 157
Penang, plague in, 56
Pendred, Mr. V., otitis, 1363
Penis, nerves of the, resection of, 838; very large, of a fœtus, 1587
Penryn water-supply, 737
Pension for Mrs. Kanthack, 110; good service, award of, 355
People's Progress in the Light of Concrete Revealings of the Mind (review), 723
Pepper, Mr. A. J., gunshot wound, 26
Percival, Dr. A. S., Optics (review), 1675
Percussion, dorsal, and in particular of the spine, 261, 522
Pericarditis, purulent, incision in, 1752
Perineal fistula, suprapubic drainage in, 341; excision of the rectum, 599; operations, fixing patients for, 599
Peripheral neuritis in diabetes, 876
Peritoneal (see Retro-peritoneal, Intra-peritoneal, Sub-peritoneal)
Peritoneum, new method of suturing the, 249; primary hæmorrhagic effusion into the, 1028; hernia through a congenital opening in an abnormal fold of, 1439
Peritonitis, acute œdema of the groin in, 210; tuberculous, laparotomy in, 729; treatment of, 829; acute general, scarlet fever, appendicitis and, 1158
Peritonsillar abscess, septic thrombosis in, 1537
Periwinkles, bacilli in, 232
Permanganate of potassium, poisoning by, 411, 1468
Peroneal nerve, subcutaneous injury to the, 270
Petro-mastoid bone, scooping out the, 612
Petro-squamosal sinus, anatomy of the, 611
Pfaudler vacuum system of fermentation, 1104
Phagedæna, venereal, fatal cases of, 601
Pharmaceutical conference at Plymouth, 260; preparations, new, 963
Pharmacology in the medical curriculum, 383
Pharmacology (see also ANNUS MEDICUS and under Brit. Med. Assoc.)
Pharmacopœia, The Pocket (review), 163
Pharmacy Act (see Nicotine)
Pharmacy, the history of, in Ireland, 260
Pharyngeal (see Naso-pharyngeal)
Philippine Islands, the campaign in the, 50, 179, 507; nurses for the, 823
Philipps, Mr. A. E., ovariotomy, 959
Phillips, Dr. W. F., the influenza throat, 605
Phosphoric acid in blood, the detection and estimation of, 484
Phosphorus poisoning, 190
Photography (review), 163
Photography (see also Colour photography)
Phrenasthenia, 126
Phthisical patient (or patients), accommodation for a, 256; hospitals or sanatoria for, 435, 437, 598
Phthisis ab hæmoptoë, renal, 558
Phthisis, chinosol in, 90, 181, 238; asylum population and, 167; the onset of, signs found at, 420; in training-ships, 499, 521; why it attacks the apex of the lung, 500, 519; form of the chest in, 520; homes for the treatment of, 1274; in asylums for the insane, 1751
Phthisis, formalin inhalation in, 194; formalin in (inhalation and spray), 521; formaldehyde in, 598
Phthisis, notification of, 57, 184, 448, 449, 499; voluntary, 175, 521
Phthisis (see also Consumption)
Physical Education, the Elements of (review), 414; Training at Home (review), 570; Atlas (review), 1743
Physical laboratory, national, appointment of a director, 174
Physician and surgeon (or Physicians and surgeons), 302, 364, 394, 547
Physician, a great, is a great artist, 695
Physician (see also British Physician)
Physician in Shakespeare, 1789
Physicians, should they tell their patients the truth when they are past hope? 1869
Physics and Chemistry (review), 1239
Physiology, Journal of (review), 30, 788, 892, 1678; Human, Manual of (review), 413; and Histology, Elementary, Practical (review), 1240
Physiology, recent advances in, 381, 529
Physiology (see also ANNUS MEDICUS and under Brit. Med. Assoc.)
Pigeons, diphtheria-like organisms found in, 1296
Piggott, Mr. E. A., vaccine lymph, 619
Piggott, Dr. F. C. H., hernia, 157
Pigs, an epidemic among, 850
Pilleau, Dep. Insp.-Gen. H., the late, 430
Pillow-support, the Easton, 1744
Pim, Mr. G., diploma in public health, 1468
Pinard, Dr., Cæsarean section, &c., 616
Pins (see Hat-pins)
Piorry on pleximetry (see Dorsal percussion)
Pipe (see Tobacco pipe)
Pitfield, Mr. R. L., agglutinative action of blood sera, 718
Placental syphilis, 503
Plague convention, 253; bacilli in the sputum of a convalescent, 598; prospects, 734; duty in India, candidates for, 799; preventives, 805; riots, 858; regulations, the suspension of, petition for, 909; research laboratory, the Bombay, a report from, 975; administration, the highest positions in, given to civilians or military men, 982; commission, the Pasteur Institute, 985; cultures, regulations about, 1042; epidemic in India, clinical characters of the, 1087; toxins and atropine, 1301
Plague, extension of, to Europe, 288; unfounded rumour of, in London, 583; in London during the 17th century, 620; recrudescence of, in the East, and its relations to Europe, 699, 733; apparent disappearance of, from Egypt, 916, 1254; case of, landed at Plymouth, 1114; case of suspected, landed at Plymouth, 1750
Plague Hospital, the Dharwar, Report on (review), 570
Plague in India, 56, 121, 182, 238, 303, 364, 433, 514, 588, 743, 806, 858, 909, 982, 1042, 1125, 1196, 1253, 1335, 1390, 1396, 1406, 1468, 1550, 1693, 1766, 1779
Plague, inoculation against, 41, 100, 238, 1390, 1550; serum treatment of, 116, 303, 511
Plague in (or and) rats, 292, 816, 957, 1396; the transmission of, by rats and mice, precautions against, 589, 596
Plague in Penang, 56, 121; in Alexandria, 56, 60, 169, 289, 593, 748, 1254; in Bangalore, 183; in Hong-Kong, 308, 365, 514, 799, 1253, 1397; in Canton, 308; in Portugal, 505; in Oporto, 505, 985, 1254, 1397; in Reunion and Bushire, 514; in Mauritius, 514, 799, 854, 1254, 1397; in Russia, 738, 810, 978, 1695; in Mesopotamia, 810; in Madagascar, 852; in Brazil, 1254, 1397, 1783; in America, 1783; in Calcutta, report on, 1766
Plague, precautions against, 292, 694, 745, 747, 799, 809, 853, 862, 865, 866
Plague prophylactic fluid, an improved, 743; preparation of, in Russia, 811, 983; great demand for, 858, 983
Plague (see also Anti-plague)
Plague serum, the efficacy of, experiments on, 730
Plague, snake poison in, 121; the epidemic of, 727; conveyed by flies, 776; the spread of, 904, 975; death of an English nurse from, 910, 983; the Viceroy of India and the, 1390, 1396; treated with carbolic acid, 1589; in relation to climate, 1851
Plague, the, 1253, 1396
Plants, the assimilation of carbon by, 845; some South African, pharmacology of, 873
Plate, metallic, insertion of a, in a skull, 207
Pleuræ, primary hæmorrhagic effusion into the, 1028
Pleurisies, polymorphous, 1850
Pleuritic effusions in children, medical treatment of, 383, 458; surgical treatment of, 383, 459
Pleximeter and pleximetry (see Dorsal percussion)
Plimmer, Mr. H. G., the study of medicine, 952
Plumbers, examination of, by the Company of Plumbers, 220
Plumbers' work, the relative efficiency and cost of, 109
Plumbism and appendicitis, 171, 238, 302
Plymouth Public Dispensary, annual meeting, 1189
Plymouth, the pharmaceutical conference at, 260; case of plague landed at, 1114; suspected case of plague landed at, 1750; Lifeboat Saturday, 1786; Hospital Sunday, 1786
Pneumococcic (see Anti-pneumococcic)
Pneumogastric nerve, removal of portion of the, 342
Pneumonia, pneumothorax as a complication of, 40; hypostatic, hernia following, 278; microbic, pathology of, 323; serum treatment of, 324; in Indian jails, 496; guaiacol carbonate and creasote carbonate in, 710
Pneumothorax as a complication of pneumonia, 40
Poisoning, cases of: by sorrel, 60; by whisky, 63, 797; by hydrochloric acid, 160; by corrosive sublimate, 171, 784; by water gas, 232; by food, 290; by permanganate of potassium, 411, 1468; by opium, 434, 1016; by strychnine, 835, 901; by cheese, 851; by exalgine, 890; by carbolic acid, 912; by potatoes, 1554; by mercurial injections, 1685
Poisoning of a priest at mass, 248; mineral, 805
Poisoning (see also Lead poisoning, Phosphorus poisoning)
Poisons, the sale of, by unlicensed persons, 68; the law and, 1177, 1393
Pola, typhoid fever in, 857
Police Surgeons' Association, fees of medical witnesses, 418; cases, medical fees for, 870
Polio-encephalitis combined with infantile paralysis, 23
Polishes for floors, 538
Politics (see Medical politics)
Politzer, Prof., diseases of the middle ear, 540; extraction of the stapes, 612
Pollard, Mr. J., exophthalmic goitre, 384, 461
Polyclinic (see Medical Graduates', &c.)
Ponta-Delgada Hospital, 39
Pontypridd, water-supply at, 344
Poor in Liverpool, medical treatment of, 579
Poor-law, medical fees under the, 278; an ethical difficulty in, 1530
Poor-law medical officer, a veteran, 1605
Poor-law medical officers, Irish, in far-away districts, 58; superannuation for, 69; locumtenents of, 191, 367, 435, 516; and their holidays, 914
Poor-law medical officers, Scotch, their right of appeal, 110, 221, 252, 373; in the Hebrides, 302 (see also Lamont, Mr.)
Poor-law guardians and medical fees, 245; the Leicester (see Leicester); medical officers and, 543; troubles of, 913
Poor-law union hospital and dispensary medical officers, holidays (or vacations) of, 310, 367, 516
Poor-law conference, the Yorkshire, 1710
Poor man's hotel, 417

Poore Dr G V the secrets of nature, 1033, 1071
Pope health of the, 60, 368, 748, 1701
Poplar sanitary precautions in 1686
Portadown, water scheme for 746
Porto Rico leprosy in 370 vaccination in, 370
Portsmouth the battle of the clubs at, 306
Portsmouth (see also Brit Med Assoc)
Portugal plague in 506 699
Position and outlook our 1797
Postal Medical Officers Association of British annual dinner 44
Post-graduate instruction a new departure in, 36 in various countries 691-694
Post mortem decomposition rapid 1180
Post nasal adenoids rapid disappearance of, after influenza 1112
Potatoes, poisoning by 1554
Pottery manufacture lead poisoning and 229 286 trade lead compounds in the 1752
Pottery leadless glaze on the Government and 355
Potts Dr W A., transverse presentation, 1014
Powell Sir R. D practical medicine, 321 376
Powell Mr S A., tinea 1809
Power Mr D Arcy hernia 839
Powys Mrs Lybbe Passages from the Diaries of (review), 793
Poynton Dr F J cardiac overstrain 607
Practice, theory and 925
Practice the purchase of a, 1344
Practice (see also Medical practice Unqualified practice Club practice)
Practitioner (see Aged practitioner, Civil practitioner General practitioner Medical practitioner Registered practitioner, Unqualified practitioner)
Pregnancy ovarian, 642
Pregnancy parotitis and its nervous sequelæ in, 731 paralysis during 888 in a patient, with a double uterus and a double vagina, 1228
Pregnancy Extra uterine (review) 1172
Pregnant women (see Schwangeren Untersuchung)
Prendergast Dr J S., obituary 1567
Preparations proprietary versus official 1682
Preposterous 1789
Prescribing by medical men without seeing the patient 870
Prescriptions, the compounding of 794
Presentation neglected transverse case of 1014

PRESENTATIONS AND TESTIMONIALS —To Dr J Barry 130; to Dr J Graham 130 to Dr J J Stapleton 130 to Mr W G Moore 130 to Mr R S Kinnier 130 to Dr W B Violette 249 to Mr J May 363 to Mr G H Heald 465 to Mr F C Dodsworth 465 to Dr J H Wilson 465, to Mr G W Seccombe 465; to Dr T T Macklin 465 to Dr T J Monaghan 465 to Mr L Cooke 474 to Mr W H Clark 544, to Dr A S Kelso, 544 to Mr W Hall 753 to Mr H Davis 877 to Mr J Prior 867 to Dr R J George 867 to Dr F A Milner 867; to Sir Massey Lopes, 867 to Dr Alexander Robertson, 928 to Mr J Morris 968 to Rev Dr F Van Allen 988, to Dr D Traill 983 to Dr W J Collins 1049 to Mr T Thomas, 1202 to Mr J J Hartley 1202 to Dr F L. Phillips 1202 to Dr H Parry 1202 to Dr J B Isaac and his sister Mrs Roberts 1202 to Mr W F Reckitt 1271 to Dr J Evans 1271 to Dr T and Mrs Livingstone 1340 to Dr J A Lennewan 1340 to Dr H Rogers-Tillstone 1340 to Mr W M Storrar 1414 to Dr W H Bowes, 1415 to Dr J Blomfield, 1415; to Mr J Morris 1484 to Dr W Cowrie 1484 to Mr R Edwards 1568 to Mr O H Reddall, 1568 to Dr W F Farquharson 1568 to Dr Morgan Dockrell 1636 to Dr H O Nicholson 1636 to Dr J Barr 1619 1636 to Mr J Jones 1818

Preservatives in food 112, 173 252, 423 497, 544 1331 1427 1484 1568 1577 1726, 1868
Press the and public 810
Preston Royal Infirmary proposed extension of 172
Press (see also Foreign Press)
Priest, poisoning of a, at Mass 248
Primate at St George's Hospital 1162
Prior Mr J presentation to 867
Prison medical provision in a 64
Prison dietaries in Scotland report on 1117
Prisons commissioners of report of the 903, 966 convicts, the rarity of cancer in 1124
Prisons Board, Ireland report of the 1111
Pritchard Dr U otology 473
Privies in Calcutta, 307 523
Privileged communication, what is a? 135
Prize (or prizes): Barker 62; Liston 66, William J Jenks, 105; Neill 214; Lenval, 613 Carmichael 1317; Craig Colony 1457
Prize (or prizes) (see also Medals)
Prize distribution at Epsom College, 351 357
Prize essay on the American army tropical ration 987
Prizes distribution of at the medical schools Charing-cross Hospital 41 189 Westminster Hospital 251 London Hospital 251, St Bartholomew's Hospital 313, King's College, 436 Royal College of Surgeons in Ireland 1271
Profession organisation of the 741 859 910 980 1126 1194 1250 1260, 1309 1333, 1402 1845 1849 1870 benevolent agencies of the 1843
Profession (see also Medical profession, Dental profession)
Professional behaviour 1177; etiquette 1389 1489
Proprietary versus official preparations, 1682
Prosecution (or Prosecutions) threatened for using food preservatives 112 for selling margarine as butter 174 370; vaccination 190 for possessing unwholesome food 293 of a surgeon for neglect of notification 293, of Peculiar People 356 of a medical botanist 356, for removal of infectious clothing 366 of a fraudulent university examiner, 367 for interrupting a mission service 681; in connexion with scarlet fever 732, 1789 of druggists 794; for giving light weight in Seidlitz powders 812; for overcrowding 862; for manslaughter of a woman tied to a form 984 for selling a preparation of nicotine 1606 for neglecting children 1710
Prosecution (see also Hunter versus Clare)
Prostate the enlarged some structural varieties of 331
Prostate Enlargement of the its Treatment and Radical Cure (review) 1304
Prostate gland, the structure and function of the 1455
Prostatic enlargement unilateral castration for, 409
Prostitutes examination of by females 133 regulations for in Cairo 916
Prostitutes (see also White slave traffic)
Prostitution the control and suppression of 847
Protose, 571
Provident Medical Association the Metropolitan 107 dispensaries the Manchester and Salford 1127 1334
Provincial medical schools 656-663 685; dental schools, 690
Prussian Minister of Education and the German medical faculties, 809
Pseudo-tuberculosis in sheep, 249
Pseudo tuberculosis bacillus of 1297
Psilosis supposed case of 197, 303; discussion on 462, 535
Psychiatry Golden Rules of (review) 788
Psychology in the medical curriculum, 627
Psychology (see also under Brit Med Assoc.)
Ptosis produced by intra cranial lipoma 1437
Pubic (see Suprapubic)
Public health suggested national bureau of in the United States, 128, instruction for diplomas in 684
Public Health John Usher Institute of 913
Public Health (Scotland) Act (1897) 584
Public Health (see also Royal Institute &c ANNUS MEDICUS)
Public vehicles and infection 172, 162 funds, slum landlords and 1317
Publicity, unadvisable 1791
Puerperal eclampsia, a theory of 158 infection the treatment of in Paris 603
Puerperal fever serum treatment in 379 midwifery practice after having attended 445
Puerperal septicæmia, bacillus coli communis and, 29 due to streptococcal infection 379 445 treated with antistreptococcic serum 564 719; treatment of by packing the broad ligaments with gauze 1776
Pulmonary gangrene operation for 125 embolism following abdominal operation 276
Pulmonary tuberculosis, prognosis of the x rays in, 152 the arrest of 309 the Nordrach treatment of in Scotland and Ireland 435, 1247 and cancer the relative prevalencies of 580 lymphatic leukæmia combined with, 730 notification of 1333; open-air treatment of 1458
Pulmonary tuberculosis, amenorrhœa, and Raynaud's disease 525, 553
Pulmonary Tuberculosis, its Modern Prophylaxis and the Treatment in Special Institutions and at Home (review) 1703
Pulpit as a seat of judgment, 583
Pulse in epilepsy 579
Purpura associated with rheumatism, 1163
Purser testimonial fund, 418
Pushkin centenary 167
Puzzle, a, 469, 548, 620
Pye-Smith Dr., tuberculosis, 17
Pye-Smith, Mr R J., aseptic water-tap, 573
Pylorus ulcer of the, 216; congenital hypertrophy of the 1511
Pyo-pneumothorax from perforation of gastric ulcer 1285
Pyorrhœa Alveolaris and its Relations to General Medicine (review) 783

Q

Quackery in Leicester 317, ancient and modern, 1350
Quacks and abortion 111 174 1028, 1540, 1844
Quacks in Paris, 186
Quadrigemina, tubercula (see Tuberculi)
Quero (review) 723
Quarantine international 61 at New York, 936
Quarantine (see also Measures taken at Tor &c)
Quarterly Medical Journal, notice relative to, 466
Queen and the National Hospital for Consumption 41 and the Isle of Wight Infirmary, 358 and Bristol Jubilee Convalescent Home 474, 813, 919 1033, 1383, 1464 (see also Devon, Queen Victoria, &c)
Queen versus Leicester guardians 352
Queen Victoria in Italy 1458
Queen Victoria's Jubilee Institute for Nurses 863
Queen among Girls (review), 1596
Queensland lunacy in 1112, prevention of tuberculosis in, 1113
Quest of the Ideal 929 883
Quinine in malarial fever, 394, in typhoid fever, 460
Quinine injection in procident uterus 194 525

R

Rabagliati, Dr anthrax 91, ovum forceps, 1104
Rabies in India, 434; in England, 466 suspected in Ireland 746 in South Wales, 813
Rabies (see also Antirabic)
Radcliffe Infirmary (see Oxford)
Radius fracture of the, a rare 1662
Railway tickets a question of 124, travelling English the discomforts of 578 accidents in the United States 986
Railways metropolitan underground, ventilation of, 190 hygiene of 616
Rainfall in Belfast, 436 in Madagascar 852
Rains Mr R H scarlet fever 1637
Rainy Dr skiagrams exhibited, 159
Rait Dr J C obituary, 250
Randall Dr B A Diseases of the Eye, Ear, &c (review) 346
Ransom Dr W B infant foods and scurvy rickets 1256, 1330 pyo-pneumothorax 1285
Rathmines (see Dublin)
Rats plague in (or and) 292, 816, 957; the transmission of plague by 589 598
Raw Dr Nathan aneurysm of the axilla 209
Rawlings Mr A mineral poisoning 805
Ray fungus of actinomycosis, 779 1232, 1335
Raynaud's disease, amenorrhœa and pulmonary tuberculosis 525, 553
Raynaud's disease erythrol tetranitrate in 533
Rayne Dr C A., what is life? 991
Reading Good, Clear Speaking and (review), 415
Reason Mr W., University and Social Settlements (review), 416
Reay Lord underfed children, 1636
Recklinghausen's disease 271
Recruits army the testing of, 64
Recruits teeth 115
Rectum a bottle in the 278; administration of antitoxin serum by the 324 wounds of the, 1145 carcinoma of the 1603 strangulated prolapse of the, abdominal section in 1664
Rectum, excision of the perineal operation for, 699 by a new method 699 trans sacral 600
Red coloration of the fæces simulating the presence of blood 1452
Red Cross, the Italian 1029 the Central British Committee, 1312
Red Sea, ships coming from the measures taken against 1811
Reflexes nervous 822
Reformatories for inebriates the want of, 243 344, 406
Refraction errors in trachoma, 459
Refuse the destruction of 1316
Regeneration of nerves 22, 831
Regiment struck by lightning, 430, 742
Registered practitioners, the equality of before the law 116 of England and Wales report of Mr V Horsley to 425
Registrar-General, coroners and the, 576; and death certificates 781 and coroners (death certification), 603
Registration of colonial degrees 117
Registry offices for nurses for the sick 1203
Rehousing of the Liverpool poor 843
Reid, Dr. G., Practical Sanitation (review), 1305

Reid, Dr. G. A., alcoholism, 381, 451, 1192, 1329; acquired characters, 530; labour, 602; temperance fallacy, 1006
Reid, Mr., volvulus, 889
Reitmeyer and Co., Messrs., "patented in all countries," 317
Remedies, Rough Notes on (review), 1677
Renal distension, plastic surgery in, 9; tumours, the pathology of, 530, 531; phthisis ab hæmoptoe, 558; surgery, remarks on, 1150
Rennes verdict (or trial) (see Dreyfus case)
Rennie, Dr. G. E., muscular hypotonia, 148; cardiac thrombosis, 782
Rennie, Mr. S. J., snake-bite, 1438
Representatives, the direct (see General Medical Council, Medical politics)
Research, scientific, State aid in, 971
Research versus resource in medical education, 1387
Research, incentives to, 1635, 1781
Respiratory exercises, an apparatus for, 534
Retinal changes in diabetes, 876
Retinitis, albuminuric, 483
Retinoscopy (review), 218
Retro-peritoneal cyst, 215

REVIEWS AND NOTICES OF BOOKS.—The Serum Diagnosis of Disease: by Richard Cabot, M.D., 30—Clinical Lectures delivered before the Students of the Imperial Moscow University: by G. A. Zacharin, M.D.; translated from the fifth Russian edition by Alexander Kovinsky, M.D., 30—Vital Statistics: by Arthur Newsholme, M.D., F.R.C.P., 95—Materia Medica and Therapeutics: by J. Mitchell Bruce, M.D., F.R.C.P. Lond., 95—Outlines of Zoology: by J. Arthur Thomson, M.A., 96—Handbuch der Gynakologie: edited by Professor J. Veit, 97—Sopra un Nuovo Metodo di Esplorazione dei Tubercoli Quadrigemelli nei Cani: by Professor Gaetano Jappelli, 97—The Middlesex Hospital: Reports of the Medical, Surgical, and Pathological Registrars for the Year 1897, 98—Clinical Diagnosis: the Bacteriological, Chemical, and Microscopical Evidence of Disease: by Dr. Rudolph von Jaksch, 98—Anatomy of the Brain and Spinal Cord: by J. Ryland Whitaker, B.A., M.D. Lond., 98—Old St. Thomas's: by A. E. Russell, M.D. Lond., 98—Dictionary of National Biography: edited by Sidney Lee, 160, 568—British Columbia for Settlers: by Frances McNab, 162—Matriculation Directory: the University Tutorial College Series, 163—Syllabus of Materia Medica: by Dr. Hardy and Dr. A. D. Davidson; revised in accordance with B.P. 1898, by W. Martindale, F.L.S., 163—The Pocket Pharmacopœia: by F. Hudson Cox, F.C.S., and J. Stokes, M.D. Durh., 163—The Library of Useful Stories: The Story of Photography: by A. T. Story, 163—South Africa as a Health Resort: by A. Fuller, M.B., C.M. Edin., M.R.C.S. Eng., 163—Domestic Hygiene: by A. W. Williams, M.B., C.M. Edin., D.P.H. Lond., 163—Dwelling-houses: by W. H. Corfield, M.A., M.D. Oxon., F.R.C.P. Lond., 163—Claude Bernard: by Sir Michael Foster, K.C.B., M.A., M.D., secretary of the Royal Society, Professor of Physiology in the University of Cambridge, 217—Defective Eyesight: the Principles of its Relief by Glasses: by D. B. St John Roosa, M.D., LL.D., surgeon to the Manhattan Eye and Ear Hospital, 217—Retinoscopy (or Shadow Test) in the Determination of Refraction at One Meter Distance with the Plane Mirror: by James Thorington, M.D., assistant surgeon to Wills Eye Hospital, 218—Fry's Law of Vaccination: by A. F. Vulliamy, 218—The Inebriates Acts: by Wyatt Paine, 218—Bradshaw's Bathing Places, 218—Text-book of Ophthalmology: by Dr. Ernest Fuchs; Authorised translation revised from the seventh German edition by A. Duane, second American edition, 282—Twentieth Century Practice of Modern Medical Science: edited by T. L. Stedman, M.D., 283, 1100—Scheveningen, sa Plage et Ses Bains: by Dr. W. Francken, 284—Tourist Guide to the Continent, 284—The Anatomy of the Central Nervous System of Man and of Vertebrates in General: by Prof. Ludwig Edinger; translated from the fifth German edition by Winfield S. Hale, M.D., Philo Leon Holland, M.D., and Edward P. Carlton, B.S., 345—An American Text-book of Diseases of the Eye, Ear, Nose, and Throat: edited by G. E. de Schweinitz, M.A., M.D.; and B. Alex. Randall, M.A., M.D., 346—Evolution by Atrophy in Biology and Sociology: by M. Jean Demoor, M. Jean Massart, and M. Emile Vandervelde; translated by Mrs. Chalmers Mitchell, 346—Manual of Human Physiology: by Leonard Hill, M.B. Lond., 413—Some Health Aspects of Education: by Dr. Percy Lewis, 414—The Elements of Physical Education: by David Lennox, M.D. Edin., late R.N., and Alexander Sturrock, 414—Among the Wild Ngoni: by W. A. Elmslie, M.B., C.M., F.R.G.S., with introduction by the Right Hon. Lord Overtoun, 414—Clear Speaking and Good Reading: by Arthur Burrell, M.A., with a preface by P. A. Barnett, H.M.I., 415—University and Social Settlements: edited by W. Reason, M.A., 415—A System of Medicine: by Many Writers; edited by Thomas Clifford Allbutt, M.D. Cantab., F.R.C.P. Lond., F.R.S., &c., vol. vii., 493—Elements of Alkaloidal Ætiology, introductory to the Study of Auto-intoxication in Disease: by A. M. Brown, M.D. St. And., 495—A Text-book upon the Pathogenic Bacteria for Students of Medicine and Physicians: by Joseph McFarland, M.D.; second edition, 495—Physical Training at Home: by A. Alexander, F.R.G.S., 570—Report on the Dharwar Plague Hospital, August 28th to Dec. 18th, 1898: by W. H. Hornabrook, M.B., B.S., 570—Cultivated Roses: edited by T. W. Sanders, 570—Notes on Folkestone: by Arthur E. Larking, M.D. Durh., 570—Encyclopædia Medica: under the General Editorship of Chalmers Watson, M.B., M.R.C.P. Edin., 721—Hispano-American War Correspondence: being Letters from Dr. Nicholas Senn, 722—The Pocket Case Book for District and Private Nurses, 722—Dictionary of Medical Terms; English-French: by H. de Méric, M.R.C.S. Eng., 722—The Annual Charities Register and Digest, 1899, 722—An Introduction to the Study of Materia Medica: by Henry G. Greenish, F.I.C., F.L.S., 723—A Manual of Organic Materia Medica: by John M. Maisch, Ph.M., Phar. D.; seventh edition; revised by Henry C. C. Maisch, 723—Practical Materia Medica: by Grace Haxton Giffen, L.R.C.P. and S. Edin., 723—Text-book of the Embryology of Invertebrates: by Dr. E. Korschelt and Dr. K. Heider; translated from the German by Matilda Bernard: revised and edited by Martin F. Woodward, 723—Flora of Kent: by F. J. Hanbury, F.L.S., and E. S. Marshall, M.A., F.L.S., 723—The People's Progress in the Light of Concrete Revealings of the Mind: by the Rev. W. G. Davies, B.D., 723—Quæro: by James H. Keeling, M.D. Edin., F.R.C.S. Eng., 723—The Gospel according to Darwin: by Dr. Woods Hutchinson, 723—An Introduction to Dermatology: by Norman Walker, M.D., F.R.C.P. Edin., 787—Golden Rules of Psychiatry: by James Shaw, M.D.U.R.I., 788—Pyorrhœa Alveolaris and its Relations to General Medicine: by John Fitzgerald, L.D.S. R.C.S.I., 788—Dental Microscopy: by A. Hopewell Smith, M.R.C.S. Eng., L.R.C.P. Lond., L.D.S. R.C.S. Eng.; second edition, 788—Anæmia and Some of the Diseases of the Blood-forming Organs and Ductless Glands: by Byrom Bramwell, M.D., F.R.C.P., F.R.S. Edin., 841—Man, Past and Present: by A. H. Keane, F.R.G.S., 842—Essays and Nature Studies with Lectures: by W. J. C. Miller, B.A. Lond., edited with an introduction by H. Kirke Swann, 842—An Epitome of the History of Medicine: by Roswell Park, A.M., M.D., based upon a course of lectures delivered in the University of Buffalo; second edition, 843—Cambridge Geographical Series, 842—Amateur Gardening, 843—Hospital Expenditure: The Commissariat. Reprinted from the Hospital, 1898, 843—Schoolboys' Special Immorality: by Maurice C. Hime, M.A., LL.D., 843—The Murmurs of Mitral Disease: by Edward Mansfield Brockbank, M.D. Vict., M.R.C.P. Lond., 891—The Causes of Consumption, with Special Reference to its Prevalence in the Isle of Man: by Charles A. Davies, M.D. Vict., 891—An Introduction to Zoology: by B. Lindsay, C.S., of Girton College, Cambridge; second edition, 892—Modern Cremation: Its History and Practice: by Sir H. Thompson, Bart., F.R.C.S. Eng.; third edition, 892—A Practical Introduction to the Study of Botany: by J. Bretland Farmer, M.A., 892—Asthma: Recent Developments in its Treatment: by Ernest Kingscote, M.B., C.M., L.R.C.S. Edin., 1022—An Introduction to Diseases of the Nervous System: by H. Campbell Thomson, M.D., M.R.C.P. Lond., 1022—Ten Shillings a Head per Week for House Books: by Mrs. C. S. Peel, 1023—Tuberculosis of the Genito-Urinary Organs, Male and Female: by N. Senn, M.D., Ph.D., LL.D., 1102—The Unconscious Mind: by Alfred T. Schofield, M.D. Brux., M.R.C.S. Eng., 1103—An Atlas of Syphilis and the Venereal Diseases, including a Brief Treatise on the Pathology and Treatment: by Professor Dr. Franz Mracek of Vienna; translated by L. Bolton Bangs, M.D., 1103—Manual of Diseases of the Skin, with an Analysis of 20,000 Consecutive Cases and a Formulary: by L. Duncan Bulkley, A.M., M.D.; fourth edition, 1103—A Son of Rimmon: by Athol Forbes, 1103—A Text-book of Pathology: by Alfred Stengel, M.D., 1170—Transactions of the Jenner Institute of Preventive Medicine; second series, 1171—Extra-uterine Pregnancy, a Clinical and Operative Study: by John W. Taylor, F.R.C.S. Eng., 1172—Practical Diagnosis, the Use of Symptoms in the Diagnosis of Disease: by Hobart Amory Hare, M.D., B.Sc.; fourth edition, 1172—Constipation and its Modern Treatment: by George Herschell, M.D. Lond.; second edition, 1173—Anatomischer Atlas der Geburtshilflichen Diagnostik und Therapie: by Dr. Oscar Schaeffer; second edition, 1173—Atlas und Grundriss der Gynäkologie: by Dr. Oscar Schaeffer; second edition, 1173—The Soluble Ferments and Fermentation: by J. Reynolds Green, D.Sc., F.R.S., 1237—Clinical Lectures on Neurasthenia: by Thomas D. Savill, M.D. Lond., 1238—The Wasting Diseases of Infants and Children: by Eustace Smith, M.D., F.R.C.P. Lond.; sixth edition, 1238—Transactions of the Epidemiological Society of London; vol. xviii., 1239—Physics and Chemistry, adapted to the Requirements of the First Examination of the Conjoint Examination Board of the Royal Colleges of Physicians and Surgeons, and also for General Use: by Herbert E. Corbin, B.Sc. Lond., and Archibald M. Stewart, B.Sc. Lond., 1239—A Short History of the Progress of Scientific Chemistry in Our Own Times: by William A. Tilden, D.Sc., F.R.S., 1239—A Medical Handbook for the Use of Practitioners and Students: by R. S. Aitchison, M.D., F.R.C.P. Edin.; third edition, 1240—A Course of Elementary Practical Physiology and Histology: by M. Foster and J. N. Langley; seventh edition, edited by J. N. Langley, F.R.S., and L. E. Shore, M.D., 1240—Pulmonary Tuberculosis: its Modern Prophylaxis and the Treatment in Special Institutions and at Home: by J. A. Knopf, M.D., 1303—Enlargement of the Prostate: its Treatment and Radical Cure: by C. Mansell Moullin, M.D. Oxon., F.R.C.S. Eng.; second edition, 1304—Lehrbuch der Kinderkrankheiten: von Prof. Dr. Adolf Baginsky, sixth edition, 1304—Practical Sanitation: by Geo. Reid, M.D., D.P.H. Aberd.; fifth edition, 1305—The Exploration of the Urethra and Bladder: by M. Tuchmann, M.R.C.S. Eng., M.D., 1305—A Directory of the Dissection of the Human Body: by John Cleland, M.D. Edin., LL.D. St. And., F.R.S., and John Yule Mackay, M.D. Glasg.; fourth edition, 1306—The Ready Reference Handbook of Diseases of the Skin: by George Thomas Jackson, M.D. Col.; third edition, 1306—The Story of the Eclipses, Simply Told for General Readers: by George F. Chambers, F.R.A.S., 1306—A Handbook of Anatomy for Art Students: by Arthur Thomson, M.A. Oxon., M.B., 1306—South African Health Resorts: the Voyage to South Africa and Sojourn There, 1306—Introduction to the Outlines of the Principles of Differential Diagnosis, with Clinical Memoranda: by Fred. J. Smith, M.A., M.D. Oxon., F.R.C.P. Lond., 1379—Over-pressure: by S. de Brath and F. Beatty, 1380—Microscopische Technik zum Gebrauch bei Medicinischen und Pathologisch-Anatomischen Untersuchungen: von Prof. Dr. Carl Friedlaender, 1381—Atlas of Urinary Sediments: by Dr. Hermann Rieder, 1381—Archives of Neurology from the Pathological Laboratory of the London County Asylums, Claybury: edited by F. W. Mott, M.D. Lond., F.R.S., 1447—The Schott Methods of the Treatment of Chronic Diseases of the Heart: by W. Bezly Thorne, M.D. St. And., M.R.C.P. Lond.; third edition, 1448—Bacteria: especially as they are related to the Economy of Nature, to Industrial Processes, and to the Public Health: by George Newman, M.D., F.R.S. Edin., D.P.H., &c., 1448—The Essentials of School Diet: by Clement Dukes, M.D., B.S., M.R.C.P. Lond.; second edition, 1527—A Manual of Modern Surgery, General and Operative: by John Chalmers Da Costa, M.D., 1527—Ringworm and some other Scalp Affections; their Cause and Cure: by Haydn Brown, L.R.C.P. Edin., 1528—Leitfaden für den Gynäkologischen Operationskurs: von Dr. E. G. Orthmann, 1528—Leitfaden für die Schwangeren-Untersuchung: von Dr. Eugen Winternitz, 1528—Christmas Books, 1528—Christmas Cards, 1529—Die Krankheiten der Eierstöcke und Nebeneierstöcke: edited by Professor A. Martin, 1595—Mental Affections: an Introduction to the Study of Insanity: by John Macpherson, M.D., F.R.C.P. Edin., 1596—A Queen among Girls by Eleanor Davenport Adams, 1596—The Story of the Seven Young Goslings by Lawrence Housman, 1597—No Surrender a Tale of the Rising in La Vendée by G A Henty, 1597—The Doctor by Henry De Vere Stacpoole, 1597—Optics: A Manual for Students: by A. S Percival, M A, M B Cantab, 1675—A Farmer's Year by H Rider Haggard, 1676—A Manual of Modern Gastric Methods by A Lockhart Gillespie, M D, F R C P, F R S Edin, 1677—Memoirs of the Ekaterinoslav Medical Society, 1677—Rough Notes on Remedies by William Murray, M D Durh, F R C P Lond, third edition, 1677—Infectious Diseases Hospitals by H H Copnall 1678—The Medical Annual Synoptical Index, 1678—The Englishwoman's Year-book for 1900 edited by Emily Janes, 1678—The New Century Library, 1678—Bale's Dental Surgeon's Daily Diary and Appointment Book for 1900 1678—Hermann von Helmholtz by John G McKendrick, LL D, F.R C P Edin, 1741—Dairy Chemistry: A Practical Handbook for Dairy Chemists and Others having Control of Dairies by Henry Droop Richmond, F I C, 1742—Bartholomew's Physical Atlas; vol iii Atlas of Meteorology prepared by J. G Bartholomew, F R S E, and A J. Herbertson, Ph D, and edited by Alexander Buchan, LL D, F R S, 1743—A Record of Indian Fevers, with some Hints on their Etiology, Diagnosis, and Treatment: by Major D B Spencer, 1744—A Loyal Little Maid; by Sarah Tytler, 1744—The Little Panjandrum's Dodo: by G E Farrow, illustrated by Allan Wright, 1744—A Manual of Surgical Treatment by W. Watson Cheyne, M B Edin F R C S Eng F R S, and F F. Burghard, M D, M S Lond F R C S Eng, 1816—Introduction to Physical Chemistry: by James Walker, D Sc, Ph D, 1817—Lehmann's Medizinische Hand Atlanten, band xx, Atlas und Grundriss der *Speciellen Pathologischen Histologie*: von Dr. Hermann Dürck, 1817—Therapeutic Electricity and Practical Muscle Testing: by W S. Hedley, M D Edin, 1818—Herbert Fry's Royal Guide to the London Charities (for 1900) edited by John Lane, 1818

PERIODICALS—Annales de l'Institut Pasteur, 30—Edinburgh Medical Journal, 230, 84, 570—Journal of Physiology, 30, 415 788 892, 1678—Journal of State Medicine, 31 218—Knowledge, 98—The Leisure Hour, 98 1240—Scottish Medical and Surgical Journal 284, 570—Dublin Journal of Medical Science 284—Open Court, 284—British Physician 285—Journal of Anatomy and Physiology, 347—Revue de Gynécologie et de Chirurgie Abdominale, 414, 892, 1381—Annales de Gynécologie et d'Obstétrique, 414, 570 1104, 1381—Mercy and Truth 570—Archives Générales de Médecine 570—Journal of the Sanitary Institute, 570—Quarterly Journal of *Microscopical Science*, 892—*The Girl's Own Paper*, 1240—The Sunday at Home, 1240—Veterinary Journal, 1382—Veterinarian, 1382

Reviews (see also Students' Library)
Rheumatic fever, bacteriology of 537 605
Rheumatism, acute, treated surgically, 93, 237, virulent acute with extensive purpura, 1163, gonorrhœal, 1467, 1548, 1617
Rheumatoid arthritis (?), case of, 1230
Rheumatoid arthritis, excision of joints in 1400, 1526
Rhinitis, atrophic, formalin in 384
Rhinology, thirty years progress in, 384
Rhinoplasty by the modified Italian method, 310
Rhodes Dr H, obituary, 1557
Rhodesia, Southern, medical legislation in, 250, 225, 359, 504, 1031
Rhondda Valley, diphtheria in the, 312
Rice, Dr J. D, tetanus 1012
Richards Dr A F B, Swansea Hospital, 430
Richardson, Dep.-Insp Gen W., the late, 507
Richelot, Dr., gynæcology, 641
Richmond, Mr. H. D, Dairy Chemistry, 1742
Richter's hernia 960
Rickets, the etiology of, 457, the treatment of, 607, scurvy, infant food and, 1181, 1256, 1330
Rieder, Dr Hermann, Urinary Sediments (review), 1390
Rifle-shooting by medical men, 174, 229, 296
Rigby, Mr H M, modern military bullets, 1529
Rigors in disease, the nature and significance of 1425
Rimmon, A Son of (review), 1103
Rinderpest the infection of, 121
Ringworm and some other Scalp Affections (review), 1528
Ritter's disease, 573
River pollution, 434
Roberts, Dr. F. T., progress of medicine 936
Roberts, Mr A. M, arsenic as an external irritant, 719
Robertson, Dr. A., treatment of disease, 51, presentation to, 988
Robertson, Dr. J, annual report for Sheffield, 978
Robinson, Dr F W, an osteotome, 1529
Robinson, Mr H B, pleuritic effusions in children, 383, 459
Robson, Mr. A. W. M, interscapulo-thoracic amputation, 273
Roche, Prof. A, bromide of strontium, 512
Rochester, medical reform at, 1704
Rockliffe, Dr, wound of the orbit, 159
Roderick, Dr H. B, diphtheria, 1808
Rodocanachi, Dr. A. J, injury to the wrist, 1229

ROENTGEN RAYS.—The fluoroscope in medicine (*Dr F. H Williams*), 36—*The rays in prognosis* of pulmonary tuberculosis (Dr. H Walsham), 152—Skiagrams exhibited (Mr Stiles and Dr Rainy), 159—Serious results of exposure to the rays, 256—Application of the rays in surgery (Mr R C Lucas), 378, 443—Application of the rays to medicine and surgery (Mr. C M. Moullin) 474—The rays in the treatment of skin diseases (Dr. E Schiff), 534—The rays in the treatment of lupus vulgaris (Mr. J. Hall Edwards), 534—Nature of the injurious effects produced by the rays, 534—Skiagrams and ray apparatus in the museums of the British Medical Association, 536 538, 539—Failure of the rays to show a bullet in the brain (Dr. A. H. Bampton), 599—"Nervous" eructations and skiagraphy (Dr. Albert Abrams), 732—An improved x ray tube, 1105—A portable x ray apparatus, 1240—Skiagraph of a leg exhibited *by the photographer without the* permission of the patient or the surgeon (Dr E. du Cane and others) 1274, 1343—Needle-point in the finger discovered by the rays (Dr. W. H Coates), 1438—x ray production and its medical uses (Mr A. H B Kirkman) 1595—The rays and forensic medicine, 1682 (see also Ether waves)

Roentgen Society, annual report, 390, presidential address 474
Rôle, a dual, 1273
Rolleston, Dr. H, D, Recklinghausen's disease, 271; meningitis, 1097; ascites, 1660
Roman (see Græco-Roman)

ROME, CORRESPONDENCE FROM.—American honours to Professor Angelo Mosso, 60, 311—Important hygienic precaution, 60—The Pope "in villeggiatura," 60—The late medico primario of the Santo Spirito Hospital, 126—Phrenasthenia, 126—The Rector Magnificus of the Roman University, 126—Health of Leghorn, 187—"Fanciulli tardivi," 187—Burning of the Exhibition at Como, 187—Professor Bizzozero on alcoholism in Italy, 247—A priest poisoned while celebrating the mass, 248—*Honour to an obstetrician*, 248—Yellow fever in Amazonia, 311—Prevention (or treatment) of tuberculosis 311, 437, 593, 916, 1409, 1472—Health of the Pope, 368, 748, 1701—Deaths by lightning, 437—The great heat, 437—Physical education in the United States, 517—Dr. Koch's studies in malaria, 517—*A new form of cell for the insane*, 597—"War to the mosquitoes," 597—Health (or sanitation) of Italy and the tourist season, 743—The "suicidal contagion" and the Press, 810—Sterilisation of drinking water, 866—Precautions against the plague, 866—Conscription for the army, 916—Yellow fever on the Ligurian Riviera 917—A statesman on hygiene, 986—Typhoid fever in city and province, 1046—Congress of Electro Biology at Como, 1046—A medal of Morgagni, 1134—Increase of pellagra, 1134—Small pox, 1199—Pestis bubonica in Brazil, 1199—Pharmaceutical misadventure, 1199—The British American practitioner in Italy, 1266—Congress of internal medicine, 1267—*Influence of civilisation on the duration of* human life, 1339—The English-speaking world and its contribution to the Italian revenue, 1400—"Nine fishes at a birth," 1410—Medical duty and lay misdeeds, 1472, 1556—A new international hygienic conference, 1555—The English-speaking consultant in Italy, 1555—A British school in Rome, 1701—Italian studies in malaria, 1702—Intravenous injection of corrosive sublimate in pestis bubonica, 1702—Microbes in holy water, 1702—The tourist in Italy, 1772

Roosa, Dr. D. B. St. John, Defective Eyesight (review), 217
Rope, Mr. H J., obituary, 917
Rosebery, Lord, at Epsom College, 351, 357
Roses, Cultivated (review), 570
Ross, Dr. F., blood corpuscles, 530
Ross, Maj R, the Liverpool expedition to West Africa, 38, 173, 365; his investigations on malaria, 385, 583, 726, 743, 745
Rossiter, Mr C B, antiseptics, 394; opium poisoning, 1016
Rotation of the body in the treatment of volvulus, 483
Rough Notes on Remedies (review), 1677
Row, Dr. R, plague toxins and atropine, 1301
Rowton, Lord (see Poor man's hotel)
Royal Army Medical Corps Manual, 52, 117, 181, the manœuvres on Salisbury Plain, 229; chiropody, 314; surgeons on probation, 363, 516, grievances in India, 365; pass list, 429; nominations, 566, deficiency of candidates, 737; the gaps in the, 858; at Magersfontein, 1753
Royal Army Medical Corps (see also Services)
Royal Berkshire Hospital regulations of the, 295, finances of the, 1686
Royal College of Physicians of Edinburgh, 1699
Royal College of Physicians of Ireland: anti-tuberculosis conference, 123, election of officers, 1201; admission of a licentiate, 1412
Royal College of Physicians of London: Croonian lectures, 1, 71, 139, 165; extraordinary comitia, 45, 1119, lectures for 1900 and 1901, reports and communications received, 45; quarterly comitia, 359; Bisset-Hawkins medal awarded to Dr J B Russell, 359, Bradshaw lecture, 359, 1209; admission of members, medical ordinance in Rhodesia, election of officers, 359, Baly medal, 359 515, Harveian oration 1033, 1071; study of beri beri, 1049, 1119, Secreta Collegii, 1119; ordinary comitia, 1254, admission of members, letters and communications received, 1254, Morgagni medal, 1254; retrospect, 1842
Royal College of Surgeons of England election of members of council, 32, 130, 250; annual meeting of Fellows 32, 177, 250, supplementary charter, 32, 129, 164 250, 1761, extra ordinary meeting of council, 129, report from the Laboratories Committee, 129, election of president, 129 177, 250; special meeting *of Fellows and Members*, 129, 250, pass list, 131, 1635, memorial to the council from Members, 164, 170, additions to the museum, 177; reform 180, 236, 302, 1324, quarterly meeting of council, 250, 1119, medical ordinance in Matabeleland, 250; appointment of professors and lecturers, 250; Members gown, 302, 1119, 1308, 1761; ordinary meeting of council, 361, 1308, removal of names of Members from the Register, 361; specimens in the museum of the Otological Congress, 613, centenary of the College, 1119 1413, 1463; 1842 Bradshaw lecture, 1119, 1717; the Calendar, 1252, reports from the Committee of Management and the Laboratories Committee, appointment of Sir W. MacCormac and Mr. Treves as consulting surgeons to the British forces in South Africa, 1308, annual meeting of Fellows and Members, 1316, 1413, 1463; statement presented to the Lord President of the Privy Council on behalf of the Society of Members, 1324; the annual meeting 1450, consideration of the resolutions carried at the annual meeting of Fellows and Members, 1761, retrospect, 1842
Royal College of Surgeons of Edinburgh, the fellowship of the 816
Royal College of Surgeons in Ireland: pass list, 62, 1567, prizes awarded, 1271, Carmichael prize essay, 1317
Royal Colleges, Edinburgh, School of Medicine of the, 244
Royal Colleges of Physicians and Surgeons of Edinburgh and Faculty of Physicians and *Surgeons of Glasgow*, pass list, 390
Royal Colleges of Physicians and Surgeons, Examining Board in England by the, pass lists, 131, 183 1137, 1709
Royal Colleges of Physicians and Surgeons, Ireland, conjoint examinations of the, 792, 1413, diploma in public health, 1463
Royal Commission on the licensing laws 223
Royal Cornwall Infirmary, annual meeting, 892
Royal Edinburgh Asylum for the Insane, annual report, 360
Royal Institute of Public Health congress, 131, 753, 894; meeting in Aberdeen in 1900, 1523
Royal Institution 132, 1636, 1836
Royal Irish constabulary, enteric fever among the, 808, 864
Royal Isle of Wight Infirmary, the Queen and the, 356
Royal Medical Benevolent College, 104, 351, 357, 1317
Royal Meteorological Society, 1521
Royal Military Tournament, 236
Royal Navy Medical Service, 224
Royal Navy Medical Service (see also Services)
Royal Ophthalmic Hospital, the new buildings of the, 45

Royal Society, discourses delivered or papers communicated to the, 41, 100, 831; anniversary of the, 1609

Royal University of Ireland, pass list, 1138

Royal Veterinary College, introductory lecture, 854

Rudge, Mr. C. K., schools for the deaf, 992

Ruffer, Dr. M. A., measures taken at Tor and Suez, 1801

Rundle, Mr. H., varicocele, 599

Russell, Dr. A. E., Old St. Thomas's (review), 93

Russell, Dr. J. B., the Bissett-Hawkins medal awarded to, 359

Russell, Mr. R. H., hernia, 1353

RUSSIA, CORRESPONDENCE FROM:—The Pushkin centenary, 187—Famine, 187—Eberth's bacillus in the meninges in enteric fever, 369—Diphtheria, 369—Health resorts in the Caucasus and the Crimea, 369—General news, 369, 811, 1047—Plague, 810, 1047, 1267, 1556—Preparation of the plague prophylactic, 811—Scurvy and famine, 811—Etiology and prophylaxis of scurvy, 1047—Leprosy, 1047—A Russian Burton, 1267—Famine and the population, 1268—Jenner Society's gold medal, 1556—Prophylaxis of enteric fever, 1556—Spread of typhus fever by fomites, 1557—Cholera on the Persian Gulf, 1557, 1862—Treatment of disease by light rays, 1862—A Russian ambulance for the Boers, 1862—A health resort in Central Asia, 1862

Russia, naval and military medical services of, 329; plague in, 738, 810, 978, 1695

Rutherford, Prof., bust of, 185

Rutherford, Dr. R. L., milk sterilisers, 1638

Rutland, the Duchess of, the late, 227

Ryall, Mr. C., excision of the rectum, 600

S

Sailors, testing the visual power of, 457, 458

St. Andrews University, 366, 864, 1567, 1619

St. Austell Workhouse, skin-grafting at, 132

St. Bartholomew's Hospital Medical School, prize distribution, 313

St. Fillans, drainage of, 913

St. George, Hanover-square, the parish of, 1605

St George the Martyr, Southwark, the church of, human remains in, 1547, 1684

St. George's Hospital, the pathological museum at, 1033; the Primate at, 1182

St. Helens, medical report for, 232

St. James, Westminster, medical report for, 906

St. John Ambulance Association, the medical profession and the, 166; and its Stockport Centre, 354, 1181

St. John Ambulance Brigade and the war, 1662

St. John of Jerusalem, the Order of: appointment of an Associate, 515; the Ophthalmic Hospital at Jerusalem, 851

St. Marylebone, medical report for, 232; electric light in, 1750

St. Mary's Hospital: the Streets and Squares Bazaar, 313

St. Olave's, Southwark, the medical officer of, 852, 1112

St. Olave's district, medical report for, 112

St. Paul's Cathedral, medical service in state at, 968, 1201

St. Petersburg, Dental Conference in, 369

St. Thomas's Church, Southwark, human remains in, 852

St. Thomas's Hospital Medical School, scholarships, 938; proposed additions to, 1049

St. Thomas's Hospital (see also Old St. Thomas's)

Saline fluid, injection of, in eclampsia, 28

Saline solution, infusion of, into a vein, 487; transfusion of, in diabetic coma, 564

Salisbury Plain, manœuvres on, medical arrangements for, 49

Salop and Montgomery counties asylum, annual report, 361

Salter, Dr. A., tetanus toxin, 1297; tetanus immunity, 1298

Samways, Dr. D. W., the cardiac orifices, 522

Sanatoria, open-air, 724, 851; Durham county, 1635

Sanatoria, fever hospitals designated, at Huddersfield, 855; at Burnley, 1484

Sanatorium for infants at Hendaye, 985

Sanatorium, Limited, statutory meeting, 311, 355

Sanatorium as the designation of a fever hospital, at Huddersfield, 855; at Burnley, 1484

Sandall, Dr. T. E., Midwives Registration Bill, 1616

Sanders, Mr. T. W., Cultivated Roses (review), 570

Sandwith, Dr. F. M., distoma, 853

Sanitary appliances, exhibition of, 537; toilet paper, 571

Sanitary commissioner (see Bengal and India)

Sanitary congress in Chili, 294; conference in Teheran, 364

Sanitary Inspectors of Scotland, Association of, 58; Association of Scotland, annual congress, 807

Sanitary inspectors, female, 232, 233, 243

Sanitary inspectors, the conduct of, impugned, 1681, 1774

Sanitary inspectors' examination board, 1220

Sanitary Institute, Journal of the (review), 570; congress of the, 699, 733; school teachers and hygiene, 846

Sanitation and water, 33

Sanitation in Calcutta, 240, 306, 431, 592; in Ireland, 1842

Sanitation, Practical (review), 1305

Sansom, Dr. A. E., influenza, 972, 1075, 1309

Sarcoma: brachial plexus, 271; axilla, 274; carotid sheath, 342; tongue, 378, 444; infective, in dogs, 456; eyelid, 458; thyroid, 567; stomach, 600; uterus, 1294; scrotum, 1658

Saunders, Dr. S., annual report for the City of London, 298

Savage, Dr. G. H., insanity, 381, 528

Savill, Dr. T. D., Neurasthenia (review), 1238

Savory, Dr. H., eclampsia, 168

Scalp, suppuration of the, following middle ear disease, 294

Scapula (see Inter-scapulo-thoracic)

Scarlet fever, prosecutions in connection with, 732, 1789; inoculation of, 1031; in India, and its bacteriology, 1385; the diagnosis of, 1637

Scarlet fever, appendicitis, and peritonitis, 1158

Schaeffer, Dr. Oscar, Atlas der Geburtshilflichen Diagnostik, &c. (review), 1173; Atlas der Gynäkologie (review), 1173

Schauta Prof. Frederic, fibro-myoma, 615

Scheveningen, Sa Plage et ses Bains (review), 284

Schiff, Dr. E., the Roentgen rays in skin diseases, 534

Schmiegelow, Dr. E., the hearing power, 539

Schofield, Dr. A. T., The Unconscious Mind (review), 1103

Scholarships given in aid of medical study, 672-683

Scholarships at the hospital medical schools: London Hospital, 919; Middlesex Hospital, 958; St. Thomas's Hospital, 988; Charing-cross Hospital, 988; University College, London, 938; Royal Free Hospital, 1004; King's College, 1014

School teachers, vaccination of, 64; examination in practical hygiene for, 846

School children, mental and physical deviations from normal among, 896; eyesight of, 1340

Schoolboy, the Statesman and the, 351, 357

Schoolboys' Special Immorality (review), 843

School Diet, The Essentials of (review), 1527

Schools, the sanitary inspection of, 381, 448; overcrowding in, 381, 448; infection in, 526; for the deaf, 816, 869, 992

Schools (see also Medical Schools)

Schwangeren-Untersuchung (review), 1528

Schweinitz (see De Schweinitz)

Science, the growth of, in the century, 733, 759

Scientific research, State aid in, 971

Sclera (see Eye)

Scotch medical schools, 663-668; dental schools, 691; parish medical officers, holiday for, 1334

SCOTLAND, CORRESPONDENCE FROM.—Prevention of tuberculosis in Edinburgh, 57—Aberdeen volunteer medical staff corps, 58—Association of Sanitary Inspectors of Scotland, 58—Scottish inter-university boatrace, 58—Royal Society of Edinburgh, 123, 244, 1780—Medical officer of health of Paisley, 123—A case of interest to the medical profession, 185—The professorship of physiology at Birmingham, 185—American meat in Edinburgh, 185—Glasgow and West of Scotland Coöperation for Trained Nurses, 185—Bust of Prof. Rutherford, 185—Edinburgh Royal Infirmary, 244, 913 984, 1619, 1780—School of Medicine of the Royal Colleges, Edinburgh, 244—Notification of diseases in Aberdeen, 244—A gallant medical officer, 244—An academic record, 244—Glasgow University, 309, 366, 435, 754, 863, 913, 1043, 1198—The public slaughter-house question in Aberdeen, 309—Edinburgh University, 366, 984, 1263, 1337, 1619, 1699, 1861—St. Andrews University, 366, 864, 1619—The spread of infectious disease, 367—Aberdeen City Hospital, 367, 864—Aberdeen water-supply, 367, 1043—An educational impostor punished, 367—Sanitation on Upper Deeside, 367—Health of Glasgow, 435—Glasgow infirmaries, 515, 914—Glasgow corporation, 746—Sanitary Association of Scotland, 807—Aberdeen cemetery scandal, 807—Health of Edinburgh, 863—Proposed fever hospital for Stirling and district, 863—Queen Victoria's Jubilee Institute for Nurses, 863—Requests to Glasgow institutions, 863, 914—Glasgow Lunacy District Board, 863—Victoria Infirmary, Glasgow, 863—Medical appointments and vacancies, 863, 1043—Lunacy in Scotland, 864—Drainage of St. Fillans, 913—John Usher Institute of Public Health, 913—The late Mr. W. B. Macleod, 913—Proposed new hospital at Langholm, 913—Glasgow Lecture Association, 914—Fever hospital for Dornoch 984—Typhoid fever at Burntisland, 984—Typhoid fever at Dalkeith, 984—Glasgow Southern Medical Society, 1043, 1198—Vaccination in Aberdeen, 1044—Medical pr liminary examination, Aberdeen, 1044- Glasgow Royal Infirmary, 1130—Universi College, Dundee, 1130, 1263—Propos new municipal regulations in Aberdeen, 11 —Aberdeen Ophthalmic Institution, 113 Aberdeen University, 1131, 1198, 1263, 140 Proposed crematorium, Aberdeen, 1263 Hospital Sunday in Aberdeen, 1263—E burgh Health Society lectures, 1337, 1 1780—The Dairies, Cowsheds, and Milksh Order of 1899, 1337—New district asylum Aberdeen, 1337—Aberdeen University Me Society, 1337—The Sivewright medical sion to Pretoria, 1407—Dundee Lu Board, 1619—Tercentenary of the Facul Physicians and Surgeons of Glasgow, 1 The Morison lectures, 1699, 1780— Scottish Society of Arts, 1699—Glasgow University Club, London, 1699—Epidemic hospital for Carnoustie, 1699—Royal College of Surgeons of Edinburgh, 1780—Edinburgh Botanical Society, 1780—Typhoid fever in Ayr, 1780—Presentation of portrait to Sir John Sibbald, 1861—Scottish Universities Preliminary Examination Statistics, 1861—Royal Physical Society of Edinburgh, 1861—Pharmaceutical Society of Great Britain 1861

Scotland: Association of Sanitary Inspectors, 58; vaccination, 64, 252; Public Health Act (1897), 584; lunacy, 864; prison dietaries, 1117; Nordrach treatment of pulmonary tuberculosis, 1247; report of the Commissioners in Lunacy, 1254; remote, medical service in, 1618, 1776

Scott, Mr. J. G., Madeira, 301

Scott, Mr. K., ulceration of the eyelid, 458

Scottish inter-university boatrace, 58

Scottish Poor-law medical officers, their right of appeal, 110, 221, 252, 373

Scottish Poor-law medical officers (see also Lamont, Mr.)

Scottish Medical and Surgical Journal (review), 284, 570

Scrotal and inguinal hernia, strangulated, case of, 341

Scrotum, elephantiasis of the, 832; sarcoma of the, 1658

Scudamore, Mr. G., illness of, 988

Scurvy in Russia, 811

Scurvy rickets, infant foods and, 1181, 1256, 1330

Sea, accidents at, and the visual power of sailors, 457, 458

Sea air, tonic properties of, 423

Sea-sickness, oxygen in, 436

Seaforth overcrowding case, 862

Seals, oculist, 1753

Seaton, Dr. E., vaccination, 381, 446; annual report for Surrey, 584

Seats for shop assistants, 173, 180, 252, 528, 544, 992

Seccombe, Mr. C. W., presentation to, 465

Secrecy, professional, the publication of medical observations and, 60

Secret commissions, medical men and, 372, 583; and the medical profession, 725, 793

Seeds, the vitality of, unaffected by intense cold, 845, 1837

Seidlitz powders of light weight, the sale of, 812

Seifert, Dr. R., guaiacol carbonate and creasote carbonate, 710

Senn, Dr. N., Hispano-American War Correspondence (review), 722; Tuberculosis o the Genito-urinary Organs (review), 1102

Sensori-motor palsies of the face and eyes, 16

Septicæmia, investigations relative to, 375; ant streptococcic serum in, 409

Septicæmia, puerperal, bacillus coli commun and, 29; due to streptococcal infection, 5 445; anti-streptoccic serum in, 564, 71 treatment of, by packing the broad li ments with gauze, 1776

Septuagenarian, herniotomy in a, 278

Sequeira, Dr. J. H., diabetes and jaundice,

Sero-therapy, some notes on, 1806

Sers, Mr. O. H., a puzzle, 620

Serum of milk, the therapeutics of, 245

Serum, anti-tetanic, 89, 553; plague, the ciency of, experiments on, 730; antityp in the treatment of enteric fever, 778; plague, supply of, in Paris, 909; anti- theritic, 1082; anti-pneumococcic, 1297; venene, 1438

Serum, antistreptococcic, in puerperal septicæmia, 379, 445, 564, 719, 1299; in septicæmia, 409; not a specific for puerperal infection, 603; in endocarditis, 1225; treatment with, 1293; therapeutic use of, 1384
Serum therapeutics, 325, 1018; by the rectum, 324
Serum therapy in fever following delivery, 379, 444, 445; the demands of, 1456
Serum treatment of plague, 116, 303, 511
Serum treatment not analogous to vaccination and in many cases a failure, 379
Serum Diagnosis of Disease (review), 30
Servant (see Domestic servant)
Service examinations, 697
Service (see also On Her Majesty's Service)
Services, the naval and military, weekly article on, 49, 114, 179, 235, 299, 362, 429, 507, 586, 737, 802, 856, 907, 977, 1039, 1123, 1189, 1255, 1328, 1398, 1466, 1545, 1615, 1693, 1772, 1858; retrospect, 1834
Services, the naval and military medical (under the heading of CORRESPONDENCE), 513
Services, the public medical, tests required for admission to the, 377, 439; visual tests employed in the, 457
Sewage, the discharge of, into the Mersey, 243; crude, the bacterial treatment of, 1024; Manchester, the experts' report on, 1454
Sewage disposal in rural districts, 109; the dry system of, 135; in Paris, 186, 747; various systems of, 420; in Surrey, 584; in Taunton, 812
Sewage farm, the Aldershot, 391; at Birmingham, 744
Sewer air and its dangers, 37; ventilators, 116
Sewerage of Belfast, 245
Sewerage, the Shone hydro-pneumatic system of, 1116
Sex mistaken, cases of, 28
Sexual intercourse during intoxication, the effect of, on the offspring, 452
"Sexual Inversion" (a book), an American view of, 170
Shackleton, Dr W., food of the cow, 1571
Shakespeare, the physician in, 1789
Shanghai sanitary district, 106
Sharp, Dr J. G., incompatibility, 827
Shattock, Mr S. G., chronocyte clumping, 1297
Shaw, Dr J., Psychiatry (review), 788
Shaw, Dr L. E., aneurysm, 839
Shaw, Mr R. H., ptosis, 1437
Shaw Mackenzie, Dr, diseases of women, 602
Sheen, Dr A. W., thyroid growth, 600
Sheep, a new disease in, 249
Sheffield, medical report for, 976; open-air treatment of tuberculosis at, 1458
Shell fish and typhoid fever, 1014
Shelley, Mr P., fœtal anomaly, 1663
Ship, the largest afloat, 620
Shipboard, yellow fever on, 293, 917; medical provision on, 891
Ships' hospital, 330, 1467; training, phthisis on, 499, 521
Ships, sanitation of, 33
Shipwreck unexplained due to defective sight of sailors, 447
Shone system of sewerage, 1116
Shop assistants, seats for, 173, 190, 257, 528, 544; seats exhibition, 932
Shore, Dr L. E., Physiology and Histology (review), 1240
Shoulder, dislocation of the, involuntary reduction of, 1733
Shropshire (see Salop)
Shuttleworth, Dr G. E., epileptics and imbeciles, 603
Sickness assurance, medical, 460
Sick-room infection in typhoid fever, 527
Sierra Leone, malaria expedition to (see Africa, West); tsetse fly in, 743
Silly season, 419
Simon, Dr Jules, the late, 865
Simpson, Dr W. J., plague, 699, 723
Simpson, Mr J. F., excision of the breast, 86
Simpson, Prof., extra-uterine gestation, 29
Sims, Mr F. T., life assurance, 1691
Sinus, the frontal, chronic empyema of, 471, 534; the cavernous, septic thrombosis of the, 582; the frontal, anatomy of, 611; the petro-squamosal, anatomy of, 611
Sinuses, the accessory nasal, chronic suppuration of, 310
Siriasis (see Thermic Fever)
Skiagrams (see RÖNTGEN RAYS)
Skin, arsenical pigmentation of the, simulating Addison's disease, 353; pigmentation of the, cirrhosis with, 440
Skin, Diseases of the, Manual of (review), 1103; Handbook of (review), 1300
Skin disease (see Tokelau)
Skin diseases, the constitutional treatment of, 33; the Röntgen rays in the treatment of, 634
Skin fibromata, 1096
Skin grafting in a workhouse, 132; with dried epidermis scales, 793; a new method of, 1434
Skin grafts, Thiersch, in symblepharon, 1249
Skrimshire, Mr F. W., obituary, 1557
Skull, injuries of the, during delivery, 29; fracture of the, epilepsy following, and silver plate inserted, 207; a bullet in the, localised by the x rays, 378, 443; thickness of, asymmetry in, 530; fracture of the, 1017
Slaughter-houses, unlicensed, in Oldham, 308; private, in Aberdeen, 309; private, the abolition of, 381, 448
Slave (see White slave)
Sleep and sleeplessness, 1, 71, 139, 165
Sleep (see also Narcolepsy)
Sleeping sickness, the Congo, 1095
Slemen, Surg.-Capt. L., Royal Army Medical Corps Manual, 117
Sloman, Mr S. G., a new splint, 724
Slums, slum landlords and public funds, 1317
Small-pox, diagnosis of, 107, 1751; prevention of, 381, 446; and varicella, a disease resembling, 732; probable intra-uterine infection in, 732
Small-pox in Egypt, 61; in Hull, 133, 1315, 1536; amongst the United States troops, 225; in Durham, 298
Small-pox and vaccination in the United States and in the American army in Manila, 969
Small-pox hospital for Manchester, 983
Smith, Capt. Frederick, blackwater fever, 1229
Smith, Dr A. L., ventral hernia, 280
Smith, Dr E., Wasting Diseases of Infants and Children (review), 1238
Smith, Dr F. J., anæmia, 1093; Differential Diagnosis (review), 1379
Smith, Dr G. D., sarcoma in dogs, 456
Smith, Dr J. G., epileptic insanity, 411
Smith, Mr A. H., Dental Microscopy (review), 788
Smith, Mr B., malignant growths, 1165
Smith, Mr Frank, gymnastic belts, 1713
Smith, Mr H., strangulated hernia, 341
Smith, Mr N., fracture-dislocation of the spine, 477
Smith, Mr P., strabismus, 824
Smith, Mr S. F., gratitude, 1417
Smith, Mr W. C. F., dicephalic fœtus, 489
Smith, Surg.-Gen. C., an honour to, 110, 115
Smithson, Mr O., retention of urine, 719
Smoke nuisance, 39, 117, 252
Smyth, Dr H. K., malarial fevers, 394
Smyth, Mr R. M., cryptorchids, 785
Snake-bite, the treatment of, 609; antivenene serum in, 1438
Snake poison in plague, 121
Snake poison (see also Antivenene)
Snell, Mr S., eye accidents, 382, 456; ophthalmic cases, 1735
Soap, spirit of, the antiseptic action of, 246
Soaps, various, 220, 538, 962
Società Pediatrica Italiana, election of a corresponding member, 1806
Societies (see also MEDICAL SOCIETIES; Friendly Society; Children, Prevention of Cruelty to, &c.)
Society of Apothecaries of London, the prosecution of Mr Hunter, 50, 425, 1040; account of the Hall and the Physic Garden, 58; pass lists, 62, 189, 312, 617, 918, 1049, 1200, 1484, 1865; and Mr V. Horsley, 1550
Society of Arts, the Albert Medal, 110; for Relief of Widows and Orphans of Medical Men, 251
Society, country, in the eighteenth century, 798
Sociology, Evolution by Atrophy in (review), 346
Sodium biurate, the gelatinous form of, and its bearing on gout, 377, 441
Soil and disease, 325
Solanin, poisoning by, 1554
Soldiers, cubicles for, 190, 330; in India, disease among, 467, 493; and their families, civilian medical men attending, the remuneration of, 909; municipal arrangements for, at Bath, 1786
Soldiers, French, medical history sheets for, 300
Soldiers' Convalescent Home, Bath, 1806
Solids, various, 220, 962, 1301
Solomon, Mr J. V., obituary, 917, 992
Somatic or voluntary tissues, 819
Somatose and meat extracts, 883
Somers, Mr Y. L. D., medical aid associations, 256
Somerset, lunacy in, 464
Sommerville, Dr D., tuberculosis, 211
Son of Rimmon (review), 1103
Sorrel poisoning, 60; nephritis caused by, 125
Soudan, malaria in the, 49; new laws in the, 61; troops in the, 749
South African plants, pharmacology of some, 873; Health Resorts (review), 1506
South Devon and East Cornwall Hospital, presentation of a portrait, 807
Southam, Mr F. A., rheumatoid arthritis, 1588
Southampton, congress of the Sanitary Institute at, 699, 733
Southey, Dr R., obituary, 1472
Spanish (see Hispano-American)
Speaking, Clear, and Good Reading (review), 415
Spearing, Dr A., obituary, 1865
Speculum, a nasal, 1173
Spencer, Dr H., fever following delivery, 379, 444
Spencer, Mr W. G., phagedæna, 601; gummatous disease, 962
Spencer, Dr E. M., obstetrics up-to-date, 1274
Spencer, Maj. D. B., Indian Fevers (review), 1744
Spermatozoa, the agglutination action of blood sera on, 718
Sphygmograph, utility of the, 321
Sphygmomanometers, Mosso's and Basch's, 902
Spicer, Dr S., sarcoma of the carotid sheath, 342
Spinal canal, injections of cocaine into the, 1536
Spinal cord, syphilitic affections of the, 605; the lateral columns of the, lesions of, 727; action of cocaine on the, 793; a case of injury to the, 840
Spinal Cord, Anatomy of the (review), 93
Spine, partial dislocation of the, 88; percussion of the, 261, 522; fracture-dislocation of the, 477
Spines, carious, forcible straightening of, 1331
Spirituous liquors, alleged dangers of, 502
Spitting in tramcars, prohibition of, in Italy, 311
Splenectomy, case of, 607
Splint, a new, 724
Spray apparatus utilising the pressure of water-mains, 992
Sprue, supposed case of, 197, 303; discussion on, 462, 535
Squire, Dr J. E., tuberculosis, 198
Stackpoole, Mr H. De V., The Doctor (review), 1597
Stain, Neisser's, 1172, 1274, 1344
Staining, new methods of, 889, 1041
Stains, soloid, 962
Staircases without handrails, 515
Stalkartt, Insp.-Gen. W. H. S., blackwater fever, 609
Standing, long-continued, in the production of women's diseases, 528
Stapes, extraction of the, 612
Stapleton, Dr J. J., presentation to, 130
State aid in scientific research, 971
Statesman and the schoolboy, 351, 397; on hygiene, 866
Steam, articles injured by disinfection of, 450
Stedman, Dr T. L., Twentieth Century Practice (review), 283, 1100
Steele, Mr F. A. T., hernia, 279; eucaine, 318
Steevens, Dr G. W., registry offices for nurses, 1205
Stengel, Dr A., Text-book of Pathology (review), 1170
Stenhouse, Dr J. W., erythema, 1696
Sterilisers, milk, 1638
Stethoscopy, methods of, 321
Stevens, Mr F., diphtheria, 1549
Stevens, Mr G. J., the new Vaccination Act, 1549
Stevenson, Col., gunshot wounds, 378, 441
Stevenson, Dr T., somatose, 883
Stewart, Dr K., chloroform anæsthesia, 1273
Stewart, Mr A. M., Physics and Chemistry (review), 1239
Stewart, Mr J., abscess of the kidney, 1436
Stiles, Mr, specimens exhibited, 159
Still, Dr G. F., tuberculosis, 383, 459
Still-births, midwives and, 603
Stimulants in the Belfast workhouse, 746; the craving for, 1071
Stirling and District, proposed fever hospital for, 863
Stirlingshire, medical report for, 584
Stocker, Dr J. S., the Society of Apothecaries, 1550
Stocker, Mr W. W., value of a defence association, 62
Stocket, Long versus, 176
Stockinette underwear, 256
Stockport, organisation of the profession at, 659
Stockport Centre of the St. John Ambulance Association, 166, 354, 1161
Stoerk, Prof. Karl, the late, 854
Stoicism, British, 170
Stokes, Dr J., Pocket Pharmacopœia (review), 163
Stokvis, Prof., congratulations to, 45
Stomach, syphilitic disease (or syphilis) of the, 410, 85; partial resection of the, 600; washing out the, after anæsthesia, 833; dilatation of the, 1017; apparatus for washing out the, 1229; removal of a hat-pin from the, 1732

Stoney, Mr. P. B., food of the cow, 1638
Story, an unsavoury, 1790
Story, Mr. A. T., Photography (review), 163
Strabismus, operation for, hæmorrhage during, 155; in young children, 824
Straits Settlements, venereal diseases in the, 391
Strand district, medical report for the, 112
Strawberries and gout, 52
Street noises, 581, 1318; nuisances, 1685
Streptococcal infection, puerperal septicæmia due to, 379, 445; meningitis, 1097
Streptothrix infections, 779
Strontium, bromide of, in epileptic insanity, 411; in epilepsy, 512, 958
Strychnine, poisoning by, 901
Strychnine poisoning and its detection in exhumed bodies, 835
Stuart, Mr. J. B., obituary, 812
Students, address to, 623
Students' number of THE LANCET, 623-698; library, 625
Students, French, riotous conduct of, 60
Study leave for colonial medical officers, 1332
Sturrock, Mr. A., Physical Education (review), 414
Sub-conjunctival injections, acoine in, 1082
Sub-peritoneal sacless hernia, 1158
Subscapular artery, ligature of the, 209
Subscriptions, financial assistance, appeals, 136, 255, 256, 296, 318, 394, 418, 548, 620, 909, 921, 1052, 1548, 1616, 1618, 1714, 1790, 1870
Suez, measures taken at, against ships from the Red Sea, 1801
"Suicidal contagion" and the responsibility of the press, 810
Suicide, the increase of, the causes of, 289; *of* a criminal lunatic, 914
Sulemani, Dr. Shamsudin J., plague, 805
Sulphates, aromatic, the excretion of, 461
Sulphones (sulphonal, trional, tetronal) physiological action of, 74
Sulphur, burning, disinfection by, 112
Sumatra, a coolie hospital in, 1315
Summer diarrhœa, the prevention of, 168; in Manchester, 744; its probable cause, 1090
Sunday at Home (review), 1240
Sunderland Borough Asylum, annual report, 361
Sunstroke, changes in the brain produced by, 421; in the Austrian navy, 857
Sunstroke (see also Thermic fever)
Superannuation allowance to a Poor-law medical officer, 189
Superfœtation, 1600
Supra-hepatic abscess, 535
Suprapubic drainage in perineal fistula, 341; lithotomy, 1295, 1467
Suprarenal bodies (see Epinephrin)
Surbiton, domestic drainage at, 291
Surgeon, *physician and (or Surgeons, physicians and)*, 302, 364, 394, 547
Surgeon (see also Colliery surgeon)
Surgeons, veterinary, the training of, 954; consulting, to the forces in South Africa, 1308, 1850
Surgery, plastic, in renal distension, 9; *military, American experience in*, 115; the combination of, with medicine, 322; a new day in, 325; medicine and, the century's progress in, 348, 373; the importance of asepsis in, 374; recent advances in, 375; the Roentgen rays in, 378, 443, 474; a review of, during the past 100 years, 1717
Surgery, &c., illegal certificates of proficiency in, 426, 511, 587
Surgery, General and Operative, A Manual of (review), 1527
Surgery (see also Dental Surgery, ANNUS MEDICUS, and under Brit. Med. Assoc.)
Surgical instruments and appliances, exhibition of, 538; operations, kinematograph demonstrations of, 643
Surgical Treatment, A Manual of (review), 1816
Surrey, medical report for, 584
Surrey County Asylum, annual report, 231
Susceptibility *versus* Immunity, 322
Sussex (see East Sussex)
Sutherland, Dr. J. F., *legislation for inebriates*, 381, 450
Sutherland, Dr. G. A., scurvy rickets, 1330
Sutton, Dr. A. M., *scarlet fever, &c.*, 1158
Sutton, Mr. B., the menopause, 524
Swansea Hospital, annual meeting, 252; the Workmen's Compensation Act, 430

SWITZERLAND, CORRESPONDENCE FROM.—*Poisoning by common sorrel*, 60—Annual meeting of Swiss medical men, 126—Increase of population of Swiss towns, 126—The cliniques of Zürich, 865—*Typhoid fever and the Widal reaction*, 865—Protargol in affections of the eye, 1046—Professor Wyder in face presentations 1046—*Annual meeting of Swiss medical practitioners*, 1266—Operative treatment of hæmorrhagic pachymeningitis, 1266—Effect of ligature of the carotid artery on the eye, 1555—Lung disease due to streptococci, 1555—*Sanatorium for consumptives of the canton of Geneva*, 1555—Tuberculosis of short duration, and infection with dead tubercle bacilli, 1701

Sydenham Society (see New Sydenham Society)
Sydney: Women's Hospital, 248; *disposal of* refuse, 517; treatment of garbage, 724; infectious diseases hospital, 733; public health, 750
Sydney University, 248
Symblepharon, restoration of the conjunctival sacs in, 1249
Symonds, Mr. H. P., appendicitis, 269
Symonds, Mr. C. J., diphtheria, 785
Symons, Dr. W. H., disinfection, 450
Sympathetic, the cervical, galvanisation of, for glaucoma, 893; *resection of, for glaucoma*, 899
Symphysiotomy, the indication of, 616
Sympson, Dr. M., *rickets*, 607
Syphilis, conference on, 237, 847; *in the army* and navy, the prevention and treatment of, 377, 523; the prevention of, 403, 524; placental, 503; intra-muscular injections in, 523, 524; the rational treatment of, 524; and general paralysis, 529; of the stomach, 857; inherited, contagiousness of, 1605
Syphilis and the Venereal Diseases, Atlas of (review), 1103
Syphilitic diseases of the eye, 145; disease of the stomach, 410; factor in the diseases of women, 602; affections of the spinal cord, 605
Syringe, an aseptic, 1308
Syrup, golden, adulteration of, 1032

T

Tabes dorsalis, the exercise treatment in, 501; and the general paralysis of the insane, 1442, 1591, 1736; pathology of, 1686
Tabloids, various, 220, 571, 756, 962, 1307
Tait, Mr. L., the late, bulb culture, 843
Tallerman *versus* the Dowsing Radiant Heat Company, 354
Tallerman Free Institutes, 1597
Tannoform, 571
Tap (see Water-tap)
Targett, Mr. J. H., renal tumours, 530
Taste fibres, course of the, 530
Taunton, sewage disposal at, 812
Taylor, Dr. T. R., illegal certificates of proficiency, &c., 511, 587
Taylor, Mr. J. W., Extra-uterine Pregnancy (review), 1172; hæmatocele, 1259, 1468
Tea-drinking saloons, 228
Teachers, medical, 697
Teachers, school, the vaccination of, 64, 314; examination in practical hygiene for, 846
Tebb, Dr. A. E., confidence trick, 1417
Teeth, the early decay of, 527
Teeth, recruits', 115
Teheran, *a sanitary congress in, report as to*, 364
Telephone Company, the National, the dental profession and, 1259
Temperance fallacy, 1005
Temperature of the House of Commons, 314; in epilepsy, 579
Temperature charts, new, 993
Templeton, Mr. G., measles, 313
Temporal bone, caries of the, following middle-ear disease, 294
Ten Shillings a Head per Week for House Books (review), 1023
Testicle, development of the, 160
Testicle (see also Cryptorchid)
Testicular mumps, 1533
Testimonial, a *queer*, 193
Tetanus, antitetanic serum in, 89, 653; asphyxia under chloroform due to, 106; antitoxin in, 1012
Tetanus toxin, the hæmolytic action of, 1297
Tetanus-immune animals, the antitoxin-producing function in, 1298
Tetranitrate of erythrol, cases treated with, 533, 687
Thames, the London water-supply and the, 295; *condition of the*, 392
Theory and practice, 925
Therapeutics, Materia Medica and (review), 96
Thermic fever, the alleged microbic causation *of*, 608
Thermometer, the clinical, utility of, 321
Thin, Dr. G., *malarial fever*, 384; sprue, 452
Thomas, Mr. J. L., the Gasserian ganglion, 524
Thomas, Mr. J. T., annual report for Wiltshire, 906
Thompson, Surg.-Gen. J. A. W., the late, 363
Thompson, Dr. J. A., leprosy, 885
Thompson, Sir H., Cremation (review), 892
Thomson, Dr. A., Anatomy for Art Students (review), 1306
Thomson, Dr. H. C., chorea, 456; Diseases of the Nervous System (review), 1022
Thomson, Dr. R., gastric ulcer, 486
Thomson, Prof. J. A., Zoology (review), 96
Thomson, Prof. A., fœtal pelvis, 157
Thoracic (see Interscapulo-thoracic)
Thorington, Dr. J., Retinoscopy (review), 218
Thorne, Dr. W. B., Diseases of the Heart (review), 1448
Thorne, Sir R. T., the late, 1748; obituary, 1762
Thornton, Dr. G., diphtheria, 79
Thornton, Mr. G. L., the Vaccination Act, 1695
Thornton, Mr. P., influenza, 1776
Throat, *the influenza*, 605
Throat, &c., Diseases of, American Text-book of (review), 346
Throat (see also Cut Throat)
Thrombosis, femoral, after cœliotomy, 340; septic, of the cavernous sinus, 582; cardiac, and its causes, 782; septic, in peritonsillar *abscess*, 1537
Thurston, Mr. E. D., *typhoid fever*, 1004
Thyroid gland, removal of one lobe of the, exophthalmic goitre cured by, 384, 461; glands and ovaries, points of resemblance between, 525
Thyroid, sarcoma of the, 567
Thyroid extract in cancer, 529
Thyroid growth, secondary, 600
Tilden, Prof. W. A., History of Chemistry (review), 1239
Tilley, Dr. H., frontal sinus empyema, 534
Tineæ of Southern Assam, anatomical and age distribution of the, 1809
Tintometer in water analysis, 225
Tipper, Mr. E. H., ovariotomy, 959
Tiverton Infirmary, opening of a new wing, 490
Tobacco in the Belfast union infirmary, 435
Tobacco pipe filters, 317
Todmorden, typhoid fever at, 1635
Toe (see Orteil, Hammer-toe)
Toe-nail, in-growing, 1016
Toilet paper, sanitary, 571
Tokelau *(a skin disease)*, 795
Tomlin, Mr. F. R., *illegal certificates of proficiency*, &c., 511, 587
Tongue, sarcoma of the, 378, 444
Tonkin, Dr. A. J., diphtheria, 1082
Tonsils, removal of, 68, 182
Tonsils (see also Peritonsillar)
Tor, measures taken at, against ships from the Red Sea, 1801
Tourist season in Italy, 748, 866
Tourist Guide to the Continent (review), 284
Tournament, the Royal Military, 236
Town councillors and cigarette-smoking youths, 291
Towne, Mr. R. H. F., appendicitis, 565
Toxin, tetanus, 1297
Toxins, specific (see Auto-intoxication; see also p. 452 and erratum on p. 606)
Tracheotomy in diphtheria, 79, 180
Trachoma, correction of errors of refraction in, 458
Traill, Dr. D., presentation to, 988
Training ships, phthisis in, 499, 521
Transfusion of saline solution in diabetic coma, 564
Transfusion (see also Infusion)
Transposition of viscera, 1513
Transvaal, the, 49, 429; map of the, 843; medical arrangements for the, 970
Transvaal crisis, 857; War Fund, 1866
Transverse presentation, neglected, case of, 1014
Treatment, incompatibility in the law of, 827
Tredinnick, Mr. E., vaccine lymph, 194
Treloar, Mr. W. P., Christmas dinners for children, 1403
Trephining, cases of, 159, 608, 1441
Trephining apparatus, Van Arsedale's, 194, 256
Treves, Mr. F., with the wounded in South *Africa*, 1308
Trials, recent criminal, 1606
Triboulleau, *Dr., tokelau*, 795
Tring, typhoid fever at, 1104
Trinidad, *the public medical service in*, 731
Troops in the Soudan, 749
Troops, the United States, small-pox amongst, 225
Tropica (see Otitis)
Tropical diseases, instruction in, 51; the study of, in Germany, 247; proposed instruction in, at Glasgow University, 309; instruction in, in Queen's College, Belfast, 516
Tropical diseases (see also Brit. Med. Assoc.)
Tropical medicine, schools for, the establishment of, 385; *instruction in*, 695
Tropical medicine (or diseases), the Liverpool school of, 32, 173, 365, 583, 694, 696, 726, 743, 745, 806, 912, 1041
Tropical medicine, the London school of, additions to the teaching staff, 505; inaugural address, 956

Tropical ration, the American army, prize essay on, 997
Truro, sanitary matters at, 719; drainage of, 1635
Trusses, new, 522, 893
Trust, a breach of 1274, 1343
Truth on "Doctoring by contract," 573, 790
Tsetse fly in Sierra Leone, 745 806
Tubby, Mr. A H, contracted hand and arm, 460
Tubercle bacillus (or bacilli), entry of the, into the body, 199, in the urine detection of, 560
Tubercoli Quadrigemelli, Esplorazione dei, nei Cani (review), 97
"Tubercular" and "tuberculous," 364, 430, 512
Tuberculin, cattle tested with, 249 356, 1180, as a diagnostic means in the human subject, 519, in India, 529
Tuberculosis, prevention of, 57, 175, 198 285, 311, 324, 347, 377, 448 750, 972 1113, 1635
Tuberculosis, Liverpool select vestry and 122, 243 745, 862, Berlin Congress on, 177, conditions which favour or prevent 199; outdoor treatment of, 211, notification of, 214, heredity and, 324, of children, channels of infection in the 383, 459; Nordrach treatment of, 435 1247, personal communication of, 448; preventive and remedial treatment of, 499, 518, 520, 587, of the kidney, hæmaturia an early symptom in 558; open air sanatoria for, 724 851, open air treatment of, 733, 1746, 1366, 1458, 1517, 1590, 1665; the spread of by milk, 849 862; the crusade against, 917; localised, of the intestine 970, of the uterus, 1298, milk and, legislation as regards, in America, 1248, British congress on, 1767
Tuberculosis pulmonary, prognosis of, the x rays in, 152; the arrest of, 309, and cancer, relative prevalences of 580; lymphatic leukaemia combined with, 730, notification of, 1333, open air treatment of, 1458
Tuberculosis, pulmonary, amenorrhœa, and Raynaud's disease 525, 553
Tuberculosis formaldehyde in 698, formalin in, 747; the treatment of by inhalation of alcohol, creasote, and chloroform 917
Tuberculosis in cattle 175, 356, in animals, the Royal Commission 467
Tuberculosis of the Genito-urinary Organs (review), 1102, Pulmonary its Modern Prophylaxis, &c (review) 1303
Tuberculosis (see also Anti tuberculosis, Pseudo tuberculosis)
Tuberculous tumour mistaken for cancer 91, diseases of the eye, 145; disease of the ankle, skiagrams of 159, adenitis of the head and neck 383 459; lesions of animals and birds the localisation of, 533, disease of the middle-ear and mastoid cells, 539, peritonitis the mechanism of laparotomy, 729, bladder improved by hydraulic distension, 1587 affections surgical the treatment of, 1641 1724, 1793, disease of the right knee and right epididymis, 1811
Tuchmann, Dr. M, Exploration of the Urethra and Bladder (review) 1305
Tugwell, Bishop, on alcoholism 391
Tumour, the largest on record 830
Tumours, renal, the pathology of 530, 531
Tumours of gigantic size, 605 829
Tunbridge Wells diphtheria at 112
Turner, Mr G R, actinomycosis, 1232, 1333, ascites, 1660
Turner, Dr P. D, tuberculosis of the uterus, 1298
Tusschenbroek (see Van Tusschenbroek)
Twentieth Century Practice (review) 283 1100
Tylecote Dr J R. L, tropical diseases 51
Typewriting for the blind, 243
Typhoid fever inoculation against 42, cockles and, 291, 544, 867, 1014 1452, quinine, chlorine, and antiseptics in 490; sick room infection in, 527, and the Widal reaction, 865; ulcers of the vulva and vagina in, 968, of unusual duration 1004 complications of 1040, appendicitis cr? 1734 cerebral and aural complications in, 1635, diagnosis of, 1851
Typhoid fever in St Helens, 232, in the American army, 235, in the French army, 363, in India 391, in Paris, 747; in Falmouth 812, 867, 913, in Pola 857, in Exeter, 867 953, in South Wales, 903 983, in Cornwall, 919 1232, in Burntisland, 934, in Dalkeith 934, in Tring 1104, in Dublin, 934, 1409 1551, 1697 1778 1859, in Todmorden 1635, in Lambeth 1849
"Typhoid Indian" at Lisbon 734
Typhoid bucket and bed pan the "Killgerm" 1870
Typhus fever in Liverpool, 232; in Glasgow, 732, in Russia, 811
Tyre, use of a, 1017
Tyrone (county), new hospital for, 935
Tyrotoxicon, poisoning by, 851
Tytler Miss Sarah A Loyal Little Maid (review), 1744

U

Ulcer, duodenal, 215, 1106, of the pylorus, 216, gastric hæmorrhage from, the surgical treatment of, 601
Ulcer, gastric, perforated, operations for, 486, 1094, in a man, 489, diagnosis and treatment of 522; treatment of, 1106, pyo-pneumothorax from, 1285
Ulcers, multiple, of the vulva and vagina in typhoid fever, 968
Umbilical cord, treatment of the, 582, purulent infection from the encephalitis from, 1030
Underwear, stockinette, 256
Undulant (Malta) fever, 610
Union is strength, 1680
Unions, medical, an appeal to, 967
University education in France, the cost of, 60, question in Ireland 123; examiner, a fraudulent, prosecution of 367
University intelligence, foreign 62 189, 312, 390 465 543 617, 753, 788, 866, 918, 1138 1270, 1484, 1709 1865
University College, London, medical scholarships at, 988
University College Hospital, the North London or the first staff of, 948
University and Social Settlements (review), 415
University (see also Inter university)
Unqualified practitioners, notification of Infectious disease and 181, practice by companies, 426, assistants, the General Medical Council and 548
Upton Mr J. R, the Hunter case, 1040
Ureter, stenosis of the 9, impacted stone in the, operations for 206; calculus in the, 1644
Urethanes, effects of on blood pressure, 72
Urethra and Bladder, Exploration of the (review), 1305
Uric acid and the circulation 377, 400, and gout, 441
Uric acid (see also Sodium biurate)
Urinary Sediments, Atlas of (review) 1381
Urine, incontinence of treatment of, 109, tubercle bacilli in the, 560, retention of, case of, 719
Urine test case, 1106
Usher (see John Usher)
Uteri carcinoma, hysterectomy for 1359
Uterine fibroid simulating inversion of the uterus, 277, secretions, bacteriological examination of, 379, arteries, ligature of the, 1094
Uterine cancer, the surgical treatment of, 601, the modern treatment of, 602
Uterine (see also Extra uterine)
Uterus, ruptured, cases of 29, 279 379 446, inversion of the reduction of, 151, 238, procident, quinine injection in, 194, inversion of the, simulated by uterine fibroid, 277, fibroids of the, complicating parturition 487, procidentia and prolapse of the, treated by a new method 525, removal of the, marriage after, 525, electrical illumination of the 619, 756; compression of the through a laparotomy wound, 619 756, 815, extra uterine fibroid of the, 718; tumours of the, 830, and appendages removal of the after results of, 1093, a double 1226; sarcoma of the with inversion, 1294, tubercle of the, 1298
Uterus, fibroid tumours of the, pan hysterectomy for, 82, sloughing myoma of the, hysterectomy for 92, and appendages, diseases of the, cœliotomy for, 601
Uterus (see also Hysterectomy, Menopause, Colporrhaphy)
Utrecht, ophthalmic congress in, 824

V

Vaccinating implement, a new, 220
Vaccination of school teachers, 64 314, and serum treatment no analogy between 379, the technique of, 381, 447, honesty in, 1343, 1412, 1571
Vaccination and small pox in the United States and in the American army in Manila 929
Vaccination in Scotland, 64 252, in Newton Abbot, 252, in Cornwall, 308 438, in Porto Rico 370, in India, 433, in Oldham 595
Vaccination, Fry's Law of (review) 218
Vaccination proceedings, 133, 314, prosecutions, 190 466, 919, questions, 191, 467, penalties 191, returns 313, 391 566 780, 933 910, legislation and the prevention of small pox 381, 446, grants, 644 618, fees at Birmingham 913, return the recent, 1035, officers and their duties, 1310 1403, statistics 1330, 1393, 1549; officer, an anti vaccinationist as a, 1567, controversies, 1694
Vaccination Act (1898), the operation of the, 407 difficulties under the 513 740, the working of the, 1258, 1335, 1543, 1693
Vaccination (see also Conscientious, Objector Poor-law guardians, Anti vaccination, Annus Medicus)
Vaccinator, public, the office of, 1246, long service of a, 1302
Vaccinators, public, general practitioners and, 98, 176, threats against, 244; the Association of, 1530, 1539
Vaccine lymph, calf, glycerinated, 40, 124 133
Vaccine lymph, an ejector for, 31, vesicles, imperfectly developed, observations on, 59
Vaccine Establishment, the National, the lymph of, 135 193, 256, 467, 547, 619, 815, 991, 1052, 1135, 1142
Vagina, ulcers of the in typhoid fever, 968; a double, 1226, tumour of the, 1810
Vaginal hysterectomy, cases of, 406, 1359
Vaginitis, membranous, 1295
Valsol preparations, 572
Van Allen, Rev Dr I, presentation to 903
Van Arsdale's trephining apparatus 191, 256
Vandevelde, Mons Emile, Evolution by Atrophy (review) 346
Van Tusschenbroek, Mlle Catharine, ovarian pregnancy, 542
Vapour baths, guaiacol in bronchiectasis, 210
Varicocele, operations for, 599
Varicose veins, surgical treatment of, 1015
Vasogens, 219
Vehicles, public, and infection, 172, 182; death-causing 255
Veins, varicose surgical treatment of, 1015
Veit Prof J., Gynäkologie (review) 97
Vena cava inferior, obstruction of the, 1521, 1714, 1719
Venereal disease in India 133, 298, 496; at some foreign stations, 363; proposed departmental committee on, 373; in the Straits Settlements, 391; at Gibraltar, 391, the control of, 1318
Venereal disease (see also White slave traffic)
Venereal diseases conference on, 237, the prevention of, 301
Venereal phagedæna, fatal cases of, 601
Ventilators, sewer, 116
Ventral hernia, the prevention and cure of 280
Vermiform appendix in relation to hernia and intestinal obstruction, 601
Vesicular eruption from eating mussels, 1316
Vestries, women on 1035
Veterinarian (review), 1322
Veterinary Association, the National annual meeting 466, Western Counties, 1586
Veterinary surgeons the training of, 1954. Journal (review) 1382
Veterinary (see also Royal Veterinary)
"Viavi" system, 755
Victoria (Australia) prevention of tuberculosis in, 750; lunacy in 790
Victoria University (Manchester) post graduate lectures in connexion with, 36; an honorary degree conferred, 110, successes of Liverpool students at, 360; pass lists, 368
Victorium (a new element) 1836

VIENNA CORRESPONDENCE FROM —An imported case of plague at Trieste 1472—Medical men and unqualified practitioners 1472

Vienna hospitals nursing in, 1314
Vine leaves sulphate of copper on 60
Vines, Mr. S, alcoholism 1123 1258
Violette, Dr W H presentations to 219
Virility of cryptorchids, 785
Viscera transposition of 1513
Visual tests employed in the services 457
Vital statistics weekly, English towns Scotch towns and Dublin, 112, 178 253, 320 361, 428 503, 585 735, 800 856, 926 977 1037, 1121, 1188, 1255 1325 1337 1465, 1518 1614 1692, 1769, monthly, of London 237 576 800, 1121 1226 1770, of New South Wales 517, of Ceylon, 1138, of New Zealand, 160
Vital Statistics (review), 95
Vivisection (see Anti vivisectionists)
Volta, the centenary of 197
Volunteer medical staff corps, Aberdeen [illegible], medical association 390, officers decorated, 362; ambulance school of instruction 943
Volunteer corps (see Services)
Volvulus of the small intestine 829
Volvulus (supposed) of the transverse colon treatment of 443
Vomiting relieved by laparotomy, 1156, periodical accompanied by mental symptoms, 1249
Von Helmholtz, Hermann (review), 1741
Von Jaksch Dr Rudolf, Clinical Diagnosis (review), 98
Vulliamy, Mr A F, Vaccination (review) 218
Vulva persistent warty growth (epithelioma) of the associated with pregnancy [illegible] ulcers of the, in [illegible] fever, [illegible]

W

Waggett, Dr. E., cerebellar abscess, 608
Wakley, Thomas, Founder of THE LANCET, 568
Walamo country, alleged demoniacal possession in the, 731
Waldo, Dr. F. J., human remains in a church, 1457
Wales, drought in, 582; the working of the Isolation Hospitals Act in, 1032
Wales, South, rabies in, 813; typhoid fever in, 903, 983; diphtheria in, 1586
Wales, South, and Monmouthshire, University College of, 1165
Wales, University of, 174
Wales, the Prince of, his Hospital Fund for London, 300, 574, 1124, 1818
Walker, Dr. J., Physical Chemistry (review), 1817
Walker, Dr. N., Dermatology (review), 787
Walker, Mr. J. P., Cæsarean section, 887
Walker scholarship, 423
Wallace, Dr. A., obituary, 1048
Wallace, Mr. C. S., gangrene, 1730
Wallasey and Liscard, new hospital for, 243
Walsh, Maj. H. J. T., malaria, 587
Walsham, Dr. H., x rays, 152; erythrol tetranitrate, 533
Walters, Dr. F. R., American sanatorium for consumptives, 505
War, nitrogen in, 1317
War in South Africa, 1033, 1115, 1184, 1251, 1319, 1459, 1543, 1612, 1682, 1687, 1754, 1853 (see also Services)
War Correspondence, Hispano American (review), 722
War Office, resolutions passed by the Brit. Med. Assoc. for communication to the, 440
Ward, Mr. A. H., syphilis, 524
Warden, Dr., puerperal infection, 603
Waring, the late Dr. F. J. A., 1859
Warnings, 470, 796
Washbourn, Dr. J. W., infective endocarditis, 453; sarcoma in dogs, 456; malignant growths, 1165; antipneumococcic serum, 1297; antistreptococcic serum, 1299
Washstand for ward use, 572
Water, sanitation and, 33; containing nitrites, test for, 363
Water analysis, the tintometer in, 225
Water-closet (see Paper convenience cover)
Water Companies Bill, 544
Water gas, poisoning by, 232
Water-supplies, the protection of, 133; of Derbyshire, 970; harmless but objectionable microscopic organisms in, 1178
Water supply, the metropolitan, 1604
Water supply, the metropolitan, the official examiner to the Local Government Board of, 1538
Water-supply: in rural districts, 109; of Surrey County Asylum, 231; of St. Marylebone, 232; of Liverpool, 232; of Rathmines, 245; of the London, 295, 391; of Pontypridd, 344; of Aberdeen, 367; of Calcutta, 431; of Monaghan, 596; of Falmouth and Penryn, 737; of Manchester, 744, 862; of the Black Country, 745; of Portadown, 746; of Paris, 747, 972; of Yeovil, 919; of Bude, 988; of Falmouth, 1002; of Malmesbury, 1734
Water tap, new aseptic, 572
Water (see also Drinking water, Drought; Food and water supply, Holy water, Mineral water)
Watson, Dr. C., Encyclopædia Medica (review), 721
Watt, Surg. Gen. W. G., the late, 430
Weatherly, Dr. L., dramatic performance, 1866
Webber, Dr. H. W., castration, 409
Weir-Mitchell treatment, an institution for the, 1638
Welch, Surg. Col. F. H., syphilis, 403, 524; enteric fever, 739
Wellcome Club, 47
Welsh Border Brigade Volunteer Infantry, medical arrangements of the, 737
West, Dr. S., retinitis, 483
West of England Eye Infirmary annual meeting, 1270
West London Hospital, dinner of the 38, 1271; and the National Anti-vivisection Society, 427
Westminster (see St. James's)
Westminster Hospital Medical School, distribution of prizes, 251, 1191; pathological department, 1607
Wheatly, Mr. A. W., epithelioma of the conjunctiva, 719
Wheeler, Dr. W. I., obituary, 1621, 1696
Whisky, poisoning by, 63, 797; various kinds, 219, 610, 611, 963; in the Belfast Union Infirmary, 435; the consumption of, 1110
Whitaker, Dr. J. R., Anatomy of the Brain and Spinal Cord (review), 98
White slave traffic, congress in London on the, 53
White, Mr. W., rupture of the sclera, 412
White, Dr. J. R., lunacy fees, 1193
White, Mr. C. P., carcinoma of the liver, 605
White, Mr. J., the late, 903
Whiteford, Mr. C. H., deaths under anæsthetics, 53; septicæmia, 1776
Whitehead, Mr. R., a question of fees, 193
Whitelocke, Dr., puerperal fever (or fever following delivery), 379, 445
Wholemeal bread, 852
Whooping-cough, croup in, 354; cerebral complications in, 1606
Widal reaction, typhoid fever and the, 865
Wigan Medical Guild, 741
Wild, Dr. R. B., skin diseases, 533
Wilkin, Mr. G. C., hospital abuse, 512
Willcox, Fleet-Surg. R., the late, 857
William F. Jenks memorial prize, 105
Williams, Dr. A. W., Domestic Hygiene (review), 163
Williams, Dr. E. C., paralysis, 23
Williams, Dr. T. H., fluoroscope in medicine, 36
Williams, Mr. W. R., cancer, 601, 1124, 1194, 1258; tumours of gigantic size, 605, 829
Williamson, Dr. H., the chorion, 1019
Williamson, Dr. J. M., sarcoma of the uterus, 1294
Williamson, Dr. R. T., syphilis of the spinal cord, 605
Willis, Dr. Thomas, on the treatment of fevers, 398
Willock, Mr. E. H., emphysema, 534
Willson, Mr. R., an appeal, 136, 256, 921
Wilson, Dr. G., bacteriological research and preventive medicine, 372, 379, 510
Wilson, Dr. J. H., presentation to, 465
Wilson, Dr. Mary, strabismus, 155
Wilson, Mr. A. C. J., vaccine lymph, 815
Wilson, Mr. S. W., Irish Branch Medical Council, 512
Wiltshire, medical report for, 906
Window blinds, the colour of, 504
Wines, various, some medicated, 610, 1307
Winterbotham, Mr. L., the late, 544
Winternitz, Dr. Eugen, Schwangeren-untersuchung (review), 1528
Witnesses, medical, fees of, 418 (see also Expert evidence)
Wohlmann, Dr. A. S., rheumatic fever, 537, 605
Woman, an unreasoning, 869; death of a, tied to a form in a washhouse, 984
Women, Chelsea Hospital for, 90; Bedford College for, 189; of India, Association for Supplying Medical Aid to the, 849
Women, cruelty to, 173; as councillors and aldermen, 103, 190; pelvic disease in, cœliotomy for, 337; civilised, difficult labours of, 602; the diseases of, the syphilitic factor in, 602; medical education of, 694
Women, London School of Medicine for, new laboratories, 252; introductory address at the opening of the session, 950; scholarships awarded, 1004
Women health inspectors, 232, 233, 243
Women's diseases, the influence of long continued standing in the production of, 523
Women's Hospital, Melbourne, marriage certificates required at the, 248
Women's Hospital, Sydney, work of the, 248
Wood, Dr. R. L., syphilis, 857
Woodhead, Dr. G. S., the drink habit, 259; veterinary surgeons, 954
Woods, Dr. Hugh, London and Counties Medical Protection Society, and the Medical Defence Union, 1257
Woodward, Mr. M. F., Embryology of Invertebrates (review), 723
Woollacott, Dr. F. J., diphtheritic paralysis, 561
Worger, Mr. R. G., genital organs of a fœtus, 1587
Workhouse children, the education of, 854; medical officers, the duties of, 1865
Workhouse, skin grafting in a, 132
Workhouses and trained nurses, 58; Christmas beer in the, 1750
Workmen's Compensation Act, 317, 393, 430, 500, 903, 1040, 1685, 1773, 1852
World, A Beautiful, 992
Worth, Mr. C., drooping of eyelids, 1363
Worth, Mr. E. H., vaccine lymph, 256; honesty in vaccination, 1343
Wounded, aid for the, 1108, 1184; men, subcutaneous injections of morphine for, 1775
Wright, Mr., cases of retro-peritoneal cyst and hydronephrosis, 215
Wright, Prof. A. E., agglutinins, 1727
Wrist, an unusual injury to the, 1229

X

X rays (see ROENTGEN RAYS)
Xeroform in military surgery, 1459

Y

Yarrow Home for Convalescent Children, 466, 1183
Yaws, 283; in Trinidad, 731; in Ceylon, 1398
Yellow fever, the extermination of, 127, 851; on board a Liverpool steamer, 293; in Amazonia, 311; the bacillus of, 902; on shipboard, 917
Yeo, Dr. I. B., diarrhœa, 197, 303; intestinal antisepsis, 460
Yeovil, water supply of, 919
York, the Duke and Duchess of, and the Royal Ophthalmic Hospital, 45, and Queen Charlotte's Lying-in Hospital, 229
Yorkshire, the West Riding of, infantile mortality in, 1030
Yorkshire Poor-law conference, 1710
Young, cardiac overstrain in the, 607; inguinal hernia in the, 1353
Young, Mr. H. S. S., and the defence of anti-vaccinationists, 789

Z

Zacharin, Dr. G. A., Clinical Lectures (review), 30
Zoology, Outlines of (review), 96; An Introduction to (review), 892
Zum Busch, Dr. J. P., mercury in heart disease, 1333
Zurich, the cliniques of, 865
Zurich (see also SWITZERLAND, CORRESPONDENCE FROM)

LIST OF ILLUSTRATIONS.

Twenty seven *Tracings from the Carotid Artery of Dogs* and Rabbits and Cardiograms from a Sheep and a Dog showing Effects produced by Various Hypnotics upon Blood-pressure together with Diagrams representing the *Chemical Structure of Naphthylamines* Morphine and Thebaine, illustrative of the Croonian Lectures on Some Points Connected with Sleep Sleeplessness and Hypnotics (Prof J B Bradbury), 3 4 5, 6, 7 73 75 76, 77 78

Five Drawings of Dilated Ureters, Two Drawings of Hydronephrosis and Various Diagrams of Operations on the Ureters accompanying Paper on the Importance of Plastic Surgery in Renal Distension (i e Nephrectasis) with Special Reference to Stenosis of the Ureter (Mr H Morris) 10 11 12, 14 15

Injector for Vaccine Lymph 31

Cup for Use *in the Feeding* of the Insane 31

Two Reproductions of Roentgen Photographs of the Thorax, accompanying paper on the x Rays in Prognosis of Pulmonary Tuberculosis (Dr H Walsham) 153

Improved Chloroform Mask (Mr J S Crabbe) 163

Five Photoprints accompanying paper on the Experimental Production of Hydrosalpinx and Hydrometra in Animals and its Relation to Hydrosalpinx in the Human Subject (Mr C J Bond) 200 201 202

Two Perimeter Charts of the Eyes referred to in paper on a case of Traumatic Epilepsy *following* a Compound Fracture of the Skull sustained 11 years previously (Mr P James) 207

Drawing of Female Patient referred to in paper on Traumatic Aneurysm of the Axilla treated by Free Incision and by Ligature of the Axillary Vein and Subscapular Artery (Dr Nathan Raw) 209

New Vaccinating Implement 220

Eight Diagrams of the Thorax and Abdomen accompanying paper on the Practical Aspects of Dorsal Percussion and in particular of the Percussion of the Spine (Dr W Ewart) 262 263 264 265 266, 267

Reproduction of Photograph of a Male Patient with Recklinghausen's Disease showing the Molluscum Fibrosum and Pseudo-ptosis on *the Left Side* (Dr H D Rolleston) 272

Three Photoprints and a Diagram of a Male Patient accompanying paper on Interscapulo-Thoracic Amputation (Mr A W M Robson) 274 275

Three Diagrams accompanying paper on Some Structural Varieties of *the Enlarged Prostate relative* to its Treatment (Mr R Harrison) 331

Three Temperature Charts accompanying paper on the Arrest of Pulmonary Tuberculosis (Dr J K Fowler) 402, 403

Four Drawings of Fractured Spines together with Eight other Drawings *accompanying paper on* Fracture Dislocation of the Spine (Mr E N Smith 477 478, 479 480 481

Bicephalic Fœtus (Mr W C F Smith) 489

Papillomatous Ovary (Mr P Gould) 491

Portrait of a Kaffir Girl the subject of Multiple Fibroma (Mr J H Nankivell), 492

Plans of an American Sanatorium for Consumptives (Dr F R Walters) 506

Diagram of a Portion of the Ileum and Cæcum referred to in paper on a case of Congenital Atresia of the Bowel (Mr J J Clarke) 567

New Aseptic Water tap and Ward Washstand (Mr R J Pye-Smith) 572

New Combination Medical Battery 573

Nine Temperature Charts and Agglutination Charts accompanying paper on Mediterranean or Malta Fever (Maj C Birt R A M C, and Capt G Lamb, I M S) 702, 706, 707 708, 709

Four Views of the Operating Theatre of the Glasgow Cancer Hospital illustrating paper on the Construction of Operating Theatres (Dr G T Beatson) 715 717

Temperature Chart of a case of Puerperal Septicæmia in which Antistreptococcic Serum was used with Success (Dr T B Grimsdale) 720

New Splint (Mr S G Sloman, 724

Three Sphygmograms and Charts showing Respiration Pulse, and Temperature accompanying paper on Epilepsy of Cardio-Vascular Origin (Dr R Ll Jones and Dr T A Clinch) 772, 773

Two Charts showing Annual Prevalence of Enteric Fever at Cherbourg illustrating paper on Pasteur Filtration and Enteric Fever (Mr Wolf Defries), 804

Drawing of Section of Heart showing Aneurysm and Pericardial Sac full of Blood as obtained from a case of Ruptured Aortic Aneurysm and Gumma of the Heart (Dr L E Shaw) 839

Two Diagrams of Lower Extremities Partly Shaded to mark Regions of Anæsthesia and Photoprint of Legs below Knee, showing Amount of Wasting and Paralytic Club-foot illustrating description of a case of Injury to the Spinal Cord (Mr B G A Moynihan) 840 841

Electro Neurotone, 844

Eight Full length Photoprints of Patients referred to in paper on the Management of the Deformity of Hip Disease (Dr A B Judson). 879 881

New *Truss (Major J Day R A M C)*, 893

Mosquito (Anopheles) by which malarial organisms are conveyed 912

Two *Drawings illustrating description of a* case of Persistent Warty Growth of the Vulva (Epithelioma?) associated with Pruritus Vulvæ (Mr J B Hall) 957

Full page Temperature Chart of a case of Typhoid Fever of Unusual Duration (Dr H P Hawkins and Mr E O Thurston) 1006

Larynx as seen *in the Laryngoscope*, showing a Small Silver Coin which was removed with Forceps under Cocaine after being lodged there for Four Weeks (Dr W Downie) 1018

Six Views of Baths in Bath and One of the Monkswood Reservoir illustrating Report of THE LANCET Special Commission on Bath as a Health Resort 1056, 1057 1059 1063 1065, 1067

Illustrations accompanying the Series of Articles on the War in South Africa —External View and Two Plans of the *Spartan* and *View of the Swinging Cots* fixed in Wards 1036, 1037 *The Princess of Wales* lying at Tilbury 1544 Administrative Offices at Wynberg Military Medical Camp 1689 Plan of No 1 General Hospital at Wynberg 1690 *Diagram showing the Size of the External* Wound made by the Mauser Bullet 1755 No 1 Station Hospital Wynberg the Officers Sick Quarters 1758 Interior of No 2 Medical Ward *General* Hospital Wynberg 1854

Half length Portrait of Patient suffering from Multiple Skin Fibromata (Mr T F Pearse) 1086

Temperature Chart accompanying paper on the Clinical Characters of the Plague Epidemic in India (Dr H W Bruce) 1088

Improved Ovum Forceps (Dr A Rabagliati 1104

Dunkley (Gas) Motor-car 1105

Urine Test Case 1105

Improved x Ray Tube 1105

View of the Civil Hospital *Hong Kong* mentioned *in the Obituary of* the late Mr P H C Ayres 1190

Six *Diagrams of the* Thorax Three Small Diagrams of Tubes, large Diagram and Photoprint of Arrangement for Studying Production of Murmurs, and Section of Heart accompanying *Bradshaw* Lecture on the Causation of Functional Heart Murmurs (Dr A Foxwell) 1209 1210, 1212, 1213, 1214, 1215 1220

Drawing of a Double Uterus and a Double Vagina, accompanying paper on the Occurrence of *Pregnancy* in a Woman presenting this Condition (Dr C J Glasson) 1226

Two Portraits of a Woman suffering from Rheumatoid Arthritis (?) and Ankylosis of Both Elbows for which Excision was performed (Dr F W Collinson) 1231

Improved Universal *Handle* (Mr F H Freeland) 1240

Portable x Ray Apparatus, 1241

View of *Sanitorium and Selamlik or* Garden Pavilion at Helouan a Health Resort near Cairo 1241

Portrait of the late Dr J T Arlidge 1273

Diagram of Thorax accompanying description of a case of Pyopneumothorax from Perforation of Gastric Ulcer (Dr W B Ransom), [illegible]

Four Figures showing various *Parts of an Improved* Apparatus for Washing out the Stomach (Dr G Herschell), [illegible]

Views of Patients Lying Out of Doors, and Five Clinical Charts accompanying paper on the Open-air Treatment of Consumption (Dr N Bardswell 1231 1233, 1234

[*List of Illustrations* continued *on next page*

LIST OF ILLUSTRATIONS—(*Continued*).

Portrait of the late Prof. W. C. Arnison, 1322

Diagram accompanying Paper on the Etiology and Treatment of Inguinal Hernia in the Young (Mr. R. H. Russell), 1355

Two Full-length Portraits of a Child during and after Traumatic (Tuberculous?) Meningitis (Mr. W. H. Brown), 1364, 1365

Two Engravings of a New Ophthalmoscope (Mr. P. Dunn), 1382, 1383

Diagram accompanying Description of a New Method of Skin-grafting (Dr. T. H. Kellock), 1435

Three Drawings illustrating Description of a Case of Hernia through a Congenital Opening in an Abdominal Fold of Peritoneum (Mr. W. B. Parsons), 1439, 1440

Fifteen Figures, several of them half-page in size, accompanying paper entitled "Modern Military Bullets: a Study of their Destructive Effects" (Dr. A. Keith and Mr. H. M. Rigby). Figs. 1 and 2 consist of representations of the Mark II., the Mark IV., the Dum-dum, the Mauser, and the Martini-Henry rifle bullets, also the Webley and the Mauser pistol bullets. Figs. 3 and 4 show the effects produced by these bullets on bars of soap, and Figs. 5 to 15 inclusive the Effects produced on the Trunk, Lower Limbs, and Skull, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507

Diagram showing Measuring Lines and Lines of Incision referred to in paper on Gunshot Wound of the Brain through the Mouth (Professor A. E. Barker), 1509

Drawing of a Transposed Heart, accompanying description of a case of Lateral Transposition of the Viscera (Dr. J. H. Brooks), 1513

New Cranial Osteotome worked by an Electro-Motor (Dr. F. W. Robinson), 1529

Whole Page of Tracings showing the Effect of Formic Aldehyde on the Frog's Heart, accompanying paper on the Influence on Health of Chemical Preservatives in Food (Mr. A. G. R. Foulerton), 1581

View of the Parts illustrating description of a case of Traumatic Aneurysm of the Carotid Artery caused by a Sewing Needle (Dr. E. H. Douty), 1584

Portrait of Capt. S. G. Moores, wounded in South Africa, 1615

Ten Engravings of Disorganised Kidneys, Specimens of Calculi, and Ureters containing Impacted Calculi, accompanying paper on Calculus in the Ureter (Mr. H. Morris), 1644, 1645, 1646, 1654, 1655, 1656, 1657

Radiogram of a Rare Form of Fracture of the Lower End of the Radius (Dr. J. B. Clarke), 1662

Diagrammatic Illustration (reduced one-half) of a Hat-pin Removed from the Stomach (Mr. J. Halliwell), 1732

Four Engravings of the Raston Bed rest and Pillow Support, 1745

Portrait of the late Sir Richard Thorne Thorne, 1763

Portrait of the late Capt. M. L. Hughes, 1766

Diagram of Part of a Pilgrim Camp, described in paper on the Measures taken at Tor and Suez against Ships coming from the Red Sea and the Far East (Dr. M. A. Ruffer), 1801

Six Diagrams of the Abdomen, accompanying paper on Early *versus* Late Operation in Cases [illegible]

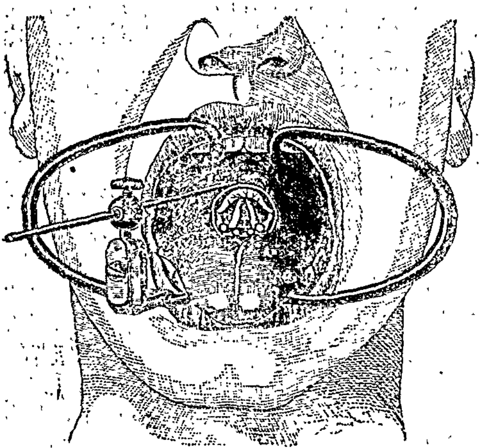
END OF THE SECOND VOLUME FOR 1899.

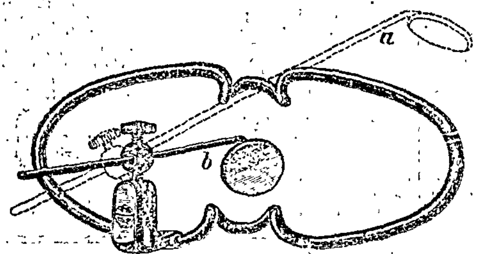
PRINTED and PUBLISHED by the REGISTERED PROPRIETORS at No. 423, Strand, and Nos. 1 and 2, Bedford-street, Strand, in the Parish of St. Martin-in-the-Fields, Westminster, in the County of London.—Saturday, Jan. 6th, 1900.

New Inventions.

A NEW LARYNGOSCOPE.

THE instrument here shown, which has been already mentioned in our Budapest correspondence,[1] was devised by Dr. Mark Paunz. The advantage claimed over similar instruments is that being fixed it allows plenty of space for the instruments of the surgeon so that he can use both hands in performing intra-laryngeal operations. Dr. Paunz has also recently devised a similar instrument for retro-nasal operations. The illustrations show the instrument in position and two positions (*a* and *b*) which can be given to the mirror.





A SIMPLE APPARATUS FOR ADMINISTERING THE INTRA-GASTRIC NEEDLE-DOUCHE.

BY the intra-gastric needle-douche is meant the application to the interior of the stomach of very fine jets of water which impinge upon its walls with considerable force. By the use of hot and cold water in alternation a tonic effect is produced upon the gastric musculature which has proved of the greatest service in the treatment of atony and allied conditions. Moreover, it has been found in practice that adherent mucus is removed by the needle-douche with greater facility than by ordinary lavage. The inception of this valuable mode of treatment must be credited to Professor Turck of Chicago, who communicated it to the profession in a paper which he read before the Section of Medicine at the annual meeting of the American Medical Association held at

FIG. 1.

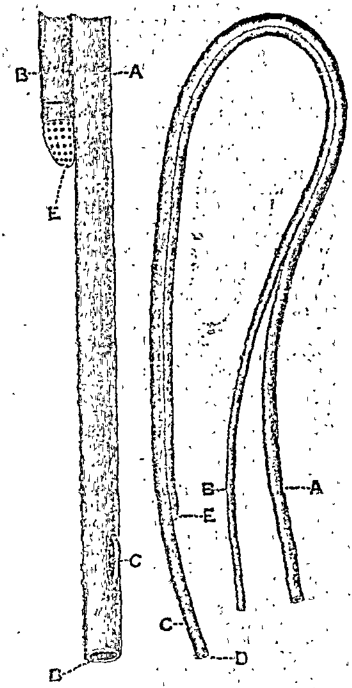
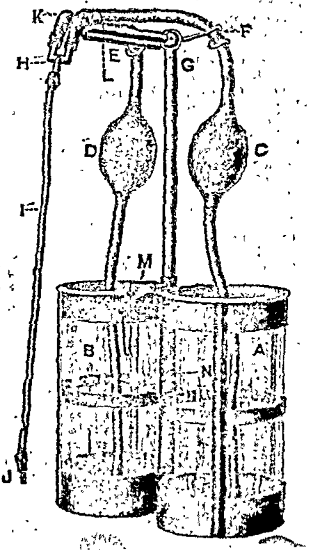


FIG. 2.



---

[1] THE LANCET, Oct. 28th, 1899, p. 1200.

Baltimore in 1895. His description runs as follows:—"For cleansing the stomach I use an apparatus which consists of a double tube—a short tube with a perforated ball at the end to be introduced into the stomach and a longer tube for the immediate return of the water introduced. The water is forced through the short tube under pressure and returned through the larger tube. ...... Not only does this apparatus cleanse the stomach, but it acts as a needle-douche, and as such is a vaso-motor stimulant."[1] Professor Turck's double stomach-tube (Fig. 1) consists of an efferent tube, A (shown at the left hand side of the illustration in its natural size) which is provided with a terminal eye, D, and one at the side, C. The afferent tube, B, is of smaller size and is cemented to A for the greater part of its length. It terminates in a conical perforated bulb shown at E. This bulb is of metal, and is provided with a shoulder which enters the end of the rubber-tube, to which it is further made fast by a silk thread shown in the sketch as a black line. The tube, E, is so arranged that it terminates about four inches from the end of A. The afferent tube, B, is connected by a suitable mount with the apparatus containing the water under pressure and the efferent tube, A, with an exhausting arrangement to be presently described. (I would here mention that I wish it to be distinctly understood that I do not claim to have made any improvement in Turck's double tube, which is practically perfect, but I figure it here for the sake of those of my readers to whom it may not be familiar.) Unfortunately it has to be procured either from Tiemann of New York or from Truax and Greene, Wabash-avenue, Chicago, as in this country we are so far behind America and Germany in the intra-gastric treatment of stomach affections, that it has not hitherto been worth any manufacturer's while to lay down the plant for making it. Professor Turck's original apparatus for forcing water through this tube consisted essentially of a couple of large glass wash-bottles, into which air was forced by means of a hand bulb. Whilst admirably adapted for use in the consulting room, the chief disadvantage of Turck's apparatus is its want of portability, and as in most cases it is essential that the needle-douche should be applied before breakfast, an apparatus is required which can be carried to the patient's house. I claim for my apparatus, which was exhibited in the section of Pharmacology at the Portsmouth meeting of the British Medical Association in 1899, that it is extremely compact and portable, that it is cheap, and that it can, on occasion, be extemporised from a couple of Higginson syringes, and that it is quite as efficacious as the more complicated apparatus in giving a needle-douche of sufficient force when used with a Turck's tube.

My apparatus for administering the intra-gastric needle-douche (Fig. 2) consists of a metal stand holding two glass cylinders, A and B. In each of these is placed a Higginson's syringe, C and D, the afferent tubes of which passing through specially designed spiral supports, E and F, upon the handle, G, are attached respectively to the limbs of the **Y**-piece H. From the third limb of this **Y**-piece proceeds a rubber tube, I, which terminates in a conical nozzle, J, of such a size as to enter the end of the smaller stomach-tube—that carrying the perforated ball. The handle, G, is attached to the upper end of a telescopic rod which, for portability, is made to shut down into the apparatus, and when in use is maintained at the proper height to keep the tubes of the Higginson's syringes straight or extended by means of a split pin, M, which enters a hole in the stand. The handle, G, is further provided with metal clips at K and L to hold the tubes in position. The nozzle, J, is corrugated in order that it may not slip out of the rubber stomach-tube, and the afferent tubes of the Higginson syringes are best provided with suction discs by means of which they may be fixed to the bottoms of the glass cylinders. Either the glass cylinders themselves or the central rod of the stand is graduated in ounces in order that an idea can be formed as to the amount of fluid which is being introduced into the stomach of the patient.

I believe that Professor Turck's original idea was that the longer or efferent stomach-tube should be attached to a long rubber-tube which passed to a pail or receptacle upon the floor, and that as soon as a few ounces of water had been introduced into the stomach syphonic action should be established by any of the usual methods. Thus, theoretically, the stomach ought by syphonage to keep itself empty. In practice, however, I have not found this practicable, and I believe that Professor Turck himself uses an exhausting bottle to empty the stomach at intervals whenever it appears to be getting full. In my own practice I use a very simple device which combines the advantages of syphonage with Turck's aspirating bottle. Upon the floor I have standing a large three-necked bottle, each neck being closed with a perforated cork. Through one of these corks passes a long metal tube which reaches nearly to the bottom. The upper end of this tube, which projects above the cork, is attached by a length of rubber-tube to the efferent stomach-tube. Through the second cork passes a short length of tube which carries on its upper extremity an exhausting bulb—that is to say, a rubber bulb which exhausts when it is worked. This is exactly similar to the bulb on a Higginson syringe working backwards. Through the cork in the third neck passes a short tube which carries at its upper extremity a tap. The apparatus works in the manner to be presently described.

In administering an intra-gastric douche hot and cold water are placed in A and B respectively and the apparatus is placed upon a table at a convenient height opposite to the patient, who sits upright in a chair. The double stomach-tube with its efferent tube, connected by a short glass tube and a long rubber one with the bottle which I have just described, lies ready upon the table in front. The exhausting bottle aforesaid is standing under the table. The stomach-tube is then passed and the conical mount J inserted into the smaller tube. If pressure be now made upon the bulbs C and D alternately, hot and cold water respectively will be forced into the stomach of the patient in the form of fine needle-like jets from the perforated bulb at the extremity of the shorter stomach-tube. In practice it is convenient to send in one quarter of one cylinder before proceeding to the other. The patient will thus get eight alternations of hot and cold water during the *séance*. At intervals the stomach is emptied of the water which has passed into it. A few compressions of the exhausting bulb attached to the bottle under the table will so rarefy the air in it that fluid from the stomach will commence to flow into it. As soon as this occurs the tap connected with the tube passing through the third neck may be opened, air will enter the bottle, and the flow will continue by syphonic action alone until the stomach is empty. We thus avoid the possibility of injuring the stomach wall by too strong suction. When it is borne in mind that according to the dynamometer the grasp of the hand is capable of exerting a pressure of about 120lb. it can be easily seen that sufficient force is generated to project jets of quite sufficient intensity to give a very efficient needle-douche in the stomach. In this form of apparatus clips or valves upon the tubes are quite unnecessary, as from the construction of a Higginson syringe backward flow is impossible. The apparatus is manufactured by Messrs. Bailey and Son, 38, Oxford-street, W.

GEORGE HERSCHELL, M.D. Lond.

Wimpole-street, W.

SEAMEN'S HOSPITAL FOR CARDIFF.—At a meeting of the committee of this institution held recently under the presidency of Sir Thomas Morel it was stated that up to the present £21,279 had been received. A piece of land of the value of £250 which adjoined the proposed site of the hospital was presented by the directors of the Taff Vale Railway Company.

PRESENTATIONS TO MEDICAL MEN.—On its becoming known that Mr. James Charles Weld, L.R.C.P. & S. Irel., of Hopetown, Victoria, Australia, was about to leave the town and district after a residence there of seven years or practically since the infancy of the town and district, his friends formed a committee with the view of making him a presentation. Subscriptions for this object were freely given, and at a social entertainment held in the Mechanics' Hall on Nov. 18th last Mr. and Mrs. Weld were presented with a marble clock, a silver claret jug, and a purse of sovereigns as tokens of the regard in which they were held by the inhabitants of the whole district from Warracknabeal northward.—At a crowded meeting held at Zion Chapel, Cwmavon, Glamorganshire, on Dec. 16th, 1899, Mr. Richard Thomas Williams, L.R.C.P. & S. Edin., L.F.P.S. Glasg., was presented with an illuminated address and a purse containing £120 as a mark of respect and esteem on the occasion of the termination in his favour of the charge made against him at the last meeting of the General Medical Council.

---

[1] See also THE LANCET, Jan. 28th, 1899, p 219

THE LANCET.

LONDON: SATURDAY, JANUARY 6, 1900.

THE medical life presents now so full and varied a programme that it is impossible when standing on the threshold of a new year either to pass in review in exhaustive manner the events of the year gone by or to forecast what will be the important developments of the year to come. In our *Annus Medicus* we strive each year with the former task; but in our opening words this week we make no effort towards the latter. Our position, however, with our readers, we are proud to think, asks for a few words with regard to THE LANCET in its relations to the medical profession. These relations are of such a character as to call from time to time for an account of our stewardship. It is our aim to make THE LANCET in the fullest sense the organ of professional opinion and the just reflection of professional sentiment, and in our endeavours to this end we incur a double responsibility towards our readers. Not only do we propose to furnish them from week to week with information and news, whether of a scientific or domestic character, that should be interesting to them, but we also record the feelings of the profession upon the various matters which come successively into prominence, while we accept the grave responsibility of suggesting the course that it would be wisest and best for practitioners to take in the many situations of delicacy and difficulty which present themselves in their public or private lives. Of this, one of the most difficult branches of our editorial work, it does not become us to speak much, but we do not hesitate to repeat what we have often said before, that it is the knowledge that we possess the trust of our professional brethren which gives us confidence as well as pleasure in facing the duties of 1900. So long as we receive from the profession the continuous support which has for more than three-quarters of a century been extended to us, so long we shall have warrant for believing that we have not failed to justify our claim to represent the best interests of the medical man.

The readers of our columns will know without having it pointed out to them that the year just passed has witnessed no sensational development of scientific therapeutics. Nothing comparable in its revolutionary effects upon diagnosis or treatment to the discovery of the x-rays or of the antitoxin treatment of diphtheria has been reported, and such advance as has occurred, though very real, has not reached any definite stage at which it would be convenient to say, Here is progress. New territories have been reconnoitred, but it cannot be said that there has been any effective occupation of them. The main efforts of investigators have been directed at increasing our knowledge of preventive medicine rather than at the attempt to discover new curative measures; and in an extended and rapidly extending familiarity with tropical disease we see an excellent example of fruitful work, nearly all of a preventive nature. This is the work which constitutes the chief claim of 1899 to have enriched the medical knowledge of the world. In THE LANCET will be found accounts of the diseases that are rife in the most distant parts of the earth, and all these communications to our pages are instinct with the authors' desire to afford trustworthy information whereon the scientific investigator can sit in judgment and from which he can make deductions. We regard the feeling of the community—quite a new feeling, by the way—that the public health of our colonial possessions is of the first interest to our Imperial position as a proper recognition of the position of medicine and a distinct gain to the profession, while the manner in which medical men have responded to that feeling redounds to their credit. At the present moment in many quarters of the globe investigations are being carried on in the best spirit of scientific zeal. Such work can only lead to substantial results for the good of the world; but it must not be forgotten either by the reader or by the worker that every apparent discovery must be submitted to probationary tests, and that the severer those tests the quicker will be the progress in the right line.

In the social, as distinguished from the scientific, world of medicine there has been activity, and this, which has been very generally manifested, appears to us to have been better directed than on previous occasions. The phrase "Medical Reform" has not been so often used as an elusive title to declamatory articles against the supineness of highly qualified persons or in recommendation of purely Utopian schemes. In many centres of England definite attempts have been made towards obtaining the concurrence of the medical men in the localities with some uniform scheme by which they can resist unfair encroachments upon their time and work, and thus will be enabled to devote their best energies to the welfare of the sick. The organisation of the profession into anything like an effective body for the protection of itself and of those who are its proper charges is yet a long way off, but we see signs in every direction that the efforts which are being made towards this desirable end are sensible and will bear fruit. The investigations of our Special Commissioner have played no inconspicuous part in transforming ill-directed disaffection into a more general movement against recognised grievances. They have supplied those who are determined to fight in constitutional manner for their own hands with dates, details, and figures, so that they are able to demand justice reinforced by incontestable argument instead of relying on rhetorical declamation. We have not finished our part of the task. There are many places where the evils of hospital abuse press hardly, and where the battle of the clubs is still being fought, concerning which we have as yet made no report. But the grievances that have been exposed are no longer denied and the amount of success in combating them that has attended concerted measures here and there is of good omen. The row may be a long one, as the South American proverb would express it, but we ask our readers to help us in hoeing it by giving us all information that will be useful to their colleagues. The General Medical Council is now thoroughly alive to the fact that the medical profession intends that its interests, which after all are the interests of the public, shall be properly watched, and that measures shall be taken to amend the law in directions where the law has failed. The Direct Representatives of the profession on the Council are pledged to help their constituency to obtain the proper treatment that is implied by adequate protection against encroachment; and although they propose to do this in somewhat different ways each is animated with the desire to do justice to the confidence that has been reposed in him, and none will let slip any opportunity that his office gives him to advance the well-being of the general practitioner.

In any consideration of political possibilities the general outlook of affairs must play a part, and it is our duty to warn those of our readers who have looked confidently forward to "something being done soon" that the South African War will assuredly be a set-back to their expectations. This campaign has now reached a stage at which not the most experienced statesman, the most war-worn general, or the most astute wire-puller, will venture to prophecy much of what is to happen, but whatever the next events the end will not be soon. This means that Imperial Parliament will be fully employed for some time to come in dealing with questions arising out of the war and ranging from the price of condensed milk to the form of a new constitution for South Africa, and thus all domestic legislation will have to take slender chances in approaching sessions. GOD grant that all will come right and without any fearful loss of life, and that when next we address our readers upon the threshold of a New Year the national circumstances may warrant us in wishing them a happiness which cannot at the present juncture be theirs. In the meantime to the medical profession the bright spot in the gloomy sky is the universal and unstinted admiration that the medical branch of the services has won for its effective organisation, and the courage, skill, and resource of its members.

THE General Medical Council is so much in evidence in connexion with medical education that the use of its disciplinary or penal function is apt to be too little regarded. The number of practitioners whose conduct exposes them to the exercise of this function of the Council in any given year may almost be counted on the fingers of one hand. Only two registered practitioners—one a dentist—were removed from the Registers at the recent meeting, and they were erased on the ground of conviction in a criminal court and not as the result of an investigation into professional conduct by the Council. But the number indirectly affected by the disciplinary action of the Council is large. In the report of its Medical Aids Committee received by the Council a letter was read announcing that the London and Manchester Assurance Company had ceased to take new members into their medical aid department, thus meeting the objections of the Council as expressed in its resolution of June last against the practice of systematic canvassing and advertising for the purpose of procuring patients. The number of medical men under agreements with this company was about 1000. It is important therefore to give separate attention to the disciplinary work of the Council. Evil is often wrought by want of thought, and many of the practitioners who appear before the Council on a charge of irregular or unprofessional practice do so rather from inattention to the published resolutions of the Council than from any intention to go contrary to its wishes. It is remarkable that in spite of the large numbers of medical men associated with companies in which medical aid business has been carried on no actual charge against any individual practitioner has hitherto been brought. This does not show that the resolution of the Council has been ineffective. The action of the London and Manchester Assurance Company shows the contrary to be the case It is to be inferred that the companies have been moved to such action by their medical officers representing the risk to their interests involved in such a commercial way of getting patients. We need not say that it is far better that the General Medical Council should effect its object by the simple process of a general expression of strong disapproval of a system than by penal action against individual practitioners. It may easily be supposed that the London and Manchester Assurance Company is not the only one whose medical officers are affected by the resolution of the Council in June last. Time will show this. The profession at large will be glad if the effect of the Council's resolution on this subject is to bring about the discontinuance of what looks very like the carrying on of a sort of medical practice by commercial companies on commercial methods and principles.

The cases which were brought before the Council at its late meeting for its judicial consideration illustrate one or two points in reference, first, to the profession and, secondly, to the Council's own power, of which we ought to take note. A most glaring defect in the Council's power was made painfully manifest. For some time the Council has been accustomed to remove from the Register the names and qualifications of practitioners who were proved to have employed unqualified assistants and allowed them to attend grave cases as if they were registered practitioners. The scale upon which this practice obtained before the Council began to regard it seriously with a view to its being declared an offence involving erasure was very large. In some instances the offence is committed on a comparatively small scale and the *Council erases the* practitioner's name with the clear intention of restoring it to the Register after a time—long enough to be a warning to him and to others not to repeat the offence. In most instances there is no difficulty in the process of restoration. But in the case of a practitioner holding only the Licence of the Society of Apothecaries of London the difficulty is insuperable. At least this is the opinion of the legal adviser to that body, whose conception of the law is that the Society is bound to remove from its list any name which has been erased from the Register and has no power to restore it though the General Medical Council should be of opinion that the time had come for restoring the practitioner to his place on the Medical Register. This is a complete deadlock, and one which cannot be too seriously considered by Licentiates of the Society of Apothecaries who hold no other qualification as well as by the General Medical Council. It enables the Society of Apothecaries to inflict a permanent disqualification for a comparatively slight offence where no such punishment can be justified. Such a reading of the fourth section of the Apothecaries Amendment Act of 1874 seems to us to be forced and illogical. This section is plainly meant to enable the Society to follow the disciplinary action of the General Medical Council. The Society does so in the matter of erasure and declines to do so or asserts a *non possumus* in the matter of restoration, which is an absurd state of matters, converting a temporary into an eternal punishment and giving the Society of Apothecaries a penal power beyond that of the General Medical Council. Pending the correction or the different construction of the law those who depend for their claims to registration on the Licence of the Society of Apothecaries may well be careful to avoid the risks of erasure.

We have space to notice but one more fact—that at the recent meeting only two cases of unprofessional conduct pure and simple were brought under the notice of the Council. In one the practitioner—whose case had been investigated by the Council in June last and the decision in which had been suspended for six months—reconsidered his position and entirely satisfied the Council. The Council did not find him guilty of infamous conduct and the case against him came to an end. In another a charge of wrongful employment of an unqualified assistant was not supported by evidence satisfactory to the Council and the case against the practitioner failed. On the whole the inference is that the Council uses its penal powers discreetly and fairly and is entitled to have them more clearly defined and strengthened Such strengthening is the end of the clauses elaborated with so much care by Sir WILLIAM TURNER for the amendment of the penal sections of the Medical Act.

FROM the year 1837, when the Registrar-General's Office was established, down to 1874 the duties of the Registrar-General were almost exclusively administrative. When a new Government office is brought into being, however urgent the needs may have been which caused its creation, its duties will always require definition. There are things which it can do and things which it cannot do; there are duties which might belong to it if they were not already allocated to other departments; and the range of work, it will be found, cannot properly be estimated until the new department is actually in being, when its powers will more or less gradually be revealed to it. Then questions arise as to whether that range is large enough or too large, while the domestic side of its affairs and the scale of wages have to be settled. All this was done and done well in the Registrar General's office from the beginning, as was the statistical work within its limits. But in 1874 the whole scope of the department was altered, for in that year the duty of certifying the cause of death of their patients was imposed by statute upon medical men. The Registrar-General was immediately brought into close relationship with the medical profession and a large amount of medical knowledge became necessary to the proper interpretation of the figures received at Somerset House. This relationship has become more intimate year by year, until it is no exaggeration to say that, whether he be a medical man or no, the duties of the Registrar-General at the present time are essentially of a medical nature.

The most onerous of these duties, for example, involve considerations of statistical importance which cannot be adequately dealt with otherwise than by a person possessing medical knowledge and experience. The Registrar-General has to organise and maintain in efficiency the registration service of the country, and to do this he has to instruct the various local registrars, some 2000 in number, in the attitude that should be adopted towards medical men, towards coroners, and also towards the relatives of deceased persons from whom it may be necessary to obtain the particulars required for registration in the absence of a medical certificate. Part of this work may be called purely administrative, but we venture to think that it is the unimportant part, while it is also the part which has been brought by years of well-directed routine to a position where the things to be done are done automatically The vital part of the work is purely medical, for only a medical man can appreciate at their proper value the difficulties which at any moment may arise in a delicate matter of death registration. Again, the Registrar-General is responsible for the accuracy of the national death registers. This means that he must secure the careful examination and, where needed, the correction of every one of the half million certificates of death which are registered yearly in England and Wales, copies of which are sent to the central office for abstraction and compilation. Again, we venture to say that, given efficient organisation, the essential part of this work is medical and calls for medical knowledge of the highest order. For not only is the Registrar General required, if he is to discharge his duties properly, and at first hand, to be familiar with medical phraseology, but he must also be well versed in the probabilities of disease, so that the exact significance of a certificate or of any group of certificates may be present to his mind as quickly as the documents meet his eye. The Registrar-General also prepares weekly, quarterly, annual, and decennial medical reports of mortality dealing with the cause of death in every part of the country. This is probably the most valuable of his highly valuable labours and can only be discharged by a medical man. The Registrar-General who is not a medical man can only follow the lead of a superintendent of statistics possessing the qualifications which he is without. For the value of the statistical information in these reports would be *nil* if the lessons taught by the figures were not interpreted through the medium of medical learning. Figures unchecked by knowledge would first be wrongly arranged and then wrongly interpreted, and the lessons to be derived from them would be worse than useless for they would be absolutely false. These are the figures which upon proper presentation through a medical statistician warn the public of the occurrence of an epidemic of disease in any locality in England and Wales, giving notice of the fact to the proper departments of the State and so forming a safeguard to our national health. For these figures are relied upon not only by the Local Government Board [illegible] every medical man in [illegible] Kingdom [illegible] whether connected with that Board or acting on his private initiative as the guardian of the health of his locality. The Registrar-General is required also to conduct statistical investigations for the various State departments, for Royal Commissions, and for Committees of both Houses of Parliament, and upon his figures questions of legislation directly turn. His statements are not checked by others, but are accepted as authoritative information culled from an unimpeachable source and upon them amendments of the law of the land may directly ensue. It is unnecessary to point out how urgent it is that figures fraught with such issues should be placed before our legislators in a form which actually represents their meaning; and no one but a medical man can do this. The Registrar-General also gives statistical estimates and other information necessary to medical officers of health for the compilation of population estimates and for reports on mortality, sickness, and the incidence of epidemics: no one but a medical man can do this. Lastly, he is the officer responsible for the taking of the Census of England and Wales. The Census reports are utilised for the preservation of the public health, for the administration of the Factory Acts, and for the exigencies of the labour department of the Board of Trade, as well as by medical officers of health throughout the country, so that it must be his constant endeavour to arrange the details in a manner in which they may best serve their various purposes. And no one but a medical man can do this.

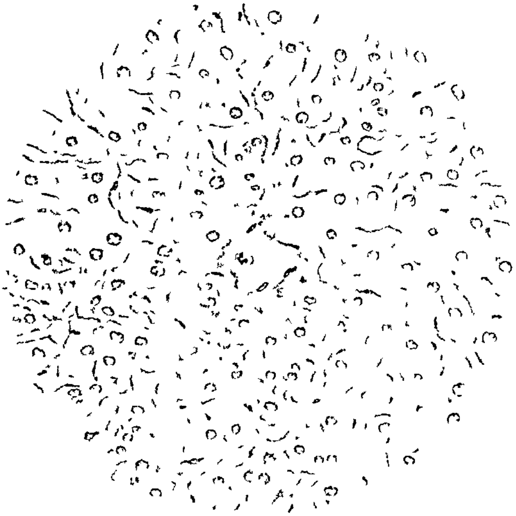
We have said enough, we think, to show that the duties which the Registrar General is called upon to perform are so thoroughly medical that when the medical part is subtracted little but official routine remains. As a matter of fact, the work that is now performed by the Statistical Superintendent, who is and must be a medical man, has become the essential work of the Registrar-General's Office, and we feel strongly that it is bad policy and bad economy that the essential work of the department should be performed by a subordinate. The duties which we have enumerated above, inasmuch as they are the chief care of the head of the department, should be personally attended to by the head of that department and consequently by a medical man. We understand that it is probable that Sir BRYDGES P. HENNIKER will shortly resign his post as Registrar-General. When this is the case we trust that the considerations which we have put forward will prevail in the selection of his successor. The brilliant results which have followed the appointment of Dr. WHITELEGGE as Chief Inspector of Factories of the Home Office should encourage the Government in placing a medical man at the head of a department where the work is almost exclusively medical in character.

THE list of examinations in general education recognised by the General Medical Council has undergone a few modifications which came into force on Jan. 1st. We are pleased to see the erasure of the "*second*-class certificate of first or second division of the examination of the College of Preceptors," and also of the "preliminary examination for medical students" at the same institution. The Council has also wisely recommended that the preliminary examination of the Royal Colleges of Physicians and Surgeons in Ireland should be discontinued. To all of us who are desirous that the preliminary examinations for entrance into our profession should not run below a due minimum these changes are most satisfactory, but do they go far enough? The required subjects are English language, Latin, mathematics (including Euclid, Books I., II., and III.), and Greek, or some modern language, and it is only in the past few years that it was necessary for the student to pass in these subjects at one time. On looking over the recognised list of examinations we still find junior, lower, and middle grade examinations included, and it is well known that in some of the examining bodies the standard is still none too high. The Education Committee of the General Medical Council has recently sought the assistance of experts in the general education of this country, and a more pitiful account of its average character can scarcely be imagined than that presented in the report of the Committee to the Council at its recent session. The experts consulted were the Rev. T. W. SHARPE, Professor W. S MCCORMICK, and Dr. J. MCGRATH, as being thoroughly conversant with the condition of secondary education in England, Scotland, and Ireland respectively. Their unanimous report is as follows, and we trust it will attract the attention of the school authorities in the three divisions of the country:—

"We have considered the question whether the senior and higher grade examinations should be substituted for junior Taking into account the present state of secondary education in the country we see *no possibility* of enforcing such a requirement in the near future. A demand of this kind would certainly result in defeating the end which the General Medical Council have in view. Either it would diminish to an indefinitely large extent the number of candidates entering the profession, or it would compel the examiners to a laxity of marking and a depreciation of the standard of questioning, which would merely have the effect of lowering the senior papers to the level of the junior papers. The standard of the medical preliminary examination must depend upon the general standard of the secondary education of each country in which the examination is held, and a standard too high for one might be found too low for another. We think, however, that the immediate object of the General Medical Council would be gained by the gradual raising of the standard of the lower 'junior' examinations to the level of those 'junior' examinations which in our opinion rank highest."

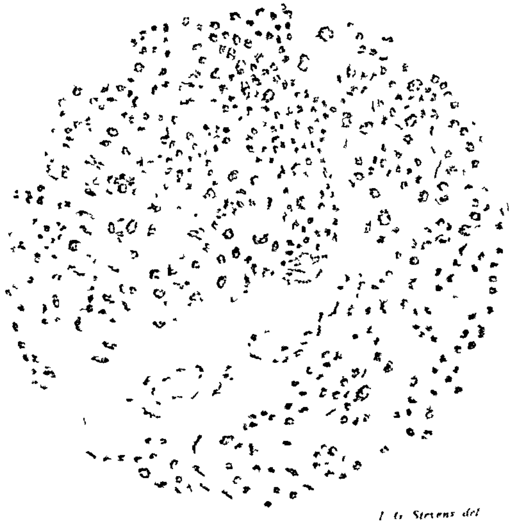
We can scarcely believe that the abolition of junior grade examinations would diminish to an indefinitely large extent the number of candidates entering the profession, and the suggestion that educational bodies would only depreciate their standard from a senior to a junior level is surely too severe a statement to make of our examination boards and one that can hardly be justified. It is obvious, however, from the discussion at the General Medical Council that any important reform in the general education of the medical student will be postponed for years and that the existing minimum standard is due to the kind of education which scholastic experts admit to be still in vogue in the secondary education of our scholars in the respective divisions of the kingdom. Individual communications to the examining bodies as to the improvement of their scope and standard can only be regarded as a futile waste of time and energy until the conditions which have now been published shall have been altered,

Fig. 1.


T. G. Stevens del.

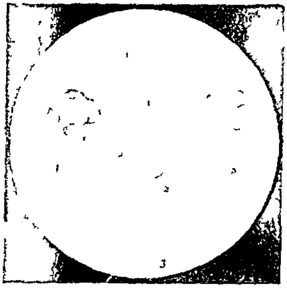
I. Section of liver showing an intra lobular vein in the centre with dilated capillaries around. The liver cells show the pigmentation described in the text.

Fig. 2.


T. G. Stevens del.

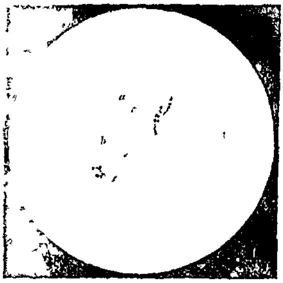
II. Section of spleen showing the pigment lying free among the cells of the splenic pulp and also here and there in leucocytes. The fibrous tissue of the trabeculæ is also shown.

Fig. 3



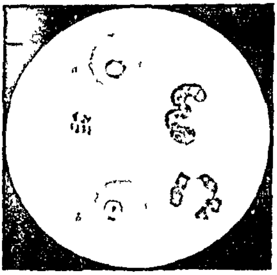
III. Drawing of blood from a case of blackwater fever showing a ring shaped parasite inside a red blood-corpuscle ( ). Also two normal red blood-corpuscles (2 and 3) and two leucocytes which are overstained with eosine (4 and 5).

Fig. 4



IV. Drawing of blood from a case of malaria showing ring shaped parasites in red blood corpuscles (*a* and *b*) and two crescents. Stained eosin and methylene blue.

Fig. 5



V. Drawing of blood from a case of malaria showing ring-shaped parasites in red blood corpuscles (*a* and *b*) one crescent and two leucocytes stained by the carbol thionin blue method.

TO ILLUSTRATE MR. W. H. CROSSE'S PAPER ON "THE HISTOLOGY AND PREVENTION OF BLACKWATER FEVER."

Annotations.

"Ne quid nimis."

THE LATE SIR JAMES PAGET.

ALMOST coincidently with the close of the year 1899 came the life's end of one of the foremost figures in the world of medical science which this century has produced. We speak elsewhere in full detail of the life and work of James Paget, but we may here express our intimate *sense* of the loss which the profession has sustained. By his wonderful insight into the various processes of pathology, by his power of storing up details and his faculty for comparing one with another he rendered incalculable service to the science of medicine and so to suffering humanity. His influence as a teacher was always for good, and the great hospital in which he took such an interest, within whose walls he did such admirable work, has never, since the days of Rahere, had a more faithful or upright servant.

THE NEW YEAR HONOURS.

THE list of New Year Honours although containing no names of very special distinction yet brings into prominence many of those who have done and are doing unobtrusive work for the Empire. Among the new Knights are the names of Mr. T. Lauder Brunton, M.D. Edin., F.R.S., and of Mr. F. H. Lovell, C.M.G., Surgeon-General of Trinidad. The work of Sir Thomas Lauder Brunton with reference to Pharmacology and Therapeutics and his services in connexion with the Hyderabad Chloroform Commission, on which he represented THE LANCET, are well known to our readers. As a physician of high standing and as a man who has unobtrusively worked hard in the profession to which he belongs the distinction that has been conferred upon him will be received with cordial satisfaction by all who know him. Sir Francis Henry Lovell, who is a member of the Executive and Legislative Council of Trinidad, at one time held the appointments of chief medical officer, President of the General Board of Health, and member of the Legislative Council of Mauritius. The Honourable John Alexander Cockburn, M.D. Lond. and Adel., formerly Premier of South Australia and now Agent-General in London for that colony, is made a Knight Commander of the Order of St. Michael and St. George, and four other members of the medical profession have been appointed Companions of the same Order—namely, Mr. John Pringle, M.B., C.M. Aberd., who is a member of the Privy Council and Legislative Council of the Island of Jamaica; Mr. Patrick Manson, M.D., LL.D. Aberd., who, as medical adviser to the Colonial Office, has done not a little in the cause of tropical medicine; Mr. Wordsworth Poole, M.B., B.C. Camb., the principal medical officer of the West African Frontier Force; and Mr. Archibald Donald MacKinnon, M.D. Aberd., principal transport officer for Uganda. Although not members of the medical profession the Right Hon. Sir John Lubbock, F.R.S., who has been made a peer, and Captain Abney, C.B., F.R.S., who has been promoted to Knight of his Order, have done work which bears both directly and indirectly upon medicine and public health. Captain Abney in particular has by his researches into the nature of light and its phenomena, embracing the physiology of vision, rendered great service to our profession. We congratulate all these gentlemen in the name of medical science.

THE ROYAL INSTITUTION OF GREAT BRITAIN.

THE list of Friday evening lectures to be delivered at the Royal Institution before Easter gives promise of a very interesting and instructive session, and among the lecturers will be Signor G. Marconi who on Feb. 2nd is announced *to deliver a lecture on Wireless Telegraphy.* In the list of subjects which have some connexion with medicine we note that Professor J. Reynolds Green will deal on Feb. 9th with "Symbiosis and Symbiotic Fermentation"; Major Ronald Ross, I.M.S., on March 2nd will lay before his audience some information with regard to Malaria and Mosquitoes; Professor Frank Clowes will on March 9th discourse on "Bacteria and Sewage"; and Professor J. Arthur Thomson on March 30th will discuss the "Facts of Inheritance." On Thursdays, Jan. 18th, 25th, and Feb. 1st, Dr. W. H. R. Rivers will deliver three lectures on "The Senses of Primitive Man."

THE LANCET RELIEF FUND.

THE report made this year by the almoners of THE LANCET Relief Fund carries on in a very remarkable way the thread of last year's report and enables us to refer to it as confirming the inferences which we then drew from what seemed to be settled features of the administration of the Fund. We had last year to remark that the benefactions showed a reduction both in number and amount and that there was a marked tendency for the benefits to take the form of gifts rather than of loans. Save as to the reduction in the number of benefits these observations apply equally to the facts disclosed by the present report. It happens, curiously enough, that the number of benefits is precisely the same this year as last, but on this occasion only one case has taken the shape of a loan, the rest have all been out-and-out gifts. We have, therefore, a broader basis to-day than we had 12 months ago for the pleasing deduction that the pressure of necessity upon those of our professional brethren and their immediate dependents who have fallen upon evil times is sensibly less acute than it was when the Relief Fund was founded. Coinciding as this improvement does with *improved conditions of* general prosperity it may be reasonably referred to this more general improvement as its cause and looked upon accordingly as a real, not merely as an apparent, amelioration in the condition of those of our fraternity upon whom the times press hardest. The singular, if not quite absolute absence of applications for loans points in the same direction and this is the more marked in the present because attention was expressly drawn last year in our columns to this feature of the almoners' work and we then pointed out that of the various cases which are presented for consideration there is none in which it is possible to extend a helping hand with a livelier sense of satisfaction than the case in which a timely loan helps a brother overtaken by adversity to help himself. That, however, is no great matter. The feelings of the benefactor do not count in comparison with the advantage of the beneficiary, and we hope with much confidence that the benefits conferred by this Fund take the shapes in which they are most serviceable to those in whose interest they are bestowed. It is again our privilege to make public acknowledgment of the generous services rendered to this charity by the distinguished men who have associated themselves with it in the capacities of almoners and auditor. We refer, of course, to Sir Samuel Wilks, late President, and to Dr. W. S. Church, the President of the Royal College of Physicians of London, Sir William MacCormac, President of the Royal College of Surgeons of England; Sir William Turner, President of the General Medical Council, and Sir Henry Pitman for many years associated with the first named body as its registrar. The absence of Sir William MacCormac's name from among the signatures appended to the report reminds us that his presence at the seat of the war in South Africa is a fine example of practical [illegible] which the nation will not be slow to appreciate [illegible] the [illegible] of

Sir Henry Pitman's name less suggestive, who in the fulness of many years brings a mind still vigorous in age and most notable alertness to bear upon the examination of the accounts. In presenting to each and all of them our thanks we assume to speak not only for ourselves as donors of the Fund, to whom its due administration is naturally a matter of solicitude, but in the name also of those who benefit by it and whose gratitude, not always articulate,-is in not a few cases evidenced by expressions which it is a privilege to acknowledge but a satisfaction largely alloyed with sympathetic sorrow to receive. The application form of THE LANCET Relief Fund will be found in our present issue and can be readily detached for use in case of need. We again take an opportunity of asking those of our readers who may have occasion to assist in furthering any application made for relief from this source to note carefully the conditions on which applicants become entitled to participate in the benefits of the Fund, as it is still found that many requests are put forward which are so far outside the objects of the benefaction that they cannot be entertained and from such applications nothing but disappointment can result. All applications should be made (in writing) to the Secretary, Mr. Edward Davies, THE LANCET Offices, 423, Strand, London.

A MATTER FOR THE MEDICAL OFFICER OF HEALTH AND OTHERS.

MR. FRANCIS E. COLENSO writing to the *Times* under date Dec. 29th with regard to the incarceration of some natives of South Africa at Olympia says that owing to the outcry against certain natives employed at Earl's Court in the performances during the exhibition which was held there last summer the management at Olympia met the situation by simply shutting up the Zulus "within the walls of Olympia, where, except when performing, they spent their days in the twilight of a single large room, being about 50 in number with two women and a little girl." The letter really deals with the question of restricting the liberty of the Zulus, which does not come within our province, but the quotation from the letter which we have given would seem to indicate the existence of a state of things into which inquiry ought to be made. If the facts are as stated the incarceration not only constitutes a violation of the law, but forms a real danger to public health.

ANTI-ALCOHOLIC SERUM.

THE Paris Academy of Medicine at its meeting of Dec. 26th listened to a very interesting paper communicated by MM. Broca, Sapelier, and Thibaut on the discovery of a so-called anti-alcoholic serum which has already created a great deal of excitement in the daily papers and which looks rather like a trade advertisement. The three observers in question started from the principle that in alcoholic intoxication, as in morphia intoxication, there is a preliminary period which is characterised by gradual toleration of the drug and a feeling of desire for the poison. On the other hand, it is well known that certain organic poisons, more especially those produced by microbes, form in the organism antitoxins which represent the elements of resistance which the organism offers to infection. These antitoxins injected into another organism place that organism in a state of being able to resist the corresponding poison. The observers therefore determined to make research on these principles into the action of alcohol. They produced tolerance to alcohol in the horse by giving it by the mouth and then found that the serum of this horse injected into other animals which had been made tolerant and fond of alcohol produced in the animals in question such a distaste to alcohol that they preferred to give up both eating and drinking rather than continue to take alcohol. The injection of this serum in large doses has produced neither in animals nor man any unpleasant symptoms either local or general. M. Broca and his colleagues proposed to call this substance "antiethyline." Clinical experiments made upon drunkards had given most interesting and somewhat inconceivable results. The drunkard treated with antiethyline lost all his taste for alcohol; he no longer cared for brandy, rum, or absinthe, but he preserved a liking for wine and his appetite and strength returned. Up to the present antiethyline seems powerless to make any improvement in the organic alterations produced by the action of alcohol. It is only right to say that this thirsting serum which does away with any hungering after brandy but preserves the taste for wine was received by the Academy with smiling incredulity.

SEATS FOR SHOP ASSISTANTS.

WITH the first day of the new year the Seats for Shop Assistants Act came into force and with it we hope the amelioration of much suffering among a certain class of women. We say "amelioration" because the evil that has been wrought by compelling women to stand all day long in shops through ignorance and prejudice must still take time before it can be eradicated altogether. It is with particular pleasure that we announce the coming into operation of this Act because we have for years pointed out the evils of long standing in shops, more especially in regard to drapery establishments. The new Act, which is practically part of the Shop Hours Acts, is wide in its application as will be seen from the following clause:—

"In all rooms of a shop or other premises where goods are actually retailed to the public, and where female assistants are employed for the retailing of goods to the public, the employer carrying on business in such premises shall provide seats behind the counter or in such other position as may be suitable for the purpose, and such seats shall be in the proportion of not less than one seat to every three female assistants employed in each room."

The first offence of non-compliance with the provisions of the Act carries with it on conviction a penalty not exceeding £3, and subsequent offences a penalty not exceeding £5, with a minimum of £1. The new Act will be welcomed by the hard-working girls of our shops, and inasmuch as the evils from which the girls suffered frequently extended into family life the community at large is to be congratulated.

THE DISSEMINATION OF ANTHRAX.

THERE is good reason to hope that the number of cases of anthrax will, in the near future, be considerably diminished. Horsehair imported from China and some parts of Russia has long been suspected of being a source from which anthrax spores are introduced into this country, and this is now known to be the case. It would indeed be difficult to believe that those who direct the operations of the horsehair trade here were indifferent to the danger to which they, in common with their employés, are frequently subjected. The public will be interested to know that results which individual efforts on the part of manufacturers have hitherto been unable to effect are likely to be secured by the combined action which has now been organised by the leading members of the trade. Systematic inquiry has confirmed previous suspicion, and on Sept. 27th, 1899, at a meeting, held in London, of the principal firms engaged, the following resolution was passed:—"That the manufacturers present hereby bind themselves from this date to buy no Russian, Siberian, or Chinese undyed mane hair until satisfactory guarantees are given by the sellers that the hair has been thoroughly disinfected." Steps were also taken to ensure as far as possible that this action should become general throughout the trade. The recent cases reported by us on Nov. 18th, 1899, which is subsequent to the date of the foregoing resolution, have been made the subject of a very thorough inquiry by Dr. T. M. Legge, medical inspector of factories, on behalf of the Home Office, whose efforts have been ably seconded by those of the manufacturers upon whose premises the cases mentioned occurred. The inquiry resulted in the discovery that a small bale of Chinese hair, purchased some time prior to the resolution of September, was impregnated with anthrax. This bale proved to be part of a consignment landed in England about April last, whilst two other cases of anthrax occurring in other districts have been traced to other bales forming part of the same consignment. The bacteriological examinations in connexion with this case were conducted by Dr. F. W. Andrewes, pathologist to St Bartholomew's Hospital. Eventually the infected bale, while still unopened, was submitted to the dry action of super-heated steam, but this was found insufficient for the purpose of complete disinfection, cultivations being afterwards made from portions taken from the interior of the bale, finally the bale was immersed in boiling water for several hours. We have frequently pointed out the necessity for disinfection either previously to shipment or immediately after unloading at the port. It is true that the danger to those using horsehair properly prepared is reduced to a minimum, as in the process termed "setting the curl" the hair is subjected in ovens to a temperature of some 500° F., which is sufficient to ensure sterility in any germs that may be present. The greatest danger to the general public lies in the transport of infected material, and it is hoped that the action now referred to will have the desirable result of reducing that danger to a minimum.

"AIDS TO THE POOR IN A RURAL PARISH."

UNDER the above title Dr. T. N. Brushfield has collected a mine of interesting information in a paper which he read before the Devonshire Association for the Advancement of Science, Literature, and Art in August 1899. Before the Reformation there was no organised system of poor relief. The monasteries and the great religious houses gave charity in the shape of food and shelter to all the needy wayfarers who asked at their gates, but, as Dr. Brushfield points out, the position of the poor in little out-of-the-way parishes was very different. Relief in their case was almost entirely due to the efforts of the parish priest, who was generally in no way too well off, and to the generosity of the wealthy land-owners. After the spoliation of the Church the State awoke to the idea that something must be done for the poor, and voluntary effort being a marked failure the first poor-rate was empowered for collection by an Act of the reign of Elizabeth. The recognised poor-law medical officer only dates from the early eighteenth century. Previously to that date a medical man was called in as occasion arose, or more commonly the local wise man or woman. At Barnstaple in 1629 Dr. Symes was engaged by the Mayor and Corporation to reside in the town and give advice to the poor at £20 per annum for two years. At Widecombe-in-the-Moor Dr. Ball received £8 for "curing of Dorothy ffrench's legg and keeping the same sound from any more costs and charges." This payment, however, seems to have been somewhat "previous" for Dr. Ball had to return £4 "because he did not p'fect and continue the cure according to his promise." The following is a delightful item: "Ockley, Surrey, 1740. Paid for 5 pills for David Worsfold's wife 00. 00. 02½." The Settlement Act, by which strangers could be removed to their own parishes, was the cause of much inhumanity and hardship. The eighteenth century, great as it was in many ways, was not remarkable for kind treatment of the poor. For instance, the registers of St. Giles, Cripplegate—it is one of life's little ironies that such proceedings should have taken place under the ægis of St. Giles—contain such entries as the following: "1725. To A. Walsham for getting a dying man out of ye Parish 0. 1. 0 To a person for getting a dieing man out of ye parish 0 0. 6." Death, of course, sometimes ensued upon these removals, as witness the following pathetic entry from the registers of Milton Abbot, Devon. "1588 Payd to Wm. Ketowe for a shroud for a poor man which dyed within this parishe which was carried from tythinge to tythinge ...... xvjd." The Poor-law is not perfect now but it has improved. We have only selected the more purely medical portions of Dr. Brushfield's interesting paper upon which to comment, but besides these it contains a vast amount of valuable information upon early poor relief which makes it well worth reading as a whole.

DEATH WHILST UNDER ETHER: ASPHYXIA FROM ŒDEMA GLOTTIDIS.

THE following case, the notes of which are kindly supplied by Miss Aldrich-Blake, M.D., M.S. Lond., presents some unusual points of interest. The patient, a woman, aged 23 years, was under treatment at the Royal Free Hospital for an abscess below the left ramus of the mandible. Her general state was poor but she had no obvious dyspnœa and no circulatory embarrassment. There were great œdema of the glottis and thickening of the tissues caused by the cervical abscess. On Dec 6th she was given ether by Miss Watts, M.B., the assistant anæsthetist to the hospital. A Clover's inhaler was used. The patient breathed quietly for four minutes, then respiration became shallow and very rapid. The face-piece was removed and not again re-applied. The "lid reflex" we are told "was brisk," but the patient was very pale. No cyanosis was present. From this moment, however, the respiration became increasingly shallow and cyanosis appeared and deepened, and finally breathing ceased. To relieve these symptoms the jaw was pushed forward and the tongue was drawn out while artificial respiration was practised. Air did not enter the lungs freely nor did the cyanosis lessen. Artificial respiration was kept up for half an hour. The heart beats were felt for some time after natural breathing had ceased. Strychnine and ether were injected hypodermically. The necropsy showed marked œdema of the glottis. In cases of angina Ludovici, abscesses, and the like causing pressure upon and inflammatory thickening around the glottis dangers associated with anæsthetics are peculiarly liable to occur. In the matter of choice of the anæsthetic we are very doubtful whether ether offers the best chance of escaping the inherent perils of the situation. It increases the fulness of the neck, promotes dyspnœa, and induces cyanosis. Certainly, if œdema glottidis is known to exist ether is not, in the view of many experts, the best agent to employ. On the other hand, it must be admitted that in the less severe cases of angina Ludovici ether can be given without greatly increasing the dyspnœa. In the present case there appears to have been no cardiac weakness, so that ether was not peremptorily called for to sustain a flagging circulation. Reverting to the best means of helping patients in such grave danger it appears difficult to understand why the obstruction to respiration, which appears from the notes before us to have been purely mechanical, was not removed by opening the trachea below the seat of obstruction. In some cases such an operation is extremely difficult if not impossible, but clearly it is the thing to do if artificial respiration fails to aerate the blood. There are other remedial measures which suggest themselves. The forcible traction on the epiglottis or base of the tongue with a tenaculum certainly opens the rima when tongue traction [illegible] forceps fails.

but, if the œdema has closed the laryngeal chink this manœuvre may fail. Intubation and forced respiration by means of bellows can be successfully employed when the external swelling and displacement of parts render a tracheotomy or laryngotomy impossible. Professor Wood contends that forced respiration is in all cases more valuable than Silvester's method of artificial respiration. In commenting upon this case we wish to be understood to make no adverse strictures upon the manner in which the hospital authorities carried out their difficult task of attempting to save the patient's life. Measures which appear obvious to those who read an account of an emergency such as has been described cannot always be adopted and only those who are actually present and who know all the circumstances of the case can decide what can be done and what cannot be done to avert threatened dangers.

THE LIVINGSTONE EXHIBITION.

THIS exhibition, opened on Jan. 1st, in St. Martin's Town Hall by the Livingstone College, was intended to instruct the public and travellers in particular in the requirements necessary to health when exploring unknown tracts of country and when residing in climates more or less unhealthy. Portable beds and other articles of furniture, clothing, foods of various kinds, and medicines suitable for travellers were shown and the collection thus brought together has no doubt proved highly useful to the missionaries and others to whom the exhibits practically appealed. On Thursday last Major R. Ross, I.M.S., gave a lecture on the Malarial Mosquito, and to-day (Friday) Miss Kingsley lectures at 3 P.M., and Dr. Harford Battersby, M.A., gives a lecture on the Preservation of Health in Tropical Climates at 5.30 P.M. An interesting feature of the Exhibition was the collection of relics of Dr. Livingstone, arranged by his son-in-law, Mr. Frank Wilson, and loaned by various people and societies. Mementoes of Mungo Park, Speke, Burton, and other explorers were also included. We need not point out the usefulness of such an exhibition as this if made a permanent one, and it is to be sincerely hoped that the Livingstone Exhibition is but the forerunner of a free public exhibition on similar lines. There should be no difficulty in bringing this about seeing that the Livingstone Exhibition is under the patronage of the Princess Christian and is supported by leading members of both the medical and clerical professions, whilst various Government Departments, the Royal Geographical Society, and the Royal Colonial Institute gave their support or expressed their approval of its objects.

METHOD OF EARLY DIFFERENTIATION OF TYPHOID FEVER.

PIORKOWSKI[1] reports at length on 40 cases in which he was able to make the diagnosis of typhoid fever from the third day of the disease to three days after the subsidence of the fever and was successful in doing so on occasions when the Widal test failed. The method consisted in making cultures from the fæces of suspected cases, and is as follows:—The nutrient medium is prepared by using a one half per cent. solution of peptone with 3.3 per cent. solution of gelatin. To this mixture is added a small quantity of normal urine which has been kept for a few days at the ordinary temperature of the room until it has become slightly alkaline. The three-fold mixture is now filtered and sterilised in test tubes for 15 minutes at a time on two successive days. The medium thus prepared can be spread on sterilised glass plates and cooled by ice until solidified. Loop cultures from the fæces are made on the plates thus prepared and the plates thus inoculated are transferred to a thermostat and temperature of from 21.5° to 22° C. In from 15 to hours colonies of the typhoid bacilli appear in oblong groups, the margins of which gradually becom round as the colony enlarges. They now appear of yellowish colour, finely granular, and surrounded by delicate characteristic tangle of filaments set out in spira form in the gelatin. (The colonies of the bacillus col communis are sharp-edged, coarsely granular, darker i colour, and larger than the above.) It is important note that these results are confirmed by other observer Thus Schütze confirms Piorkowski's views with hi experience of six cases, and states that the method is o "remarkable, even decisive importance in establishing positive diagnosis in the early stage of typhoid fever." Unger reports 12 cases thus diagnosed, but records tw others in which the technique failed because the urine wa too intensely alkaline. H. Wittich after putting the proces to a careful test[2] confirms the results reached by Piorkowski He supplements, however, the original observations of the latter by pointing out that the colon bacillus grown on this medium may occasionally simulate the appearance of the typhoid culture colonies rather closely. In this case the former can be distinguished by the pink colour, the faint indol reaction, the curdling of milk, and the production of gas with a ¼ to ½ per cent. grape-sugar bouillon.

"THE MEDICAL SERVICE OF THE HEBRIDES."

WE are glad to know that our leading article on this subject has received a considerable amount of attention. Mr. H. Smith, burgh sanitary inspector, and Dr. C. M. Macrae, medical officer of health of Stornoway, in a letter to the editor of the *Highland News*, object to the suggestion that Lewis is a home of typhus fever and, with the other islands of the Hebrides, a source of risk to large towns. The general drift of our article on the medical service of the Hebrides was to point out the inadequacy of the medical service, the need for more isolation hospitals and for more nursing in dealing with infectious disease. We adhere to our statement that Lewis is a home of typhus. Dr. Bruce says in his report for 1898 that "typhus still lingers in Lewis." On page 9 of his report he says: "With regard to hospitals I repeat that such are absolutely essential where the living houses are so bad. To be properly treated the patients must be removed from the polluted atmosphere reeking in germs to the clean pure air of a small properly warmed and well-ventilated infirmary. As has been pointed out to me by our most distinguished living sanitarian, such removal is needed more even for the safety of the nurse than for the care of the patient." He adds: "In typhus this is a serious danger, as was proved lately not very far from ourselves." In the same report he quotes Mr. R. Ross's report on the parish of Barvas: "Two cases of typhus occurred at Borve in April and other two at South Bragor in June. There was one case each of typhoid, puerperal fever, and erysipelas, and *seven cases of continued fever*. There were two cases of diphtheria and four of scarlatina." The italics are ours. Dr. Macrae and the sanitary inspector boast in their letter, and no doubt too truly, of the familiarity of the medical men of the island with fever varieties. Yet here are seven cases of fever undefined, of which it is not uncharitable to suppose that several, if not all, were mild cases of typhus. Dr. Bruce at any rate will not quarrel with us for regarding Lewis as a home of typhus fever or in thinking that the mere use of disinfectants will do little to abate the insanitary condition of the island and the neighbouring islands, while such home conditions exist as are indicated in his reports and those of Dr. O. Grant, the medical officer of health of

---

[1] Deutsche Medicinische Wochenschrift, Nov. 16th, 1899

[2] Centralblatt für Bakteriologie und Parasitenkunde, Oct. 28th, 1899.

Inverness-shire. Dr. Grant, at page 32 of his report for 1898, quotes Mr. D. Fletcher, parochial medical officer of North Harris, to the following effect: "I regret to find that, in spite of all pressure brought to bear on the cattle housing system, there are still some in North Harris who stick with dogged persistency to the traditions of their fathers and keep their cattle under the same roof as themselves. There is room for much improvement in the housing of the people generally, the old mud wall being still the rule. One need hardly expect to stamp out typhus when such suitable media for the preservation of its germs exist."

MICROBES IN HOLY WATER.

OUR Rome correspondent, in his letter which appeared in THE LANCET of Dec. 23rd, 1899 (p. 1782), made the suggestion that the salt which from the earliest ages has been mingled with the water used for ceremonial purposes should be modified so as to make it a true disinfectant. Salt as the best known and probably the earliest used substance for preventing decay was most likely added originally purely from its symbolic meaning, though possibly the symbolism, as in so many other instances, grew side by side with the literal meaning. According to the *Catholic Times*, of Dec 29th, 1899, the *Osservatore Romano* does not fall in with our correspondent's suggestion, avowing that, the water being holy, needs no human treatment and has never hitherto been regarded as a channel of disease. The *Catholic Times* goes on in the following eminently sensible fashion, "God has given us intelligence for use and even when He blesses requires us to take the ordinary precautions which reason suggests. The argument that no change is advisable because the necessity for it has not been suspected before now cuts at the ground of improvement." We are glad to be able to note these remarks of our contemporary as showing the accordance of common sense lay opinion with that of scientific men. We have previously pointed out[1] how the Church has always taken cognisance of men's bodies as well as of their souls. There must be no standing still in either religion or science, for in both the intellect is striving to reach heights at present beyond it, but which shall one day be attained, and that which is now dark shall be made light.

KERNIG'S SIGN IN MENINGEAL HÆMORRHAGE.

IN 1884 Kernig described a phenomenon which he thought was found only in affections of the pia mater and always in inflammations of it. When the patient is recumbent the legs can be easily extended on the thighs, but when he sits up extension is rendered impossible by contracture of the flexor muscles. After having attracted but little notice during 14 years Kernig's sign has recently received considerable attention and has been found to be of great value in the diagnosis of meningeal diseases. In the main Kernig's conclusions have been confirmed; the sign appears to be present in about from 60 to 90 per cent. of cases of meningitis. At the meeting of the Société Médicale des Hôpitaux on Dec. 1st, 1899, MM. Fernand Widal and Prosper Merklen called attention to the occurrence of Kernig's sign in cases of meningeal hæmorrhage and to its *diagnostic* value. Cases of meningeal hæmorrhage in which the sign has been observed are rare, though such have been recorded by Kernig himself. MM. Widal and Merklen related the case of a healthy man, aged 32 years, who while writing in his office without any premonitory symptoms fell from his chair unconscious. He regained consciousness in some hours without having shown any change in temperature, paralysis, or contracture. He complained only of intense headache affecting the whole head and then of pain in the back. Movements of the trunk were difficult and painful. The pupils were slightly dilated, the eyes were suffused with tears, and the face was congested. There was neither albuminuria nor glycosuria. When the patient was recumbent the legs were extended on the thighs, but when he sat on the edge of the bed the legs became flexed in contracture and could not be extended. He remained in this state for four days On the fifth day the temperature rose to 100 4° F. and there was slight contracture of the neck; on the sixth and seventh days the temperature oscillated between 100 4° and 101 8°. Kernig's sign persisted and the headache and backache were intense. On the ninth day death occurred suddenly from syncope. At the necropsy a clot was found beneath the arachnoid membrane extending as far forward as the optic nerves; it was prolonged on the anterior surface of the pons, medulla, and cord as far as could be seen through the foramen magnum. The spinal canal was full of liquid blood. The posterior and superior region of the cord was congested. The posterior spinal artery was dilated and was full of little disseminated clots. This was the only lesion of the central nervous system found after the most minute examination. The mechanism of the meningeal hæmorrhage escaped observation Probably syphilis (which the patient had contracted seven years previously) played a part. In this case but for Kernig's sign a meningeal lesion would not have been suspected No doubt irritation of the meninges by the clot is the cause of the phenomenon.

DERMOID CYST OF THE OVARY WITH TWISTED PEDICLE IN A CHILD.

IN the *Boston Medical and Surgical Journal* of Sept. 28th Dr. J. V. Meigs has published a case of this rare condition which is further interesting in consequence of urinary symptoms which caused difficulty of diagnosis from hydronephrosis. A female child, aged 10 years, was healthy except for occasional painful micturition with incontinence or suppression of urine While playing she fell from a swing on the buttocks Immediately intense abdominal pain supervened, which increased. On undressing the child the mother noticed for the first time a swelling in the abdomen The patient was sent to a hospital, where distended bladder was *diagnosed*, but *on* catheterism only about an ounce of urine was obtained. The abdomen was very tender and somewhat tympanitic, and examination was possible only under an anæsthetic. The child was beginning to show evidence of shock. Hydronephrosis caused probably by a kink or twist of the ureter from the fall was diagnosed. When the patient was anæsthetised a *somewhat* solid tumour as large as a cocoanut and moveable was found below and to the right of the umbilicus. Laparotomy showed a dermoid cyst of the right ovary with the pedicle twisted one and a half times. The cyst was dark from impairment of the circulation. It was removed and found to contain sebaceous matter, cartilage, and bone. Recovery ensued

CELLAR DWELLINGS IN STOCKPORT.

DR. CHARLES PORTER, the medical officer of health, recently submitted to the Sanitary Committee of the Town Council of Stockport a report upon cellar dwellings. On Nov. 3rd, 1899, Mr. Justice Bucknill made some remarks upon certain evidence which was given and inquired if there were no law in Stockport that people should not live in these cellars. A Manchester paper further stated that some of these dwellings were "practically of modern construction" Dr. Porter points out that in the opinion of the borough surveyor no cellar dwelling has been erected since 1875 owing to the Public Health Act of that year prohibiting their erection. As to Mr. Justice Bucknill's question there is no law in Stockport or anywhere else to prevent people living in a cellar because it is not so clean as it might be (which was the only evidence given before the court as to the cellar in question). The Public Health Act of 1875, however, lays down certain requirements for cellar dwellings. Dr. Porter, in mentioning that there are still 157 cellar dwellings in Stockport, states that they have been periodically visited and inspected with regard to the requirements of the Act. Most of them are nominally deficient in one respect or another, 68 have no drain, and 57 are without any means of through ventilation. Dr. Porter points out that many of these dwellings are kept scrupulously clean and afford a last asylum to "scores of poor worn-out old souls." He therefore thinks that the strict letter of the law should not be enforced but that the cellar should only be closed when the tenant leaves. He concludes his report by asking if it be not possible as an ordinary commercial speculation to provide dwellings in which deserving old people could get a healthy room for 1*s.* per week. We are glad to see that the Sanitary Committee are not going to alter their mode of procedure so that the aged tenants will be undisturbed until they "leave." Cellar dwellings are not desirable but there are occasions in which mercy is better than sacrifice.

---

[1] THE LANCET, Sept 18th, 1897, p 733.

CHARITABLE BEQUESTS AND DONATIONS IN 1899.

IN summarising the bequests left to hospitals and medical charities during the past year the *Charity Record and Hospital Times* says that £1,390,136, as against £1,303,720 in 1898, have gone to medical charities. Referring to donations our contemporary remarks that it is impossible to make any comparison. "Up to the commencement of the war large donations were fairly frequent, but in the last few months they have been more conspicuous by their absence." Early in the year the executors of Mr. F. C. Baines gave £10,000 to the National Lifeboat Institution, and Mr. W. Cadge gave £10,000 to the endowment fund of the Norfolk and Norwich Hospital, while Mr. J. Wheeler Bennett, as a New Year's gift, presented the Bromley (Kent) Cottage Hospital with £4,000. Mr. J. Robinson undertook to build a new wing to the Nottingham Hospital. Mr. E. P. Wills gave £25,000 to the Bristol Jubilee Convalescent Home. "Mr. A. H. Moncur has offered to build a Sanatorium for Consumption at Dundee at a cost of £10,000, and an anonymous donor offered £5000 for five years if the scheme were carried out, and both offers have been accepted. The anonymous donor 'M.' has given another £5000 to Guy's Hospital. The Earl of Leicester has given another £5000 to the Norfolk and Norwich Hospital, thus raising his total gifts to this institution to £40,000. With a view to enabling the committee of the Newcastle-on-Tyne Infirmary to claim a large legacy Mr. J. Eno gave £8500. The Duke of Westminster presented the Eclipse Stakes of £10,000 to the Royal Alexandra Hospital, Rhyl. Mrs. T. Lund has offered £5000 to establish almshouses at Pudsey and Lord Ashton has handed a cheque for £10,000 to the secretary of the Royal Albert Asylum for Idiots, Lancashire."

WE beg to call the attention of our readers to the letter signed by Dr. Frederick Roberts, Mr. Edmund Owen, Dr. W. Collingridge, Dr. W. Duncan, and Dr. J. E. Squire, appealing to the younger members of the profession to enrol themselves in the Militia, Yeomanry, and Volunteer forces. In the face of present circumstances it becomes the duty of every man to bear any part that he can in our Imperial defences, and we feel sure that the medical profession will not be slow to respond to the appeal of Dr. Roberts and his co-signatories.

AN HISTORICAL RECORD OF THE USE OF PRESERVATIVES AND COLOURING MATTERS IN FOOD,

ACCORDING TO THE INQUIRIES OF THE ANALYTICAL SANITARY COMMISSION OF THE LANCET FROM 1851 TO THE PRESENT TIME.

AS is well known, the question of colouring matters and preservatives in food is receiving the earnest attention of a committee of inquiry appointed some months ago by the Local Government Board. Already a considerable amount of valuable evidence has been given which in view of its importance and of its great public interest we have published and shall continue to publish at length in our columns. We may claim fairly, we think, to have adopted an initiative inquiry upon the subject in its modern aspect ourselves three years ago when we invited certain recognised authorities on food and drugs to give us their opinions, which we subsequently published, together with the results of our own work, in THE LANCET of Jan. 2nd, 1897, page 56, under the heading of THE LANCET Special Sanitary Commission on the Use of Antiseptics in Food. These opinions were summarised by our own Commissioners and we believe that this contribution on the subject has been of material service to the Preservatives Committee. The purpose of the present article is to show that the subject has an interesting history dating back, so far as the work of THE LANCET is concerned, nearly half a century.

Undoubtedly attention was first drawn to the preservation and artificial colouring of food with the commencement of the labours of the Analytical Sanitary Commission of THE LANCET which was instituted in the year 1851 by the late Mr. Thomas Wakley, M.P., the Founder of the journal. The gross forms of fraud which this Commission brought to view were in the main not related to the specific subject which the present Committee on Preservatives are considering. Nevertheless some important matters were touched upon which bear distinctly upon the history of the employment of preservatives and colouring matters in food, and which, therefore, we venture to think are of special interest at the present time.

The first report dealing with the adulterations of coffee contains little that is germane to the subject, but in THE LANCET of Sept. 20th, 1851, page 279,

THE ADULTERATIONS OF MILK

are described. In this article mention is made of the use of turmeric added for the purpose of producing in milk a richness of colour, making the dilution with water and abstraction of cream less apparent. In the same article reference is made to the addition of carbonate of soda to prevent milk from turning sour. Milk thus treated may be kept, it is said, for eight or ten days. Again, milk of almonds is referred to as being sometimes present in milk, and as oil of almonds is decidedly antiseptic, the object of its addition was probably for preserving purposes or as a corrective. This seems to be the first historic reference to the use of preservatives in milk.

The next reference to the use of a preservative was in connexion with the

ADDITION OF SULPHURIC ACID TO VINEGAR.

THE LANCET Commission[1] regarded this addition as unnecessary, since some makers dispensed with it altogether. As a result of the inquiry it was shown that of 33 samples analysed eight samples contained a quantity of sulphuric acid not exceeding the amount permitted to be added, while in the remaining cases the amount exceeded this, and in some instances was three or four times as great.

The next inquiry (1852) related to

PICKLES

and their adulteration, and here again the presence of free sulphuric acid was shown and of copper in varying amounts in the samples purchased In two instances the amounts were poisonous The pickles which contained the largest quantity of copper were those which consisted entirely of green vegetables as gherkins and beans "One of the worst features of this abominable practice,' remark The Lancet Commission, " is that the employment of copper is wholly unnecessary, as the colour of green vegetables may be very well preserved by other means, as by the use of pure vinegar and the addition of a proper quantity of salt "

---

[1] THE LANCET, Jan. 10th, 1852, p. 51

The next important article dealt with

PRESERVED PROVISIONS

and appeared in The Lancet of March 20th, 1852 In this article reference is made to the means of preserving various foods but the only preservatives mentioned are salt sugar, oil, charcoal, acetic acid, pyroligneous acid, and alcohol A number of samples were examined including carrots, turnips peas, rhubarb cabbage, Brussels sprouts, potatoes, apples, extract of beef, soups, fish, and beef pemmican Out of the 34 samples of preserved provisions of all kinds submitted to examination the condition of preservation of 29 was most satisfactory, the state of five only out of the number being unsatisfactory, three of these being vegetables It was concluded on the whole that the several processes adopted for the preservation of vegetable and animal substances so far as regards home and domestic use were productive of satisfactory results From the few cases, however, which had turned out unfavourably it was evident that the greatest care was requisite in conducting the several steps of whatever process was adopted

The next report was devoted to the examination of

CAYENNE PEPPER

purchased at the establishments of grocers and oilmen resident in the metropolis and the results were startling Cinnabar, vermilion or sulphide of mercury was detected in one sample Six of the samples consisted of a mixture of ground rice turmeric, and cayenne coloured with either red lead or a red ferruginous earth Venetian red red ochre, and brick dust occurred in seven samples red lead in poisonous quantities in 13 samples, while of the 28 examined 22 contained mineral colouring matter Practically the same substances and colouring agents were found in

CURRIE POWDER

the report including the analysis of 26 samples, appearing in The Lancet of July 17th 1852

The next Commission dealt with

PRESERVED BOTTLED FRUITS AND VEGETABLES

Twenty seven samples out of 33 contained varying quantities of copper This was true for gooseberries, rhubarb and greengages, but not for red fruits like currants raspberries and cherries Several specimens of green fruits and vegetables were free from copper Olives contained a very large amount of copper The colour of green fruit and vegetables was the Commission remarked, apparently heightened by a second device, the bottles in which they were enclosed were made of a highly coloured glass, those in which French olives were preserved were of so intense a green as to impart to the fruit a deep green colour even without the aid of copper

The next inquiry of interest to the Committee related to

ANCHOVIES,

in which red lead was occasionally found In 23 out of 28 samples bole Armenian or Venetian red was found Much the same class of colouring material was found in many samples of potted meats and fish the report appearing in The Lancet of Nov 13th 1852

The next inquiry related to

SAUCES,

in which apparently in some instances charred deal wood was used for imparting colour Cochineal and bole Armenian were found in essence of lobster, shrimps, and anchovies

An interesting letter appeared in The Lancet of Jan 15th 1853 from the late Dr Bernays lecturer on chemistry at that time in St Thomas's Hospital Referring to the work of The Lancet Analytical Sanitary Commission Dr Bernays noticed that when eating

GOOSEBERRIES

with a steel fork the prongs became completely coated with a thin film of bright metallic copper

PRESERVES AND JELLIES

were next the subject of inquiry the results being recorded in The Lancet of Jan 22nd 1853 Some 35 samples were examined Raspberry jam, gooseberry jam, greengage jam, the greengages of crystallised fruit limes and green gages, and candied citron peel, all owed their brilliant colour to a salt of copper

The next subject forming the basis of a report was

LARD,

where the chief form of adulteration appeared to be caustic lime " to improve consistence and colour

Later, in The Lancet of June 4th 1853, it was shown that

BUTTER

was heavily preserved with an excess of salt, but no other preservative was mentioned

A pause appears to have occurred at this date in the work of the Commission the next article appearing in The Lancet of Dec 3rd, 1853 which related to the analyses of 43 samples of

SNUFF

In many instances red ochre, yellow ochre and umber were found as colouring agents Chromate of lead, oxide of lead, and bichromate of potash were found in other samples

In the following year, in the issue of The Lancet of May 27th 1854, appeared a remarkable report on the

COLOUR USED IN CONFECTIONERY

Yellow sweets were found coloured with chromate of lead and gamboge red sweets were coloured with red lead, vermilion or sulphide of mercury, brown sweets were coloured with umber and sienna, purple sweets with Prussian blue and cochineal, blue sweets with indigo, Prussian blue and ultramarine, green sweets with Brunswick green, a mixture of chromate of lead and Prussian blue, and others were coloured with carbonate of copper and Scheele's green or arsenite of copper In cake ornaments white lead was frequently found In this report several instances are given of poisoning by the consumption of articles so coloured

With this terrible indictment the work of the Commission, as it relates to the subject of inquiry before the Committee on Preservatives, ceased until seven years later In 1861 and 1865 The Lancet Analytical Commission resumed its inquiry and on these occasions devoted its attention again to

PRESERVED PROVISIONS

in which it was shown that copper was still employed to a very large extent in green preserved fruits and vegetables, although the samples obtained from big firms which are still well known were shown to be free from copper Also it was shown that the gross forms of adulteration of

CAYENNE,

as with lead and mercury, had to a large extent subsided At the same time it was also shown that

MUSTARD

was less adulterated and that turmeric as a colouring agent was the exception rather than the rule There is a vast amount of further information in these reports bearing on the general adulteration of food up to that time It would clearly appear that up to this date the present methods of preserving and colouring foods were unknown That attempts were, however, very strenuously made to institute a satisfactory method for the preservation of food is abundantly clear from a perusal of The Lancet from 1854 to 1896 Editorial articles appeared again and again as to the merit of certain processes, and analyses were quoted clearly emanating from The Lancet Analytical Sanitary Commission dealing with the products of these methods It is interesting to quote one article which appeared in The Lancet of Jan 19th, 1867

In this article the efforts that had been made towards

PRESERVING ANIMAL FOOD SUPPLIES

were described Omitting to mention the methods of tinning meats in vacuo we refer for the purposes of the present inquiry to the section of this article which deals with antiseptics It would appear that sulphurous acid and the sulphites were tried, with the result that though to some extent the meat was preserved from putrefaction, yet the flavour of the meat so treated put the method out of court The use of nitric oxide was also suggested In summing up The Lancet writes ' It may be safely asserted that no method is known to science by which the decomposition of raw meat can be prevented especially in tropical climates without the employment of [illegible] which in order to accomplish the [illegible] of the meat and its juices. It may also be safely asserted that there are no known antiseptics capable of producing the required effect that would not either destroy the nutritive properties of the meat or communicate to it a decided flavour that would interfere with its use as a food. Salt is the only chemical agent that has been used with any good effect, but something better than salt meat is wanted." Here, again, there is no mention of the use of modern antiseptics such as borax or salicylic acid.

Apparently the first mention of a modern preservative in milk was in THE LANCET of Jan. 20th, 1877. The preservative was salicylic acid. Next in the issue of Jan. 11th, 1879, borax is mentioned as being used in meat. It is curious to note that the employment of modern antiseptics for the preservation of food was introduced much about the time which Lord Lister introduced his method of antiseptic treatment. Lord (then Mr.) Lister's discovery was announced in 1870, and in the following years the Listerian methods were adopted, with what remarkable results in the history of medicine every medical man knows.

In THE LANCET of April 10th, 1886, page 700, an editorial note appeared on the

INCREASING USE OF PRESERVATIVES IN FOOD.

Benzoate of soda appears then to have been regarded as the best agent. Boric acid is described as undesirable and injurious especially when present in milk for infant use. In another article which appeared on page 1142, Vol. ii., 1886, the results of the examination of

BORATED FISH

are reported. Here it is stated that apparently boric acid is not truly a preservative, and that blackening of the flesh was noticeable.

In several articles which appeared in the second volume of THE LANCET of 1887, the increasing use of

BORIC ACID IN MILK

was pointed out and appeal was made for attention to the subject. One of these articles was the translation of Dr. Forster's report in *Dingler's Polytechnisches Journal*, 1884, page 170, on the use of boric acid as a so-called food preservative. This will be found to be a very interesting physiological inquiry, which would appear to have anticipated modern experiments. The result was distinctly unfavourable to the use of boric acid. The publication of this article in the columns of THE LANCET led to what must be regarded as the first public agitation on the subject. It received considerable comment at the hands of the public analysts, which culminated in the

FIRST CASE OF PROSECUTION

instituted under the Sale of Food Acts. The case failed on the point of an added and, as it was urged, injurious preservative, but succeeded on the point of abstraction of fat.

In a leading article in THE LANCET of Jan. 10th, 1891, in commenting upon this case THE LANCET remarked that the "question is an important one, and calls for immediate investigation, and the consensus of medical opinion must be gained." This is exactly the present position and a position which the Committee are appointed to elucidate. As to the evidence of the use of preservatives and colouring matters in food following the date of this remark (Jan. 10th, 1891) up to the present time particulars have already been furnished to the Committee by medical men, public analysts, and others.

THE LANCET Laboratory.

THE PRINCE OF WALES'S HOSPITAL FUND FOR LONDON.

THE following is a list of the grants recommended by the Distribution Committee:—

Alexandra Hospital—Donation, £500. Belgrave Hospital—Donation, £500 (to help the hospital to remove to the South of London). Bolingbroke Hospital—Donation, £1000 (towards the rebuilding). British Lying-in Hospital—Donation, £100. Cancer Hospital (the committee consider this to be a well-managed hospital but not in need of a grant this year). Central London Ophthalmic Hospital—Donation, £100 (towards the rebuilding). Central London Throat and Ear Hospital—Donation £150 (towards an operating room). Charing-cross Hospital—Annual, £1000 (in the hope that the improvements required will be put in hand forthwith). Chelsea Hospital for Women—Donation, £250. Cheyne Hospital—Donation, £100 (in consideration of the fact that curable cases are admitted). City of London Chest Hospital—Annual, £1500 (grant is increased by £500 to enable the re-opening of another ward of 10 beds). City Orthopædic Hospital—Annual, £250 (the amount named by the authorities as required to open the remaining 20 closed beds). Clapham Maternity Hospital—Donation, £250 (towards the building fund). Cottage Hospital, Canning Town—Donation, £100 (towards the building fund). Dental Hospital—Donation, £100. "Dreadnought" Hospital—Annual, £500; donation, £200 (£500 annual as before, £200 for the Tropical Diseases Department). East-End Mothers' Home (the income of this institution appears this year to be sufficient). East London Hospital—Donation, £250. Establishment for Gentlewomen—Donation, £75. Evelina Hospital (no grant is recommended as the income appears to be sufficient this year). French Hospital—Donation, £100. Gordon Fistula Hospital—Donation, £100 (towards furnishing). Great Northern Central Hospital—Annual, £750 (as before). Grosvenor Hospital—Donation, £100. Guy's Hospital—Annual, £5000. Hampstead Hospital—Donation, £100 (towards the salary of a house surgeon). Hospital and Home for Incurables, Maida Vale (an institution for incurables only). Hospital for Diseases of the Throat (their claim to be considered another year when their building is completed). Hospital for Epilepsy and Paralysis—Donation, £250 (for rebuilding). Hospital for Sick Children—Annual, £500. Hospital for Women, Soho-square—Donation, £350. Hospital of St. John and St. Elizabeth (no grant is recommended this year. Their case to be considered after the building is opened). Infirmary for Consumption (not considered to be within the scope of this fund as a hospital). Italian Hospital—Donation, £100 (towards furnishing the new building). King's College Hospital—Annual, £1000; donation, £175 (£1000 annual, £175 towards out-patients' department). London Fever Hospital—Donation, £200 (attention to be drawn to the necessity for certain reconstructions). London Homœopathic Hospital—Donation, £200. London Hospital—Annual, £5000. London Lock Hospital—Donation, £500. London Temperance Hospital—Donation, £600. Memorial Cottage Hospital—Donation, £50. Metropolitan Hospital—Donation, £1000 (committee trust that the efforts of the authorities will be continued successfully and the debt paid off with the assistance and encouragement shown in this increased grant). Middlesex Hospital—Annual, £1000 (as before). Mildmay Mission Hospital, Donation, £250. Miller Hospital—Donation, £300. National Hospital for Paralysed—Annual, £750. National Orthopædic Hospital—Donation, £100. New Hospital for Women—Donation, £100 (towards the purposes named by the visitors). North-Eastern Hospital for Children—Annual, £500; donation, £250 (£500 annual, £250 towards building). North London Hospital for Consumption—Annual, £1000. North-West London Hospital—Donation, £500. Paddington-green Hospital—Donation, £150. Poplar Hospital (an admirably conducted institution, but does not seem to require help this year). Queen Charlotte's Hospital—Donation £300. Queen's Jubilee Hospital (this institution does not appear to be a hospital in any true sense of the word, and its buildings are quite unsuitable for hospital purposes). Royal Ear Hospital (their claim to be considered when the removal is completed). Royal Eye Hospital—Donation, £100. Royal Free Hospital—Annual, £750; donation, £500 (of which £750 is annual, and £500 a donation towards improving the accommodation for nurses). Royal Hospital for Women and Children—Donation, £100 (the committee desire to draw attention to the need for rebuilding). Royal Hospital for Diseases of the Chest, City-road—Donation, £250 (towards improving the nurses' accommodation). Royal London Ophthalmic Hospital—Donation £750. Royal Orthopædic Hospital—Donation, £250 (towards the expense of rebuilding the hospital on a new site). Royal Westminster Ophthalmic Hospital (no grant this year). Samaritan Free Hospital—Annual £500. St. George's Hospital (although in view of the financial position of the hospital the committee are unable to recommend a grant, they cannot but express their unqualified approbation of the excellent work that has been done in the way of improving the nursing accommodation and reconstructing the theatre). St. Mark's Hospital (the committee consider that the financial position does not seem to require help this year). St. Mary's Children's Hospital, Plaistow—Donation, £500 (£200 for maintenance, £300 towards the improvements named by the visitors). St. Mary's Hospital, Paddington—Annual, £1000. St. Monica's Hospital—Donation, £50 (the committee desire to draw attention to the fact that there is no isolation ward). St. Peter's Hospital for Stone—Donation, £50. St. Saviour's Hospital—Donation, £50. St. Thomas's Hospital—Annual, £1800 (the committee consider that an inquiry officer is needed to prevent abuse by out-patients). Tottenham Hospital—Annual, £1000; donation, £500 (£1000 of this is annual towards the opening of one closed ward containing about 15 beds; £500 donation). University College Hospital—Annual, £1400 (as before). Victoria Hospital for Sick Children—Donation, £500 (towards the new building. The committee recommend, in view of the fact that the new building is to cover all the available garden space belonging to the hospital, that a flat roof should be made on the new building for air and exercise). West-End Hospital for Diseases of the Nervous System—Donation, £100 (towards a new operating room). Western Ophthalmic Hospital—Donation, £50. West Ham Hospital—Annual, £300; donation, £250 (£300 annual grant, £250 towards repairs and alterations necessary). West London Hospital—Donation, £1000 (the authorities having agreed to carry out the recommendations of the visitors). Westminster Hospital—Annual, £750; donation, £250 (£750 annual, £250 towards the cost of nurses' quarters). Wimbledon Hospital—Donation, £50.

Total annual grants, £26,250; total donations, £14,750.

SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Hospital Saturday, recently held in Plymouth, has resulted in the sum of £601 being raised for the funds of this institution. The Sunday Schools Collection, in aid of the Children's Ward, realised £64.

PAUPERISM IN THE CHARD UNION.—Mr. Preston Thomas, the Local Government Board inspector for the south-western counties, has drawn the attention of the Chard Board of Guardians to the fact that the rate of pauperism in their union is no less than 44 per 1000, whereas the rate throughout England and Wales is only 26 per 1000.

THE LANCET RELIEF FUND.

ELEVENTH ANNUAL REPORT OF THE ALMONERS.

THE LANCET Relief Fund, which has for its Almoners the President of the Royal College of Physicians of London (Sir SAMUEL WILKS, Bart., F.R.S., during the first three months of last year and subsequently Dr. WILLIAM SELBY CHURCH), the President of the Royal College of Surgeons of England (Sir WILLIAM MAC CORMAC, Bart., K.C.V.O.), the President of the General Medical Council (Sir WILLIAM TURNER, M.B. Lond., F.R.C.S. Eng. and Edin., F.R.S.), Mr. THOMAS WAKLEY, F.R.C.S. Eng., and Mr. THOMAS WAKLEY, jun., L.R.C.P. Lond., with Sir HENRY PITMAN, M.D. Cantab., F.R.C.P. Lond., as Honorary Auditor, came into operation on the 1st of February, 1889.

In presenting the eleventh annual report the Almoners think it well again to direct attention to the object for which the Fund was established.

The Fund is sustained solely by the Proprietors of THE LANCET who provide every January the sum of at least £300 and is administered free of cost, with the object of affording immediate pecuniary assistance to registered medical practitioners or to the widows and orphans of members of the profession in cases of distress and emergency, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require.

When the Fund was inaugurated considerable misapprehension existed as to the precise objects for which it had been established; and as a result the majority of the earlier applications, being cases of *chronic* distress, and not coming, therefore, under the designation of *emergency*, could not be entertained. Attention was called to this fact in THE LANCET of Feb. 16th, 1889, in the following words:—

"We are requested by the Almoners to state that, from the character of a number of the applications received, both personally and by letter, for relief, it is evident that in many cases the object for which this Fund has been established is not quite clearly understood; and if relief had been afforded in the cases of those who suffer from chronic distress the Fund would have been completely exhausted within the first few days of its existence. They would therefore be greatly obliged if those readers of THE LANCET who may be asked to endorse applications would carefully peruse the Application Form and explain the precise object of the Fund to those applicants whose cases do not seem to come within the scope of the purpose for which the Fund has been established, which is to afford prompt aid to registered medical practitioners, or to the widows or orphans of members of the profession, who, in consequence of the supervention of some unexpected emergency, which is not likely to recur, have pressing need of immediate and temporary pecuniary relief"—and who, it may once more be pointed out, are likely to be permanently benefited thereby.

The balance in hand at the end of 1898 amounted to the sum of £318 5*s.* 8*d.* On Jan. 2nd, 1899, the Proprietors of THE LANCET placed to the credit of the Fund the sum of £300. The sum of £255 has been granted in relief either by way of loan or of gift, leaving a balance of £358 1*s.* 6*d.* as per Statement of Accounts.

There have been considered altogether during the 12 months ending Dec. 31st, 1899, 33 applications for relief (the number the previous year having also been 33). In 24 cases assistance was awarded either as a loan or as a gift according to the request of the applicant, the amounts of the grants ranging this year from £5 to £20.

The Almoners are glad to find from the number of letters received from recipients of the Fund that it continues to be of service to unfortunate members of the profession and that the particular object of assisting cases of emergency and immediate distress has been attained.

(Signed),

WILLIAM TURNER. SAMUEL WILKS.
W. S. CHURCH. THOMAS WAKLEY.
THOMAS WAKLEY, JUN.

Owing to his absence in South Africa Sir WILLIAM MAC CORMAC was unable to sign the Report.

Statement of Accounts for the Year ending Dec. 31st, 1899.

DR.	£	s.	d.
To Balance at the London and Westminster Bank, Limited (Westminster Branch), Jan. 1st, 1899 ...	318	5	8
Proprietors of THE LANCET, Jan. 2nd, 1899 ...	300	0	0
	618	5	8
To Balance at Bank	£358	1	6

CR.	£	s.	d.	£	s.	d.
By Loans:—						
Case No. 427	10	0	0			
				10	0	0
" Cheque outstanding Dec. 31st, 1898 Case No. 414				5	0	0
By Gifts:—						
Case No. 416	10	0	0			
" 420	10	0	0			
" 423	10	0	0			
" 424	10	0	0			
" 425	10	0	0			
" 428	10	0	0			
" 429	5	0	0			
" 430	5	0	0			
" 432	20	0	0			
" 433	15	0	0			
" 435	20	0	0			
" 436	5	0	0			
" 437	5	0	0			
" 438	5	0	0			
" 439	5	0	0			
" 441	15	0	0			
" 443	5	0	0			
" 443	15	0	0			
" 444	15	0	0			
" 445	20	0	0			
" 446	10	0	0			
" 447	10	0	0			
" 448	10	0	0			
				245	0	0
" Cheque Book				0	4	2
" Balance at Bank				358	1	6
				£618	5	8

I find by the Bankers' Book that the actual balance on Jan. 1st, 1899, to the credit of the Fund was £318 5*s.* 8*d.*, to which the sum of £300 was added by the Proprietors of THE LANCET on Jan. 2nd, 1899.

The balance at the Bank at the present date is the sum of £358 1*s.* 6*d.* I have also checked the receipts for disbursements and find the above account strictly accurate.

December 29th, 1899.

HENRY A. PITMAN, Hon. Auditor.

Obituary.

SIR JAMES PAGET, BART., F.R.C.S. ENG., F.R S., D.C.L. OXON., LL.D. CANTAB., &c.

IT is with deep regret that we announce the death of Sir James Paget, which took place at his residence, 5, Park-square West, Regent's-park, on Dec. 30th, 1899. He was in his eighty-fifth year and had been ailing for some two years past. On Christmas Day he went out for a drive, but since then had been confined to the house. All his family were in attendance, and at 10 o'clock on Saturday night he quietly passed away.

James Paget was the eighth child of Mr. Samuel Paget of Great Yarmouth and Sarah Elizabeth his wife, daughter of Mr. Thomas Tolver, of Chester, and was born in 1814. He was educated at a private school at Yarmouth. When quite young he was apprenticed to Mr. Costerton, a surgeon in practice in Great Yarmouth, and subsequently he entered as a student at St. Bartholomew's Hospital, where he studied under Stanley, Earle, Lawrence, and Vincent, who were full surgeons, while Wormald and Skey were assistant surgeons. Lawrence and Stanley both held him from the first in the highest esteem and assisted him in many ways. He became a Member of the Royal College of Surgeons of England in 1836, but it was as a first or second year's student that he discovered the trichina spiralis in the muscles of a subject in the dissecting room, his attention being attracted by finding small calcareous granules in the muscles. On pointing this out to Mr. Wormald, who was then demonstrator, the latter sent some specimens to Owen, professor of Comparative Anatomy at the hospital and assistant curator of the museum at the College, with the following note, dated Feb. 3rd, 1835:—

> DEAR OWEN,—I send you some sort of organised being, as I believe, which occupies the muscles of a subject under dissection at St. B. H., and as I know you are a keen hand for parasitical things, from "crabs" downwards, I send the enclosed for your inspection.
>
> Ever yours sincerely,
> THOS WORMALD.

On examining the cysts under a microscope Owen at once discovered the "worm," which he named trichina spiralis. But in the meantime Paget, who had no microscope of his own, at length managed to get the use of one from Mr. Robert Brown of the British Museum, and he confirmed a previous conclusion he had come to by means of using a pocket lens—namely, that the cysts did contain worms. On Feb. 6th, 1835, he read a paper on the subject before the Abernethian Society, Dr. Arthur Farre being in the chair. It was not until some days after this (Feb. 24th) that Owen, who had in the meantime accurately described and classified the worm, read his paper before the Zoological Society, and in this paper, with that transparent sense of honour and justice so characteristic of the man, he gave full credit to the then unknown and undistinguished student for priority of discovery. Paget's own description was, to use his own words in a letter to THE LANCET of March 10th, 1866, "not indeed complete—but I believe not inaccurate, except in a blundering endeavour to assign its zoological relations." So to Paget belongs the credit of having been the first to see the worm, though Hilton of Guy's Hospital had some time before this suggested that "the specks probably depended upon the formation of very small cysticerci." Owen's discovery was made quite independently.[1]

Sir James Paget's career as an active member of the staff of St. Bartholomew's Hospital lasted for twenty-eight years—namely, from May 30th, 1843, when he was appointed lecturer on general anatomy and physiology, to May 11th, 1871, when he resigned the office of surgeon and was appointed honorary consulting surgeon. On Oct. 2nd, 1843, he was appointed warden of the Hospital College, an important and, to one like Paget with a high ideal of duty, a most responsible post. In the following year he married Lydia, daughter of the Rev. Henry North, domestic chaplain to H R.H. the Duke of Kent, and he and his wife lived in the College rooms, which cannot be called palatial even now, and were most probably worse fifty years ago. In these early days he was very poor, and he eked out his scanty income by writing articles in the "Penny Cyclopædia." Following out his own maxim, "A man must work within an inch of his life," he had no real holiday for seventeen years, was rarely in bed before 2 A.M. and rose at 7.30 A.M. In 1846 he was asked to report upon the anatomical museum as curator, and the result of this report was the first volume of the catalogue. For this he was presented by the Governors with the sum of 150 guineas. On Feb. 11th in that year he was admitted as a candidate for the office of assistant-surgeon, and on Feb. 24th was elected to that office, not without strong opposition, for he had never been apprenticed to any one of the surgeons, neither had he been house-surgeon, and it was mainly owing to the help and support which he received from Sir William Lawrence that he succeeded. The figures were as follows: Mr. Paget, 142 votes; Mr. McWhinnie, 78; Mr. Pennington, 22. At about this date Mr. Stanley, who had seen and admired Paget's work as curator of the hospital museum, recommended him for a similar post at the Royal College of Surgeons of England in the department of pathology, and it was due to the experience gained at this post that Paget was able to write his unrivalled lectures on surgical pathology. He had been elected a Fellow of the College in 1843. From 1847 to 1852 he also held the post of Arris and Gale professor of human anatomy and surgery. To return to his hospital work: in 1851 he resigned the office of warden, and in 1859 the lectureship on general anatomy and physiology; in 1861 he was elected full surgeon, and in 1865 he was appointed lecturer on surgery, a post which he held until 1869. In 1865, too, he was elected as a member of the Council of the Royal College of Surgeons of England, a post which he continued to hold for ten years, until in 1875 he was elected to the office of President. In the following year he was chosen as a representative of the College upon the General Medical Council, an office which he continued to hold until 1881. On resigning the post of surgeon to St. Bartholomew's Hospital he was at once elected consulting surgeon, a copy of the resolution of the Court of Governors being presented to him by H.R H. the Prince of Wales, President of the hospital. In 1877 he delivered the Hunterian Oration, the Prince of Wales being among his auditors. The subject was, "The Life and Teachings of John Hunter." As year after year the time for the Hunterian Oration comes round it is increasingly difficult for the selected speakers to find anything new to say, but Paget always had the faculty of being able to throw fresh light upon a subject, and to make matter however well worn interesting by his charm of style and diction. The concluding sentence of the oration is worthy of Thackeray: "His true thoughts still live in us, and they will live beyond us, never ceasing to urge and help men onwards in the pursuit of truth, for in the world of mind he that is mortal may produce that which may have immortality." In 1882 he delivered the Bradshaw Lecture, taking as his subject "Rare Diseases"; in 1885 he was elected a trustee of the Hunterian collection; and in 1887 he was appointed Morton lecturer on Cancer and Cancerous Diseases. We have already traced his career as an active member of the staff of St. Bartholomew's Hospital, and have mentioned the paper read while he was still a student upon the trichina spiralis before the Abernethian Society; nearly sixty years later he delivered the address upon the occasion of the centenary of that society—namely, in 1894.

As the circumstances which led to Paget's resignation formed the subject of one of his most interesting lectures it will be well to recapitulate them. Early in the year 1871 he contracted blood-poisoning, to all appearance through the unbroken skin, during the performance of a post-mortem examination. The result of this was a diffuse cellulitis affecting the right hand, arm, shoulder, and back. For many weeks he lay between life and death, but finally, owing to a good constitution and the assiduous attention of nearly the whole staff of the hospital, he recovered, though the attack permanently weakened his powers of resistance. Feeling unable to continue to do justice to the work of surgeon he resigned—a resignation accepted with great regret by the committee, and on July 4th, 1871, H.R.H. the Prince of Wales, as President of the hospital, presented him with an illuminated address embodying a resolution of the Court of Governors expressive of their sincere regret at his resignation and their unanimous thanks for his long and valuable services. He received a baronetcy in the same year.

Of his writings it is necessary to do little more tha

---

[1] THE LANCET, Nov. 18th, 1882, p. 869, et seq.

Very truly yours

James Paget

mention their names for they are known throughout the scientific world as models of what scientific papers should be. Clear, accurate and sound in every respect, they are also written in a style which makes them most pleasurable reading and which at the same time impresses the subject firmly on the memory. His earliest work in this direction was the paper upon the trichina spiralis read before the Abernethian Society in 1835. In 1846 and 1851 appeared respectively the first and second volumes of the catalogue of the museum of St. Bartholomew's Hospital. In 1849 he published "Lectures on the Processes of Repair and Reproduction after Injuries"; in 1850 "Lectures on Inflammation"; in 1851 "Lectures on Tumours"; and in 1853 his great work "Lectures on Surgical Pathology," material for which he had gathered together during his tenure of the post of curator of the Museum of the Royal College of Surgeons of England and Arris and Gale lecturer. To the first edition of Holmes's "System of Surgery" Paget contributed articles on Sinus and Fistula, Ulcers, Tumours, Contusions and Wounds. In 1875 was issued a volume edited by Mr. Howard Marsh, entitled "Clinical Lectures and Essays," being for the most part reprints of papers contributed to THE LANCET or read before societies. Besides these there were numerous addresses delivered at the hospital and elsewhere.

It is no easy matter to attempt to appraise at its correct value the contribution which Sir James Paget has made to our knowledge of surgery and especially of surgical pathology, and this is so not because anyone who is conversant with the work he did can be in any doubt as to its great importance but because he is responsible for so much which has become part and parcel of our knowledge of surgical pathology. He was pre-eminently a clinical pathologist, for he united in himself the pathological knowledge derived from his work in the museums of St. Bartholomew's Hospital and the Royal College of Surgeons of England, with the experience of a practising surgeon, and at a time when the general introduction of the use of the microscope into the examination of morbid tissues and products was leading to an over-estimate of the value of structural details Paget saw clearly that the mode of life of a tissue was as essential a part of its being as was the arrangement of its constituent fibres and cells; so in his "Lectures on Surgical Pathology" he wrote: "The examination of any texture, morbid or healthy, cannot be regarded as complete if it is limited to a mere determination of its form, appearance and structure. Its growth, development, tendencies, influences upon the individual in whom it occurs, in short its life, must be attended to. Its teleological as well as its morphological aspects are to be considered." The same closeness of observation and scientific curiosity which prompted the young student of anatomy to investigate more closely the minute calcareous nodules which he saw in a muscle made the surgeon examine carefully all the cases which came to him for treatment. An excellent memory and assiduous note-taking enabled him to compare one case with another and to put like with like, and thus he recognised as definite diseases morbid conditions which had doubtlessly been seen many times and yet had been passed over unheeded by others. Paget it was who first described the fine soft appearance of the skin which is liable to follow an injury of a sensory nerve and the phrase "glossy skin" which he applied to it is now the most usual name for this fully recognised characteristic of a nerve lesion. He had a faculty of happily naming and the name "myeloid" which he applied to giant-celled new growths has completely displaced their former appellations though he was not the first to describe these tumours. There are several instances of the fruits of this happy combination of a skilful pathologist practising as a surgeon, but perhaps the most interesting is the account he gave of "recurrent fibroids"; those who are familiar—and what surgeon is not?—with the account he has given in his lectures on surgical pathology of the tumour to which he applied this name will acknowledge that no better description could be given of this important variety of tumour now classed among the sarcomata. There are, however, two morbid conditions with which Paget's name is most closely connected, and it is to his account of [illegible] that the future remembrance of his name will be most [illegible] due. The phrase "Paget's disease" is equally applicable to the disease of the nipple now often called [illegible] dermatitis and to that affection of the bones to which he applied the name of "osteitis deformans." The account of the disease of the nipple first appeared in 1874 and confirmatory evidence of the truth of the description and of the tendency to result in carcinoma was soon supplied by others. In 1877 he read a paper before the Royal Medical and Chirurgical Society on "Osteitis deformans," and although our knowledge of the disease has of course increased the accuracy of the account has not been surpassed. We cannot but think that a valuable lesson may be learned from Paget's professional life, the fuller the knowledge of pathology which a surgeon possesses the more fitted will he be for his work as a surgeon, and if this was true of the earlier part of this century it is even more true now.

The well-known Handbook of Physiology which was given to the world under Kirkes's name was mainly by Paget. It was the outcome of the course of lectures on physiology which he delivered in the medical school of St. Bartholomew's Hospital from 1844 to 1848. So far as is now known he handed over his "notes," which were in fact the whole section for the day's lecture carefully written out, to Kirkes, giving him the credit of editing and publishing the work. His name appears on the title page of the 1848 edition as "assisting" Kirkes and his notes are acknowledged in the preface. Kirkes, of course, made additions of his own and brought the work up to date. Sir James Paget's last publication was the "Echoes from Old Case Books," which, although published in 1891, dealt with his surgical experience only up to 1870, when from want of leisure his case books had in great part to be given up. He was more interested in pathology than he ever was in physiology and he used to collect specimens from the post-mortem room during the first five days of the week and give a most interesting lecture on the Saturday. The lecture room was always full, but on Saturday morning at 9 A.M. it was crowded and the interest taken in the "Pathology" lecture was very great.

Paget was for many years one of the best—if not the best—speaker in the profession and a friendly rivalry upon this matter was maintained between himself and his colleague, the late Sir William Savory. Both were admirable speakers, both took the greatest pride in their art and both took infinite pains with their speeches and addresses, even going so far in some instances as to learn them by heart. Both were able to speak for an hour or so without hesitating or ever using any but the word most fitting for its particular place. But despite the similarity in preparation the delivery of the two was markedly different. Savory gave the hearer the effect that he was listening, as he was, to a prodigious *tour de force* of memory—in other words, the listener felt that the speaker had learned his speech beforehand. With Paget, although the speech or address had most likely been written out two or three times and learned by heart, when he came to deliver it it appeared as though he were speaking just as the words came into his head—although he never showed any really rhetorical force, but the speech flowed on in an even stream of musical and well-balanced sentences. He could speak without preparation, however, and was most ready in either proposing or responding to a toast.

As a surgeon he was a very keen observer and one who took unbounded trouble, and his opinion was most valuable, especially in rare cases, for he saw a large number of them and never forgot what he had seen. As to personal characteristics he was strongly and deeply religious in the best sense of the word and would have been a great theologian if he had not taken up a different line of thought. In 1880, at the invitation of his son, the present Vicar of St. Pancras, but then Principal of the Clergy School at Leeds, he delivered an address at the Leeds Theological College to the candidates for ordination. Taking for his subject Theology and Science he laid down and supported the thesis that the more a man knew of science the more was it possible to reconcile its facts with religion. To a natural capacity for work he added habits of exactitude and punctuality in all that he did, thereby increasing his opportunities for doing work. He was careful and frugal, with absolutely no ostentation, and he never shirked [illegible] to save himself [illegible] when very busy with a large practice he was President of the Royal Medical and Chirurgical Society and of the Clinical Society of London as well as of the Royal College of Surgeons of England [illegible] Dublin. In this respect the late Sir A. Clark [illegible] Sir W. Jenner [illegible]

As a consultant Sir James [illegible] a great point of being punctual [illegible] more than two or three minutes late. [illegible] that he did [illegible] was largely owing to his [illegible] of duty [illegible] that would he do. at whatever cost. It was, however, due in part to his personal modesty. His view was that he had no right to keep either a patient or a practitioner waiting. But it was also partly due to the fact that he was well aware that punctuality was a great economy, not only of other people's time. but of his own as well. However pressed he might be he never evinced hurry, but seemed entirely at the disposal of his patient. Yet there was some art here. For by his earnestness and his power of leading he quickly made his way to a clear issue, and established the impression that all had been well considered and determined upon, and thus talk which was useless and a waste of time naturally died away. His charm of manner, all who knew him will agree, was as telling in the sick-room as elsewhere. His voice was clear and musical; he spoke distinctly, and in pure and strong English. and always with a frank and sympathetic kindness which inspired confidence and grateful recognition.

Towards the practitioner in the case he was always in the highest degree considerate and courteous, and though it was well known to everyone that he was the first surgeon of his time and a man of European reputation he seemed himself entirely unconscious of the fact. In the early days of his practice his opinion was anything but a strong one. He had never been house surgeon and had been occupied chiefly with physiology and pathology. Yet he rapidly advanced, for he was aware of defects which were unknown to others and he was intently observant. Thus he never repeated a mistake and always appropriated any information that came within his reach and kept it fresh and ready for the next occasion. Later he stood by common consent without a rival, for he was himself the fountain of knowledge in many fields of pathology. Such subjects as inflammation, diseases of bones, and malignant growths he had made peculiarly his own, and he had made his mark by original observations in the field of surgery as a pioneer in the study of injuries of nerves, chronic pyæmia, senile scrofula, osteitis deformans, &c., and he possessed in a very rare degree the faculty of estimating the relative value of the facts which presented themselves and of arranging and balancing evidence so as to arrive at a sound conclusion. He was often right when others were wrong, either because his knowledge was altogether superior or because he saw what others had overlooked. At the present day the tendency often is to study merely the processes of disease and to ignore the characteristics of the patient in whom the disease is at work. In this connexion a useful lesson might be learnt from Sir James Paget, who, while he carefully noted every feature in the malady, regarded the patient himself as an important factor from the point of view alike of diagnosis and treatment.

His honours and appointments were many and varied and though we have mentioned most of them we may fitly recapitulate them here. Besides the posts held at St. Bartholomew's Hospital, which we have already mentioned, he was consulting surgeon to Christ's Hospital. At the Royal College of Surgeons of England he was elected a Fellow in 1843, a member of the Council in 1865, and President in 1875. He was never an examiner for the College although he filled that office for some time on the Army Medical Board. He was Serjeant-Surgeon to the Queen from 1877, surgeon to the Prince of Wales from 1863, and a Corresponding Member of the Institute of France. In 1871 he was created a baronet, and was Vice-Chancellor of the University of London from 1884 to 1895

Possibly the greatest honour in a scientific sense which fell to Paget's lot during his long and noble term of life was his being chosen as President of the International Medical Congress which met in London in August, 1881. His presidential address will never be forgotten by those who heard it, and it stands out pre-eminently even in the company of the magnificent addresses of such speakers as Virchow and Huxley, Michael Foster and Gull. Can there be a more eloquent call to arms for us who are left than these words of him so lately passed away? "And then let us always remind ourselves of the nobility of our calling. . . . . We had better not compete when wealth is the highest evidence of success: we can compete with the world in the nobler ambition of being counted among the learned and the good who strive to make the future better and happier than the past. And to this we shall attain if we remind ourselves that, as in every pursuit of knowledge there is the charm of novelty and in every attainment of truth utility, so in every use of it there may be cha[illegible] I do not mean only the charity which is in hospitals or in the service of the poor, great as is the privilege of our calling in that we may be its chief ministers, but that wider charity which is practised in a constant sympathy and gentleness, in patience and self-devotion. And it is surely fair to hold that, as in every search for knowledge we may strengthen our intellectual power, so in every practical employment of it we may, if we will, improve our moral nature; we may obey the whole law of Christian love, we may illustrate the highest induction of scientific philanthropy."

These words are eminently characteristic of him who uttered them—nobleness and gentleness were part of his being. In no way narrow or bigoted, he was great-souled, honest, and upright, with a reverence for truth and a hatred for shams or deceit of any kind. Yet he was never wanting in tact and had a wonderful faculty for telling the truth without hurting people's feelings. In the guest room of an ancient Spanish monastery hangs a notice to the effect that the Abbot trusts that anyone who shall come there will behave himself as a gentleman and a Christian. Paget was a shining example of both, this world is the poorer by his passing, but his memory will ever remain to inspire us who are left with courage in our daily work and with sympathy for those who fall by the way.

The first part of the burial service for the late Sir James Paget took place on Thursday, Jan. 4th, in Westminster Abbey, at 2 P.M. The body was afterwards conveyed to Finchley Cemetery for interment. Dr. W. S. Church, President of the Royal College of Physicians of London, was unavoidably absent through illness, and the College was represented by Dr. Pye-Smith, Senior Censor.

HENRY THOMPSON, M.R.C.S. ENG., L.R.C.P. LOND.,

SURGEON TO THE HULL ROYAL INFIRMARY.

MUCH regret has been occasioned among the many friends of Mr. Henry Thompson by the announcement of his death after a short illness, at the age of 49 years. Mr. Thompson, who began his professional life as a pupil of Sir Robert Craven, was afterwards a student at St. Bartholomew's Hospital, where he held the office of house physician and took several prizes. Becoming M.R.C.S. Eng. in 1871 and L.R.C.P. Lond. in 1874, he was shortly afterwards elected house surgeon to the Hull Royal Infirmary, and assisted the late Dr. Kelburne King in carrying out the antiseptic method of Professor Lister just then introduced. In 1878 he was appointed honorary assistant surgeon, and in 1886 honorary surgeon to the infirmary, continuing in office to the time of his death. He was also surgeon to the 1st Volunteer Battalion East Yorks Regiment for 20 years, receiving on his retirement promotion to the rank of Surgeon Lieutenant-Colonel, and had been President of the East York and North Lincoln Branch of the British Medical Association. Through his whole career Mr. Thompson was noted for conscientious and strict devotion to his profession, of which he was an exceedingly able and successful practitioner. His ability and uprightness also won for him the respect and esteem of his professional brethren, by whom, as well as by his patients, the loss is much felt. He leaves a widow and large family, the eldest son having only just entered as a student at the Middlesex Hospital.

THE WAR IN SOUTH AFRICA.

SINCE we last wrote on this subject there have been some successes on the British side, but not of such a decisive or important kind as materially to affect the result. At present there is a war lull. The campaign in South Africa, besides causing us to raise the eyebrows of astonishment, as the Germans say, at the resources and preparedness of the Boers, has taught us and the world at large some useful and important lessons. It shows, to begin with, the enormous strength of even a small, but determined, nation or race in defensive warfare when armed with the most modern weapons and fighting on its own particular methods. Our checks and reverses in South Africa are a valuable object-lesson. The thought will at once occur how extremely difficult, even assuming our fleet to be disabled, would be an invasion of this country and how difficult, too, would it be for an invading army, after succeeding in effecting a landing, to get away again, if our adult population were only properly armed and organised and our land defences in an effective condition. The salient features of the present war in South Africa are noteworthy. The Boers knew their own mind, they had long foreseen what would happen, and they were prepared for it; they armed themselves with all the latest and most destructive engines of war and they adopted a new system of tactics singularly well adapted to their purposes, the country, and the nature and circumstances of the campaign; whereas our undecided and vacillating policy and our ignorance of their carefully planned designs and preparations greatly tended to aid and facilitate the Boers in carrying them out. Moreover, the huge area of the theatre of war, in a disaffected if not hostile country, thousands of miles distant from us, the extreme weakness of the British garrison in South Africa at the time of the ultimatum, and the comparative absence of any adequate land transport when the reinforcements arrived there, compelling us to hug the railways—these were all strong points which were eminently favourable to the initial success of the Boer rebellion. No doubt political and military blunders may have been committed, and the difficulties and formidable nature of our undertaking in South Africa have evidently been underestimated, but we very much question whether the army of any other nation would not have passed through a very similar experience under the same circumstances or would have fared much better than we have done. It is certain that no other Power in the world could have successfully transported in a similar space of time and under similar conditions so well found and equipped a force as that which has been, and is still being, landed in South Africa. And after all, while giving every credit to the enterprise, tactical skill, and defensive ability displayed by the Boers, what have been the advantages that they have hitherto gained which are likely to affect the ultimate result? They have "hung up" and rendered ineffective for a time a large number of British troops and besieged, but not yet captured, certain garrisons with a result which is certainly anything but flattering to our arms in the meantime. The Boers have, nevertheless, failed in the great strategical object open to them—namely, to interpose a big force to the southward and take or threaten the port of Durban.

It is indubitably a very serious and formidable war. But the lesson to be read from the present situation has not been lost upon this nation. It has had the effect of welding together the separate units of the empire and all classes of society in a way that nothing else could have brought about. Henceforth the Boer entrenchments will no doubt be shelled by British artillery after a fashion to which they have not yet been subjected, while a large column of our army will in all probability soon be concentrated and organised for the invasion of the Free State and a march upon Bloemfontein or through the Transvaal to its capital—to say nothing of the constant harassing of the enemy's troops and lines of communication by the bodies of cavalry, mounted infantry, and field artillery which will soon be put into the field. Things will assume a very different aspect when we follow the same kind of tactics and fight with the same weapons as our foes. For this the so-called irregular forces are admirably adapted, and for fights in the open and on the plain there are no better troops in the world than our British infantry and field artillery. The fact is, that the judgment of the British public has been unduly influenced by the more speedy and decisive results of our campaigns elsewhere under altogether different conditions and where there had been time to make all our plans and perfect our arrangements beforehand. The Lord Mayor struck a happy and right note in his speech to the Volunteers at the Guildhall when he said: "It is a vexed question whether the first day of this January ushers in the new century, but it is beyond doubt that you to-day have inaugurated a new era in our national history;" and, again, when he added that we have been forced to the arbitrament of war and that we shall not sheath the sword until our supremacy in South Africa is established—a supremacy which will be universally welcomed as securing in that country the equality before the law of all nationalities, and in consequence real freedom in its fullest and only true sense. Despite the utterances of the foreign press we may be sure that the Continental governments take a more sober and correct view of the situation and are duly impressed with the attitude and the actual and potential capabilities of this country. We must apologise to our readers for having been led into saying so much, but we think that people in this country are not in a position to form anything like a fair or proper estimate of the reasons which have influenced the generals in the field, or as to what the present or future situation will be, although the nation may still have to exhibit some fortitude and "staying power" until it is reached.

The Government has made an addition to the civil staff of consulting surgeons for the field. As we announced last week the following surgeons have been appointed to proceed to South Africa:—Sir William Stokes, surgeon-in-ordinary to the Queen in Ireland, and surgeon to the Meath Hospital, Dublin; Mr. Watson Cheyne, surgeon to King's College Hospital, and professor of surgery in King's College, London; Mr. G. L. Cheatle, assistant surgeon to King's College Hospital, and teacher of practical surgery in King's College; and Mr. Kendal Franks, late senior surgeon to the Adelaide Hospital, Dublin, and surgeon-in-ordinary to the Lord Lieutenant of Ireland. Sir William Thomson, ex-President of the College of Surgeons in Ireland, is also proceeding to South Africa as the principal surgeon of a special hospital there; and Sir John Furley is likewise embarking for the theatre of war where his services and experience in connexion with ambulance work will be of much value.

We regret to notice that the deaths from enteric fever in Ladysmith are mounting up and that the outbreak of this fever in that garrison is apparently a somewhat severe one. Dysentery is likewise prevalent among the troops to some extent. We are extremely glad to learn on all sides that the wounded in South Africa generally are doing well; indeed, their progress is highly satisfactory. Many of the more slightly wounded will soon be fit to return to field duty. The climate is described as very favourable for their treatment, and it is needless to add that antiseptic surgery is universally adopted in the field and at the various war hospitals. Our casualties, as we have already said, have not so far been heavy when calculated on the whole force. We hear very little indeed, as might be expected, as to the number of sick and wounded among the Boers, and we understand that the Transvaal Government has only recently begun to publish any statistical and nominal returns of those who have died. What with the exposure in the field, the difficulties of food-supply, the prevalence of dysentery, and the amount of fighting which has taken place there must inevitably have been a large amount of inefficiency among them from various causes.

The number of sick and wounded in the various British hospitals will have severely taxed the organising and administrative capacities of the medical staff in South Africa, and when all the troops, transports, and supplies of all kinds arriving at the Cape are taken into account it may be readily imagined that the strain and labour entailed upon all are enormous. We notice that in speaking of the hospital accommodation at the Cape, the special correspondent of the *Times* recently alluded to the existence of complaints about the military hospital accommodation at Cape Town. While acknowledging the admirable skill and care of the medical officers, the correspondent considered that the hospital establishments had been calculated on too small a scale and that improvement in the organisation of the arrangements was required. This is not, we think, surprising under the circumstances. No one at the beginning of the war formed a correct, or even approximately correct, calculation of all that has since taken place. The existing buildings and hospital accommodation had to be made available, and it necessarily takes time under such conditions as prevailed at Cape Town to adjust matters to them and to the requirements of the occasion. British officers and soldiers generally have, as we know, very vigorous appetites when they are not really sick or when their wounds are relatively slight, and it is, per- haps, the simplest and most economical plan in the end to follow the practice adopted by the Americans in their war hospitals at the time of the rebellion and pro- vide the amplest food supplies for all suitable cases. The head of a big military hospital requires all the organis- ing and business qualifications which would fit him to undertake the management of a large hotel under the most trying circumstances. The wounded and sick from the Cape are arriving in this country and the preparations for sending out new divisions to the seat of war are proceeding apace. We publish this week some more [illegible] from Sir William MacCormac as well as contributions from our Special Correspondents.

(NOTES FROM SIR WILLIAM MACCORMAC.)

Sir William MacCormac has very kindly sent us the following additional notes, which, written as they were under circumstances of great difficulty, we are certain our readers will appreciate.

After seeing all that there was to be seen of medical interest at Cape Town and hearing that it was uncertain when active operations might take place in the Kimberley direction it appeared to me that I might usefully employ my time by going to Durban and inspecting the hospital arrangements on the line towards Ladysmith, and perhaps accompanying the force marching to its relief. In this proposal the principal medical officer cordially concurred, so I left Cape Town in the *Briton* and arrived in Durban, a distance of 1000 miles, on Tuesday afternoon, Nov. 28th. On disembarking I found that the base was established at Pietermaritzburg, some 70 miles in the interior, and there I decided to go on by the night train, arriving in Pietermaritzburg about 8 A.M.

The country, when it became light enough to see it, looked very fertile, beautiful, and very green. Pietermaritzburg, the seat of the Natal Government, is a very clean, wide-streeted, pretty town. The houses have for the most part gardens around them filled with ixias, lilies, roses, and many flowering shrubs, amongst them the beautiful hibiscus. Everything seems to flourish in luxuriance.

General Buller is staying with Sir Walter Hely-Hutchinson at Government House, where I had the pleasure of again meeting him. His preparations are being completed and he will probably advance early in the coming week on the road to Ladysmith. If the Boers dispute his passage, as they doubtless will, there must be heavy fighting and serious loss in crossing the Tugela river.

Dr. P. C. Sutherland, an old practitioner, now of some 30 to 40 years' residence in the colony, told me that soon after his arrival he was directed by the Government to make an inquiry into the diseases of the natives, who are chiefly Zulus, and that he found an entire absence of phthisis or any form of tuberculous disease, but that now these are very prevalent amongst them, which he attributes to inoculation by phthisical Europeans. The manner of getting about here is by ricksha, as in Japan and other places. The Zulus who draw these rickshas are men of splendid physique, and many are quite handsome. Yet they die young, many from pneumonia, others from heart disease. It is not a use to put a man to.

I send you a further brief account of some interesting and some remarkable cases in the hospitals here. On Dec. 3rd the thermometer stood at 98° F in a verandah in the shade, a very oppressive heat. I am almost immediately going on to Estcourt and Colenso, where fighting must shortly take place.

On the way from Cape Town to Durban the ship called for a few hours at Port Elizabeth and at East London, whence railways reach the border between Cape Colony and the Free State.

Port Elizabeth, Nov. [illegible].—I went ashore and visited the Drill Hall, which is equipped for a small base hospital. It is a lofty hall, 112 feet by 81 feet, and contains 50 beds, which might be increased to 70. There are three small isolation wards in the hospital which is in charge of two civilian surgeons. There are a few sick from the 1st Welsh Fusiliers who arrived by the *Kildonan Castle* the day before.

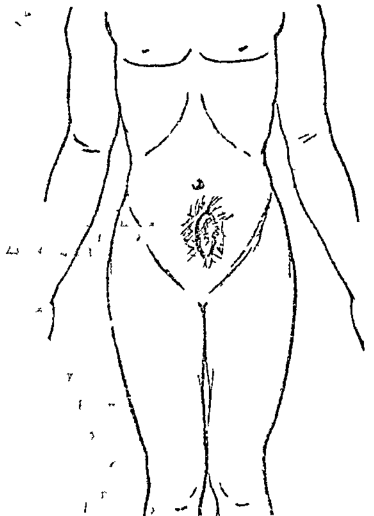
East London, Nov. [illegible].—I went ashore, being lowered into the tender in a basket, and returned the same day—a novel and rather disagreeable experience—and I inspected the hospital ship *Trojan* lying in the Buffalo River here. It contains 72 beds for serious cases besides accommodation for 70 convalescents and accommodation for 18 officers—one beautifully fitted ward with five cots, the rest being placed in state rooms, some with only one cot, but mostly with two. There is a general ward aft with 37 cots, hung fore and aft to swing. The majority of patients, however, prefer fixtures. There is ample lavatory and bath accommodation. There is a lift to convey the patients on their stretchers from the upper to the main deck and a very easy inclined plane with steps for invalids going up or down or for carrying stretchers easily. There is room for 50 convalescents on the troop deck and accommodation there also for the Royal Army Medical Corps men. The operating theatre is very conveniently arranged and is amply supplied with sterilising apparatus, instruments, and antiseptic material. A small ward adjacent serves for special operation cases. The smoking-room of the ship is converted into a day-room. There is a steam laundry, pharmacy, electric light throughout, and electric fans which have the effect of cooling the air—or, rather, of making it feel cooler. The ship is lighted throughout by electricity.

There are three surgeons—Major Hart in command, and two civilians—and there are three nursing sisters, who have excellent quarters reserved for their exclusive use, and 21 orderlies of the Royal Army Medical Corps. The "Hopper," with Jay's disinfectant, carries off all excreta. The whole ship is admirably fitted and arranged and its present purpose is to serve as a base hospital for General Gatacre's division. It looks most comfortable and even luxurious. A non-dieted hospital is being equipped ashore in the Drill Hall and as soon as it is ready Major Hart will send the present cases ashore. They number about 14, chiefly venereal and quite unsuitable for a hospital ship.

Durban, Nov. 28th.—Just as we arrived at 2 P.M. the *Spartan* hospital ship was moving out for Cape Town. I landed about 6 P.M., and finding that the base was at Pietermaritzburg I decided to go on by night train. Major McCormack made everything very easy for me, and I reached that place about 8 A.M. to-day. I found Colonel T. J. Gallwey, P.M.O., waiting for me at the station; he is brother of Colonel Gallwey of the Somersets. I visited with him in the afternoon the hospital in the Legislative Assembly building, fitted with 50 beds as a temporary hospital. The large meeting hall contains wounded and sick—both from dysentery and fever. In one case of gunshot the bullet entered on a level with the tubercle of the tibia, about an inch to the fibular side, and emerged through the middle of the fold of the corresponding buttock. The man was running at the time in a charge. In another case a bullet entered just above the left clavicle and passed out behind, about two and a half inches below the angle of the scapula or about the ninth rib, causing a furrowing wound in the soft parts. Empyema followed, and the man had rigors, but effective drainage was possible through the posterior wound, which was large, and the patient is now doing well. In a third case a curious flesh wound was caused by a bullet which passed transversely across, entered the anterior surface of the left shoulder, emerged below the centre of the clavicle, entered again beneath the right clavicle, and crossed the anterior portion of the right deltoid, to emerge in a position exactly similar to where it entered, causing four quite symmetrical wounds. There were no symptoms. The patient made a rapid convalescence. There were several wounded from the armoured train, chiefly by splinters of shell. One had received six such wounds in the lower extremities. There were also two severe scalp wounds. There are in all three wards: the large one already mentioned in the large meeting room of the Assembly and two smaller ones for officers. In these were four convalescent officers suffering from sickness. The staff consists of Major Browning, R.A.M.C., two civilian surgeons, and five nursing sisters from Johannesburg. At the present time there are 38 cases in this hospital.

I then went to visit the College Hospital in a large new school building. This contains four wards and supplementary stationary hospital in tents—marquees for eight beds and bell tents for three stretchers. This is an addition to the hospital proper, which has 70 beds. There are three surgeons—one of the Royal Army Medical Corps and two civilians, one being an old student of mine in Belfast from Johannesburg. There are also four nurses not belonging to the Army Reserve. The sick and wounded were chiefly from the Imperial Volunteer forces. One young fellow about 20, admitted on Nov. 24th, was shot in the thigh at Mooi River on Nov. 21st. The bullet entered near the middle of the fold of the buttock and emerged, after fracturing the femur, at a little below the centre of the inner aspect of the thigh over the course of the femoral artery. He was dragged along, he says, by two comrades for two miles before aid was reached. The foot is stated to have been very cold on arrival here, and it was more than doubtful if any pulse could be felt in the posterior tibial artery. When I saw it the foot was cold and discoloured—reddish brown; evidently gangrene had set in. The question was should amputation be performed, and where? On the 30th the discolouration was more pronounced. The temperature on the previous night was 102° F., on the morning of the 30th it was 99·6°. I advised amputation.

On the 30th I visited Grey's Civil Hospital. Dr J F. Allen, a practitioner of 30 years' standing at Pietermaritzburg, is in charge. There are 80 beds in two large wards and a dozen smaller wards containing two, four, and six patients each 100 patients were treated there after the fights at Dundee and Elandslaagte There are now many enteric cases Zulu natives and East Indians, who mutually despise each other and quarrel. There is a very good operating room. One very interesting case is that of a man of 24 years of age, wounded accidentally at the firing butts at 400 yards range with a Lee Metford bullet on Nov 1st The bullet entered behind passed through the right sacro iliac synchrondrosis, and emerged half way between the anterior superior spine and the ninth costal cartilage after traversing the cæcum The man was wounded at 11 A M and had to be carried back a distance of nine miles in an ambulance waggon At 7 P M Dr Allen made a vertical incision five inches long, the bullet aperture being in the centre, and traced its track until he came down upon the cæcum, in which he found two apertures OO close together, as if the ball had passed through a fold of bowel Some fæcal extravasation had taken place The wounds were invaginated and the bowel was closed over them with Lembert's suture and the posterior entering wound of the bowel was *similarly dealt with The abdomen* was flushed with boiled water, the wound closed, and drainage used All went well without any symptoms and the patient is up and convalescent Another case was that of a man wounded at Elandslaagte, presumably by a shell He has made a good recovery but there is now an opening communicating with the bladder about one and a half inches long and one inch wide (see illustration) All the urine escapes through this wound, which is surrounded with a cicatricial surface, and the floor is seen lined with the



red mucous membrane of the bladder The remarkable point is that the lower border of the present opening is one and a quarter inches above the symphysis pubis and it is difficult to see how the peritoneal cavity could have escaped. He has had however, no symptoms of any kind indicating that it was wounded The man could not remember whether his bladder was full or not at the time of the injury, which took place at Elandslaagte at the end of the fighting, by a bullet, as he believes, but this is not possible He lay on the field all the following night, but has made a good recovery and is now convalescent I should think that by freshening a wide surface all round the opening can be closed

I visited the Fort Hospital with the Principal Medical Officer (Colonel Gallwey, R A M C) in the afternoon

Dr. Maunsell of the School Hospital visited me this morning to consult about the poor fellow whom I have mentioned above The foot was already drying up and a line of demarcation was plainly marked Amputation was performed by *Dr Maunsell below the knee. It was the best and only chance* for him The patient was removed to this hospital as there were no operating conveniences at the College Hospital

Pietermaritzburg Nov 29th.

(FROM OUR WAR CORRESPONDENT)

I have just been over No 2 General Hospital at Wynberg It is composed of some 48 marquees besides officers' tents and other necessary erections Each of the afore named marquees accommodates six men—288 patients in all The site chosen for its location is just below and to the right of No 1 (*vide* large squares on the left hand of the plan in THE LANCET, Dec 16th, 1899 p 1690) Its water supply is simply a continuation of what I have previously drawn your readers' attention to and the arrangement for its drainage practically the same as adopted by its sister camp higher up the hill Colonel Duke is in chief command and to his zeal and activity the present perfect state of the camp owes its origin, Major Addison *being the secretary and registrar Major Lougheed has* charge of the Surgical and Major MacDonald of the Medical Division, assisted by Lieutenant Goldsmith and Lieutenant Newman—all officers of the Royal Army Medical Corps Besides these there are 12 civilian doctors with a nursing staff of eight sisters under the control of Miss Hardman The nursing staff appears somewhat inadequate to cope with the requirements of nursing so many wounded men who are there already—with many more to follow, but the difficulty will probably soon be bridged over by the arrival of nine more sisters who are coming out, and will reach the hospital in a day or so Colonel Duke, R A M C, having called my attention to the want of a large recreation marquee for the use of convalescents as well as to the desirability of having several verandah chairs some tobacco, cigarettes, matches books, fruit, eggs, and flowers for the use of patients I called on my return to Cape Town upon the editors of the leading local papers and by their generous assistance brought these wants prominently before the public, with the result that in a few days' time all these necessaries were forthcoming in profusion to brighten up the countenance of many a wounded soldier The latrines, two in number are placed one on each side of the camp They are elongated wooden walled metal roofed structures supplied with several galvanised receptacles on the dry earth system These buckets are emptied daily, all excreta being deodorised and disinfected A partition (wooden) divides these latrines longitudinally into two compartments One of these is used as a lavatory Down the centre of it runs a long narrow wash board covered with zinc, and just above this there are two rows of iron piping filled with several brass taps through which water is conveyed for washing purposes

The cook house deserves special notice It is a long roomy wooden and brick structure with a galvanised roof, conveniently located near to the men s sick wards In it there are two large cooking ranges and four independent boilers capable of turning out exceedingly well cooked food for about 400 persons Under a span roof at the back part of it there is a similar arrangement as before described in the latrines—with this exception, that in this well arranged scullery an ample and constant supply of hot and cold water being maintained by the double piping and taps enables the cleansing of plates and dishes to be carried out with scrupulous care and cleanliness

All dirty and used water, falling by natural gravity, is conducted by drains to soil pits some distance from the camp

At times the wind especially when its direction is S E, is both gusty and strong and the ordinary wooden tent peg proves unequal to the task of holding the marquee in position therefore long iron stays with square flat metal bottoms have to be requisitioned. These are to be cemented in brick work and will probably save the tents in the future

Each hospital marquee measures 14 feet by 20 feet inside and with its stays covers a space of from 30 to 50 feet, a clear approach of from 15 to 20 feet being preserved between each of them Standing regularly as they do in eight rows of six with their well defined approaches they present a very neat and most imposing appearance

As some operations had to be performed this afternoon I proceeded with Colonel Duke to the tent used for operating, a small marquee located just outside the wards. It is somewhat small for the requirements; but it is only a makeshift until a larger and more substantially built one can be erected. One must remember that under existing circumstances a great deal has had to be organised and carried out at short notice. The work that has already been got through and the state of preparedness shown so as to cope with any emergency reflects the very highest credit on all the officials concerned. There is no chaos here at any rate. In the centre of the tent is the operating couch, and on a side table placed in the corner all necessary sterilising, antiseptic, and other requisites are fully in evidence. Chloroform seems to be preferred to any other anæsthetic, but I noticed that ether was there should it be required.

By the kind permission of the chief and operating staff I was afforded the opportunity of seeing several operations performed during my stay, and the able and dexterous manner in which the various cases were operated upon, as well as the success which has followed the operations, speaks volumes—more than any words I could use—for the skill displayed by our military surgeons at the front.

The first case I saw brought to the operating table was that of a private soldier with a gunshot wound of the hand. The bullet, a Martini-Henry, had crushed the second finger of his right hand, the first phalanx being smashed to pieces. There was also so much destruction and sloughing of the soft parts that amputation at the metacarpal joint was performed. Chloroform was administered, the finger was neatly removed, the hand bandaged, and the patient put to bed in a few minutes.

The next case was also that of a gunshot wound. A soldier had been wounded by a Martini-Henry bullet in the leg. The bullet had entered about the centre, but rather to the right, of the tibia, and, taking a somewhat oblique course across its anterior part, bored through the muscles and made its exit at the back of the leg. A large abscess had formed along the track of it and was burrowing into the thick part of the calf. It was deemed advisable to thoroughly explore the condition of the parts and to let out pus if any should be found. The patient was soon under the influence of a moderate application of chloroform, and both the entrance and exit apertures being carefully enlarged a finger was passed down the abnormal canal at the point of entrance to feel a quantity of loose bone fragments lying some two inches from the surface. On the introduction of a pair of long-nosed forceps a piece of bone was easily extracted, smooth and quite denuded of periosteum. A reintroduction of the forceps brought away several more pieces of a lesser size with some blood-clots and pus. A long slender probe was then passed through the leg, followed by the insertion of a No. 1 drainage-tube. The track was syringed out with an antiseptic solution, bringing through the posterior opening a quantity of bone fragments and purulent matter. The drainage-tube was then securely fixed *in situ* with pins, the usual dressings and bandage applied, and the patient taken back to bed.

A third and very bad case was that of a compound comminuted fracture of a patient's left thigh-bone caused by an exploded shell, complicated by an attack of tetanus—happily the first that has so far occurred. A private was wounded some nine or 10 days since. On arrival at Wynberg No. 2 Hospital he was found to be in a most dangerous condition. An examination revealed the presence of a large, irregularly shaped wound on the upper and fore part of his left thigh; another similar wound could be seen on the upper and posterior part of the limb at the base of the buttock. From these wounds several large pieces of shell were extracted; but the state of the poor fellow's pulse and temperature did not warrant any more active measures being taken beyond giving him ease from pain and the application of antiseptic lotions and dressings. Yesterday, however, tetanic symptoms supervened and to-day (the 7th), in spite of the use of large and oft-repeated doses of chloral and anti-tetanic serum injections, the convulsive symptoms have not lessened, but are, if anything, increasing in frequency and force.

The patient was brought to the operating tent, chloroform was given, and he was soon under its influence, but the tetanic spasms, although lessened, were never brought completely under control. A careful examination of the parts was made to see if there was any chance of removing the limb at the hip-joint; only to discover the terrible nature of the wounds which he had received, and to prove conclusively that there was no chance of obtaining sufficient quantity of flesh in any direction to form a flap to cover the stump intended to be made. A long probe detected a large cavity running nearly back to the anus. It was wisely decided not to operate, but to return the sufferer back to his bed. His temperature stood at 99·5° F., whilst his pulse was 79. I can only say as far as my observation went, that the patient received every possible care from Civil Surgeon Suffield who has ward charge of the patient and every attention from the senior officers who have consulted on the case. It was found desirable to isolate him from any other surgical cases in order to avoid risk of infection.

A most remarkable case is that of a private of the Northumberland Fusiliers. He also was wounded about 10 or 11 days ago. The Mauser bullet entered his left temporal region, must have gone close to, or even through, a portion of his brain, and coursing diagonally across the back of the orbit made its exit in the centre of the right malar bone of that cheek. With the exception of some sanguineous effusion into the corner of his left eye there is nothing to indicate that the patient has received an injury of any kind whatever. He eats, drinks, sleeps, and sees well. He is a fine specimen of the genus "Tommy" and was quite humorous in describing the manner in which he received his injury.

Another case was pointed out to me by Colonel Duke in which a Mauser bullet had struck the man in the centre of his throat (pomum Adami), evidently coursed round the patient's neck (the discoloration of the integuments confirming this) on the right side, and passed out just at the centre of the back of his neck.

There have been already 185 cases admitted into this newly formed hospital. One patient died on Dec. 3rd just as he arrived from fractured skull. Another patient succumbed on the 6th from a gunshot-wound, the bullet perforating the colon. Six are suffering from dysentery, six from debility, and two have rheumatism. I am informed upon very good authority that our red Marine force fared rather badly in the last fight. No less than 50 per cent. of the force employed have been killed or wounded. The wounded are being treated at Simon's Bay Hospital.

News has just arrived of the unfortunate affair at Molteno, on the southern borders of the Free State, and that General Gatacre has been forced to perform a retrograde movement. That a considerable addition to our wounded may be expected is proved by the hurrying up of our hospital trains to the north, and as I am going up to the front in the first one starting I must ask you not to be disappointed if you do not receive a letter from me by next week's mail.

Wynberg, Dec. 7th.

(FROM OUR SPECIAL CORRESPONDENT AT THE BASE.)

I have absolutely nothing to tell you this week; there have been no fresh engagements this side, and all our patients are doing well. We are clearing the hospitals as fast as we can in order to be ready for the wounded coming down from the engagements that may take place at any time before Kimberley. It has been raining here for the last 24 hours, and of course this has not added to the comfort of patients in tents. No. 3 General Hospital is open at Rondebosch and will take its share of work. A portion of No. 4 arrived yesterday but we do not know where it is going. Our anxiety is to know where the medical officers for the Fifth and Sixth Divisions are coming from, as at present there are 240 odd men of the Royal Army Medical Corps out here and there cannot be many more available. The bearer company in the transport *Ismore* lost all their gear and equipment and had a very bad time, but luckily no loss of life took place. Mr. Treves is up at East London, and Sir W. MacCormac is still at Durban, but is expected back. Mr. Makins is at Modder River.

Since writing the above the disastrous engagement at Stormberg and the big fight at Spytfontein have taken place and we are expecting a very heavy contingent of wounded in a few days from both sides of the colony, but with three general hospitals available there will be ample accommodation.

Dec. 15th.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6784 births and 6016 deaths were registered during the week ending Dec. 23rd. The annual rate of mortality in these towns, which had increased from 18 9 to 22 0 per 1000 in the three preceding weeks, further rose to 27 5 during the week under notice. In London the rate was 29 9 per 1000, while it averaged 25 9 in the 32 provincial towns. The lowest death-rates in these towns were 17 6 in Huddersfield, 18 9 in Leeds, 19 4 in Burnley and 19 7 in Blackburn; the highest rates were 36 4 in Preston, 36 7 in Swansea, 38 9 in Plymouth, and 42 4 in Portsmouth. The 6016 deaths in these towns included 578 which were referred to the principal zymotic diseases, against numbers increasing from 422 to 501 in the five preceding weeks; of these 168 resulted from measles, 122 from diphtheria, 111 from whooping-cough, 80 from "fever" (principally enteric), 45 from diarrhœa, 44 from scarlet fever, and eight from small-pox. The lowest death-rates from these diseases were recorded in Croydon, Plymouth, Wolverhampton, Derby, and Huddersfield; and the highest rates in Salford, Blackburn, Sheffield, and Hull. The greatest mortality from measles occurred in Birkenhead, Salford, Preston, Sheffield, and Hull; from whooping-cough in Leicester, Liverpool, Bolton, and Salford; from "fever" in Portsmouth, Nottingham, and Preston; and from diarrhœa in Burnley. The mortality from scarlet fever showed no marked excess in any of the large towns. The 122 deaths from diphtheria included 54 in London, 15 in Sheffield, eight in Leeds, five in West Ham, and five in Portsmouth Eight fatal cases of small-pox were registered in the week ending Dec. 23rd in Hull, but not one in any other of the 33 large towns; five small-pox patients were under treatment in the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday, Dec. 23rd, was 2916 against numbers decreasing from 3578 to 3084 at the end of the five preceding weeks; 209 new cases were admitted during the week, against 294, 277, and 180 in the three preceding weeks. Influenza was certified as the primary cause of 69 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had increased from 324 to 646 in the five preceding weeks, further rose to 968 during the week under notice, and were 506 above the corrected average. The causes of 93, or 1·5 per cent, of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bradford, Leeds, and in 10 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Blackburn, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20 0 and 21·5 per 1000 in the two preceding weeks, further rose to 22 6 during the week ending Dec. 23rd, but was 4 9 per 1000 below the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 17 9 in Aberdeen and 19·5 in Edinburgh and in Leith, to 24 8 in Greenock and 33 8 in Perth. The 690 deaths in these towns included 37 which were referred to measles, 14 to diarrhœa, 12 to whooping-cough, 10 to "fever," eight to scarlet fever, and three to diphtheria. In all 84 deaths resulted from these principal zymotic diseases, against 69 and 81 in the two preceding weeks. These 84 deaths were equal to an annual rate of 2 8 per 1000, which was 0 2 above the mean rate in the previous week from the same diseases in the 33 large English towns. The fatal cases of measles, which had been 28 and 31 in the two preceding weeks, further rose to 37 during the week under notice, and included 20 in Glasgow, eight in Greenock, and five in Dundee. The deaths from diarrhœa, which had been 20 and 17 in the two preceding weeks, further declined during the week ending Dec. 23rd to 14, of which five occurred in Glasgow and three in Paisley. The fatal cases of whooping-cough showed a marked decline from the number in the preceding week and included five in Glasgow and three in Paisley. The deaths referred to different forms of "fever," which had been eight and six in the two preceding weeks, rose again during the week under notice to 10, of which five occurred in Glasgow. Of the eight fatal cases of scarlet fever five were recorded in Glasgow, where two of the three deaths from diphtheria were also registered. The 183 deaths referred to diseases of the respiratory organs in these towns slightly exceeded the number in the preceding week, and were 64 above the number in the corresponding period of last year. The causes of 37, or more than 5 per cent., of deaths in these eight towns during the week ending Dec 23rd were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 38 6, 38 5, and 38 2 per 1000 in the three preceding weeks, further rose to 42 5 during the week ending Dec. 23rd. During the past four weeks the death-rate in the city has averaged 39 5 per 1000, the rate during the same period being 23 9 in London and 18 3 in Edinburgh. The 285 deaths registered in Dublin during the week under notice were 29 in excess of the number in the preceding week, and included 38 which were referred to the principal zymotic diseases, against numbers decreasing from 72 to 34 in the five preceding weeks; of these, 24 resulted from measles, five from diarrhœa, three from diphtheria, three from "fever," two from whooping cough, and one from scarlet fever. These 38 deaths were equal to an annual rate of 5 7 per 1000, the zymotic death-rate during the same period being 2 3 in London and 1 0 in Edinburgh. The fatal cases of measles, which had been 30 and 23 in the two preceding weeks, rose again in the week ending Dec. 23rd to 24. The deaths from diarrhœa, which had been four and three in the two preceding weeks, rose again to five during the week under notice. The mortality both from diphtheria and from "fever" was slightly in excess over that in the preceding week. The two deaths from whooping-cough showed a decline from recent weekly numbers. The 285 deaths in Dublin during the week ending Dec. 23rd included 38 of infants under one year of age and 75 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons exceeded the numbers recorded in the preceding week. Three inquest cases and seven deaths from violence were registered, and 97, or more than a third, of the deaths occurred in public institutions. The causes of 21, or more than 7 per cent., of the deaths in the city were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons: O. B. Fairbank to the *Speedy*, when commissioned, and R. St. G. S. Bond to the *Pembroke*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel L. A. Irving, A M.S., is appointed Recruiting Medical Officer in the London Recruiting District, vice Lieutenant-Colonel W. Johnston, appointed for temporary duty at headquarters. Major Stuart assumes charge of the Station Hospital, Ahmedabad. Captain E. W. Cochrane is attached to the Station Hospital, Poona, for duty until further orders Major J. F Burke has arrived at York for duty. Major F. J. Morgan is appointed to the 7th Division, and Captain E. O. Anderson to the medical charge of the 1st Battalion the West Riding Regiment, for South Africa. Major F. J. Morgan has left for South Africa. Major Franklin, Major Cummins, Lieutenant Stafford, Lieutenant Davis, and Civil Surgeon Collum, have left in the *Goorkha* for South Africa.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of the undermentioned officers are placed temporarily at the disposal of the Governments named:—Bombay: Captain D. C. Johnston and Captain F. A. Smith. Bengal: Captain W. D. Hayward and Captain A. W. R. Cochrane. Madras: Captain T. H. Foulkes and Captain C B Harrison Major J. T. W. Leslie (Bengal), Secretary to the Director-General Indian Medical Service, and Sanitary Commissioner with the Government of India, is granted furlough out of India for two years.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant D L. Hamilton resigns his commission. Surgeon-Lieutenant Colonel Francis James Pearse, 1st Middlesex Rifle Volunteer Corps, to be Surgeon-Lieutenant-Colonel. Surgeon-Captain R. B. Graham to be Surgeon-Major. Surgeon-Lieutenant Evan Evans, 1st Volunteer Battalion, the Welsh Regiment, to be Surgeon-Captain. Surgeon-Lieutenant William Owen Evans, 2nd Volunteer Battalion the Royal Welsh Fusiliers, to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Artillery: 1st Devonshire (Western Division, Royal Garrison Artillery): Surgeon-Lieutenant G. P. Barton to be Surgeon-Captain. 1st Sussex (Eastern Division, Royal Garrison Artillery): Surgeon-Lieutenant E. T. Cox to be Surgeon-Captain. *Rifle:* 3rd Volunteer Battalion the Prince Albert's (Somersetshire Light Infantry): Surgeon-Lieutenant-Colonel W. H. G. Phelps to retire, with permission to retain his rank and to wear the uniform of the battalion on his retirement. 2nd Volunteer Battalion the Royal Sussex Regiment: Philip John Le Rich to be Surgeon-Lieutenant. 1st (Pembrokeshire) Volunteer Battalion the Welsh Regiment: Surgeon-Lieutenant E. Evans to be Surgeon-Captain. 3rd Volunteer Battalion the Essex Regiment: Hugh Neville Adam Taylor to be Surgeon-Lieutenant. 1st Volunteer Battalion the Royal North Lancashire Regiment: James Lea to be Surgeon-Lieutenant. 4th Volunteer Battalion the Manchester Regiment: Surgeon-Lieutenant D. L. Hamilton resigns his commission. 7th (Clackmannan and Kinross) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Major J. H. Hay to be Surgeon-Colonel.

VOLUNTEER MEDICAL STAFF CORPS.

The London Companies: Surgeon-Lieutenant W. E. Miles to be Surgeon-Captain.

ARMY MEDICAL SCHOOL, NETLEY.

In consequence of the war in South Africa the following gentlemen, who were nominated by the Secretary of State for War as Surgeons-on-Probation in the Army Medical School, Netley, for the Royal Army Medical Corps, having passed an examination in the subjects taught in the Netley school, have been commissioned as Lieutenants in the Royal Army Medical Corps:—

A. H. Safford.
A. F. Carlyon.
C. R. Evans.
C. S. Cato.
J. A. Hartigan.
H. C. R. Hine.
J. F. Martin.
J. M. Buist.
G. H. Merry.
W. C. Croly.
E. McDonnell.
A. MacLoughlin.
A. J. M. Cuddon-Fletcher.
R. L. Davies.
C. S. Smith.
C. C. Cumming.

MENTIONED IN DESPATCHES.

In a despatch to the Secretary of State for the Colonies signed by Colonel F. D. Lugard, C.B., D.S.O., relative to the West Africa Field Force operations, the following paragraph occurs:—"I noticed that the published list of rewards contained no recognition of the excellent services of the Medical Department, of whose work I spoke in my despatch in the strongest terms at my command. I venture to bring to special notice the name of Dr. W. Poole, Principal Medical Officer of the Force, whose previous record of service in Nyassaland under the Foreign Office constitutes an additional claim upon Government."

In a despatch from Colonel Ternan, D.S.O., to the Secretary of State for Foreign Affairs the name of Captain Haig, I.M.S., is mentioned with reference to services in the operations against Kabarega, late King of Unyoro.

TRANSVAAL WAR NOTES.

The entire medical equipment of the City of London Imperial Volunteers throughout the present war in South Africa is being supplied as a gift to the nation by Messrs. Burroughs, Wellcome, and Co.

Following the practical sympathy shown by the medical men at Newport in placing their services at the disposal of reservists' and militiamen's families, the governors of the Newport and Monmouthshire Hospital have resolved to honour all prescriptions granted by the medical practitioners who are attending the families at their homes.

Sir William Thomson, ex-President of the Royal College of Surgeons in Ireland, has been appointed chief surgeon to a special Irish base hospital which is being equipped by Lord Iveagh. Sir William Thomson will be assisted by four surgeons and the hospital will be stationed on the lines of communication at the places where it may be most urgently required on its arrival in South Africa.

A telegram from the *Times* correspondent at Marques, dated Jan. 2nd, states that "Major Daly's ambulance corps ...... left Dundee for Pretoria on Sunday with 29 wounded. The Boers gave the doctor to understand that he would be allowed to attend the wounded at Pretoria, but he was not even permitted to take them off the train and see them lodged in the hospital, although several cases were critical. ... The Boer authorities at Dundee behaved shockingly towards the British ambulance, notwithstanding the kindness shown to the burgher wounded. For 11 days the doctor and his men were kept strict prisoners in a compound. During Christmas there was a terrible amount of drunkenness and rowdiness in the town, the Boers going about with loaded Mausers. One twice pointed his rifle at the doctor."

We understand that Dr. Conan Doyle will shortly leave for South Africa in connexion with a stationary hospital.

We understand that the War Office is endeavouring to ascertain how many beds each of the large hospitals in this country will be able to place at its disposal in case of need.

Major Burtchaell, R.A M.C., who was made prisoner by the Boers at Magersfontein, has, we understand, been released.

DEATHS IN THE SERVICES.

The *Times* announces the death of Surgeon-Major Alexander Gibb Grant, Bengal Army, Hon. Surgeon to the Queen, retired, on Jan. 3rd, at his residence in Connaught-square, Hyde-park.

In future an officer serving in India who has received in action a bodily injury certified by the regulated medical authority to be very severe, though not equivalent to the loss of a limb, will be allowed a gratuity of from three to 12 months' full pay of the appointment held by him at the time of the injury.

Correspondence.

"Audi alteram partem."

AN APPEAL TO THE YOUNGER MEMBERS OF THE MEDICAL PROFESSION.

To the Editors of THE LANCET.

SIRS,—In the crisis through which our Empire is passing the importance of the Militia, Yeomanry, and Volunteer forces as a support to the army is fully evinced. And as it is impossible to forecast the further demands which may have to be made upon them in the near or distant future it behoves us to strengthen them to the utmost of our power.

Many members and students of our profession are already enrolled in them and are answering the call now made upon them with patriotic promptitude. We venture to take the opportunity suggested by the beginning of a New Year of appealing to such of the younger members and of the students of the medical and dental professions as are still unattached, yet capable of bearing arms or in other ways of helping in Imperial defence, at once to consider the advisability of joining some branch of the service.

FREDERICK T. ROBERTS, M.D., F.R.C.P. Lond.,
Physician to University College Hospital;
EDMUND OWEN, M.B. Lond., F.R.C.S. Eng.,
Surgeon to St. Mary's Hospital;
WILLIAM COLLINGRIDGE, M.A., M.D. Cantab.,
Surgeon-Lieutenant-Colonel Militia Medical Staff; late commanding Militia Medical Staff;
WILLIAM DUNCAN, M.D. Brux., F.R.C.S. Eng.,
Captain Middlesex Yeomanry Cavalry;
J. EDWARD SQUIRE, M.D., M.R.C.P. Lond.,
M.R.C.S. Eng.,
Surgeon-Lieutenant-Colonel Commanding Volunteer Medical Staff Corps (London Companies).

London, Jan. 1st, 1900.

"DENTAL APPOINTMENTS AT GENERAL HOSPITALS."

To the Editors of THE LANCET.

SIRS,—As you have kindly opened your pages to a correspondence on the qualifications of dental surgeons to general hospitals, I hope that the question may not be complicated by considering the case of hospitals having dental schools attached to them or the qualifications required by teachers in purely dental hospitals. The point for the medical profession to consider is the advantage accruing to the general students or to the general practitioners who may require dental instruction during their hospital studies or after they have secured their diplomas. Unless the character of medical students has greatly changed I do not think that they are likely to seek or to receive information very graciously from gentlemen, however competent, who from their (the students') point of view occupy a professional position so different from their own. Again, a dentist who has taken the additional qualifications is able to take a surgical or medical as well as a purely dental view of the subject either in lecturing or in operating. That the general student requires special instruction in matters dental is often painfully obvious to all educated dentists who have to meet general practitioners professionally and it is not always easy to do what is right for the patient and at the same time cover the position assumed by the medical adviser. For these and many other reasons I think it very desirable that the dental surgeon to a hospital to which a medical school is attached ought to carry both the diplomas of the dental surgeon and of the general practitioner. I also believe the idea that all dental surgeons will one day have the double qualification to be Utopian, and if realised would be injurious to the best interests of the general public so far as dentistry is concerned.

I am, Sirs, yours faithfully,

George street, Hanover square, W. JAS. SMITH TURNER.

To the Editors of THE LANCET.

SIRS,—May I be allowed to supplement your very excellent annotation in THE LANCET of Dec. 23rd, 1899, upon this subject?

For many years *all* the London hospitals having medical schools attached required that their dental surgeons should in addition to the licence in dental surgery possess a surgical qualification. Several years ago two of them decided to abolish this rule and required only the L.D.S. diploma for their dental surgeoncy. The authorities of one hospital at the same time relegated their dental surgeon to a similar position to the dispensers of the hospital—that is to say, they were no longer to be treated as members of the staff, they were deprived of their seat on the medical committee, they had no voice in the management of the hospital or school, they had no share in the profits of the school, nor were they constituted paid officials, the sole recompense for their rather laborious services being that their names appeared as members of the staff. I believe I am right in saying they were the only truly honorary members of the staff. If the L.D.S. only was to qualify them for the position why were they to be subjected to the indignity of being placed in an inferior position to any other member of the staff? The charity in question appears to convict itself of inconsistency.

I venture to protest against this invidious distinction and to urge the authorities to go back to the old regulations and restore to their dental surgeon the privileges of which he has been deprived and to require such qualifications as may ensure his receiving the same courtesy from the staff, the students, and the committee of management as is accorded to those in charge of every other special department of a hospital; but this cannot be so if the L.D.S. only is to be a sufficient qualification for the appointment, because the curriculum for that diploma is fragmentary in medicine and surgery and the examination in those subjects and in anatomy, physiology, pathology, therapeutics, &c., is not adequate to place the holder of that diploma on an equal position with the other members of the staff. The dentist should rank equally with other members of the staff, and therefore his name should be found upon both the Dental and Medical Registers which is a guarantee that he possesses the knowledge and has had the education to efficiently equip him to teach medical students. That a dentist's opinions and vote are of value and often of importance is instanced in the discussions at the General Medical Council, where Mr. Tomes, a dental representative, has, in addition to the services rendered on dental matters, also taken a very active, honourable, and important part in questions relating to medical and surgical matters that have been under consideration.

I am, Sirs, your obedient servant,

MORTON SMALE.

The Dental Hospital of London, Jan. 1st, 1900.

"THE CONFERENCE AT NEWCASTLE AND THE MIDWIFERY QUESTION."

To the Editors of THE LANCET.

SIRS,—IN your issue of Dec. 23rd, "A Physician" has boldly elected to wrestle with the vexed midwifery question, though, in truth, he has not been brave enough to sign his name. He has gripped the subject by the throat in a very *determined* manner with all the force of first, second, and third seizures.

I have looked through his letter carefully and slowly, and after running my pen through lines that everyone is familiar with, and cancelling others that are scarcely germane, I find myself left with the following sentences: "All are agreed, Parliament and profession, that there is somewhat requiring remedy. That is where we are now. A remedy is to be devised. More, a remedy is going to be devised and enforced. Those who object to all and every remedy misconceive the position. It is no longer a question of what does the profession want or not want, it is which way is the inevitable remedy to be devised and applied? The Houses of Parliament know that well enough. The General Medical Council knows it well enough. Mr. Victor Horsley, as plainly appears by his speech on the subject at Newcastle, knows it well enough. The strange thing is that a considerable section of the profession does not seem to know it," and *so on*.

Now, these very sentences show, following as they do a reiterated preamble, that the writer of them is just about as helpless in the face of the midwives question as an average country parson is over incense. The mere shrieking "We must do something" in the centre of a grass-grown arena amounts to energetically doing nothing, after all, beyond clearly proclaiming helplessness. Therefore I deem three-fourths of the effort which he has made in his letter to be absolutely useless. I should have been better pleased to see him turn up his sleeves for real battle in the first half-dozen lines I should have liked to see him draw blood somewhere in the first half column by the home thrust of some convincing and clean-cut argument. No; the letter of "A Physician" will not tend in any way to help us in our troubles. I cannot avoid the suggestion of dual object which it gives me when I look again over the lines of it. I ask myself: Why has this letter been written? Has it a policy? Is its purport quite clear on the face of it? Is it signed by the medico's name? Still, in all charity, I go on searching and at last I find something—a remedy, "just as was done in the plumber's case." Your correspondent advocates registration of midwives and nothing more, and he points out a few advantages which would follow.

Now, who is there to find fault with registration? No one in their right senses. Registration is good; I myself strongly advocate it, but registration of what? I repeat the gist of my advocation as set forth and published in 1897 in "Economics, &c., in the Practice of Midwifery"—that midwives as formerly and at present understood should be abolished. Even the name should go. I would have in their place a new body of registered obstetric nurses, properly trained, whose powers and procedures should be strictly limited and who should be supervised at some stage in every case of confinement, no matter where occurring, by a qualified medical attendant who should see each case at least once during or after delivery. What time a nurse should send for a medical attendant should be left to her instructed and schooled judgment. She may deem it wise to send during labour; and she would always be likely to send soon enough, knowing that she was bound to send sooner or later. Thus no case of labour should escape at least a single inspection of a qualified medical attendant—even those living in remote districts, whose lives are as precious as any others Hence would follow order, discipline, and right practice.

I could not in the space of a letter deal with the innumerable points concerning practicability which a whole scheme involves, but I am prepared to tease out any knotty point or to suggest plans to meet whatever difficult situation should appear to correspondents in THE LANCET who should desire to find fault with my principles as I enunciate them. I would only ask for short and clear objections or arguments or criticisms and I will promise to deal with them as shortly, for the whole subject is a large one.

I am, Sirs, yours faithfully,

HAYDN BROWN.

London, Dec. 31st, 1899.

of saturation, and the report therefore states that the rules so determined should not be superseded by the necessarily limited experience of any local authorities.

There appears to have been no evidence of earthquake as at first reported. Local tremors, however, may have been felt as the result of the heavy landslips. The excessive fall of rain at the final stage of a severe cyclone and at the end of the rainy season is sufficient to account also for the simultaneous occurrence of the large number of landslips in and near Darjeeling. The other contributory causes are reported to be "defective site drainage, excessive lead of road drains, imperfectly or badly constructed revetments, neglect to reduce or protect steep slopes, and undercutting steep slopes for the formation of paths, roads, and outhouses." The committee recommend the following measures to be taken to minimise the chances of future damage. Better drainage, especially of roads along slopes, a special preparation of sites for dwellings, treatment of ravines and springs, reduction of slopes above and below house sites to an inclination not exceeding 37 degrees, the planting of trees, and the improvement of revetments. In addition the committee recommend certain prohibitions concerning quarrying, cutting paths, roads, and sites for buildings, and other works. The importance of Darjeeling as a hill station for Calcutta has demanded this searching inquiry, and it is estimated that at least one and a half lakhs of rupees will be required to repair damages and to carry out the necessary protective works.

While the plague has been abating during the past few weeks larger and larger areas have been suffering from famine. In Bombay city the mortality from plague has only slightly risen, but the general mortality has gone up with great rapidity and this increase forebodes ill. In Calcutta also the general mortality is decidedly above the average and there were more deaths returned from plague.

The futility of laymen reporting upon medical matters has been pointed out over and over again, and the following extract from a recent circular sent to civil surgeons and others under Government authority is noticeable. The author writes on the "Rôle of Rats" in plague, and says, "It is by feeding on the residual matter in the excrement of plague-infected persons that rats acquire the disease; they then transmit it to one another. From rats it is conveyed to human beings by articles of food such as ghee, oil, sugar, milk, butter, &c. Plague is transmissible through the air or by personal contact." It is said that this document is being circulated by the Government to all civil surgeons "for information." I trust that this is a mistake and that it is only confined to the Hyderabad State, from which it appears to emanate. I should also like to express a hope that the Sanitary Commissioner has not sanctioned its circulation.

Dec. 14th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Royal Infirmary and Sick and Wounded Soldiers: A Patriotic Offer.

THE committee of the Royal Infirmary are desirous of assisting the War Office authorities in the pressure of hospital accommodation experienced during the present crisis. They have offered to place 12 or more beds at the disposal of that department for sick and wounded soldiers invalided from South Africa who may belong to the Liverpool district. The example which has been set by Liverpool's premier charity has, I understand, already borne fruit, one or more of the other local general hospitals having decided to assist the Government in a similar manner.

Proposed Legislation by the City Council for the Prevention of Tuberculosis from the Milk-supply.

The City Council are promoting an Act in the next session of Parliament by which powers are sought for dealing with the milk-supply in Liverpool with reference to the suspected presence of tuberculosis. If on analysing a sample of milk taken from any city shippon the tubercle bacillus is discovered, the medical officer of health is to be empowered to have the cows milked under inspection and to have separate samples analysed. On the detection of the consumptive cows the owner is required under penalty by the Act to isolate them, and is prohibited under a penalty not exceeding £10 from selling any milk taken from such cows. With reference to the milk coming from country dairies, if the tubercle bacillus is detected in milk sampled at a railway-station or from a cart in the street, or at a milk-dealer's, the medical officer of health, on discovering the dairy from which this milk has been sent out, may apply to, and obtain an order from, a justice of the peace in the district where the dairy is situated and under such order may have the cows milked under inspection. If any cows are found to be infected the medical officer may obtain an order from a city justice prohibiting the sale within the city of milk coming from that dairy until such time as he is satisfied that the danger of infection has passed away. The penalty for an infringement of the Act is £10. On production of satisfactory proof that his cattle are free from tuberculous disease the cowkeeper or farmer may himself apply to have the order rescinded. Another clause in the Act imposes a fine not exceeding 40*s*. on cowkeepers within the city for failing to notify cases of tuberculosis. It will be impossible to enforce this clause in the Act unless it can be proved that the owner of the cow or cows was aware of the presence of tuberculosis in the animal. In its early stage, when no external symptoms present themselves, the owner has no means of detecting its presence.

The Rating of Liverpool Charities.

The Finance Committee of the City Council have decided to inform the managers of the various hospitals and charitable institutions in the city that they are unable to exempt hospitals from the payment of rates. They are, however, prepared to receive the rates on whatever assessment may be placed on the properties by the Poor-law authorities. The hospitals have hitherto been assessed by the magistrates at *nil*.

The late Dr. Robert Robertson.

It was with sincere regret that the medical profession of Liverpool received the intelligence of the death of Dr. Robert Robertson on Dec. 22nd, 1899, after a very short illness. Dr. Robertson graduated as M.D. in the University of Edinburgh in 1863. In 1865 he was appointed a resident medical officer at the Liverpool Workhouse, to which he was subsequently appointed physician upon the retirement, in 1891, of the late Dr. Robert Gee. He was also physician to the Netherfield-road Fever Hospital and to the Liverpool Consumption Hospital, in all of which posts his services were held in the highest esteem. Sympathetic allusions to the late Dr. Robertson were made by Mr. William Rathbone and others at the recent meeting of the Select Vestry, by whom his services were highly valued.

Liverpool Workhouse Hospital.

For the post of physician to the workhouse hospital rendered vacant by the death of Dr. Robert Robertson some excellent candidates are in the field. Besides being a lucrative appointment, the post is a very valuable one from a clinical point of view. The opportunities which it affords for research work are exceptionally great owing to the large number of cases admitted to the wards. There is a strong feeling in the profession that the appointment should be given to the fittest candidate, in fact to one who could make use of the extensive field for work available at the hospital It would be a great misfortune if creed or political influences should debar a first-class candidate from obtaining the desirable post.

Jan. 2nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Royal Infirmary: Annual Report.

THE annual report of the managers of the Edinburgh Royal Infirmary to the committee of contributors states that 9694 patients were treated in the wards during the year—an increase of 260 on the number in the previous year. In the out-patient department 29,439 patients had been treated, this being an increase of 610 as compared with last year. The ordinary receipts, which amounted to £30,739 10*s*. 7*d*., showed an increase of £355 10*s*. 11*d*. over the returns for the previous year. In voluntary contributions there was an increase of £510 1*s*. 9*d*. The ordinary expenditure amounted to £43,882 3*s*. 11*d*., being a

Table showing the Number of Students from various Medical Schools who have obtained the Degrees of M B B Ch, and B A O (equivalent to the M D of the Queen's) in the years 1889, 1894 and 1899

[illegible]	1889	1894	1899	Total for three years
Queen's College, Belfast	32	21	27	80
Queen's College Cork	15	8	11	34
Queen's College, Galway	2	—	1	3
Catholic University Medical School	6	5	10	21
School of Physic Trinity College	5	1	—	6
Royal College of Surgeons in Ireland	—	1	—	1
London School of Medicine for Women	—	1	—	1
Durham University	—	1	—	1
Mixed returns	10	—	2	12
	70	32	51	159

These statistics show that all the Queen's Colleges have been impaired in their usefulness by the establishment of the Royal University of Ireland The arts faculty in Cork has been ruined and in Galway it has diminished one half, and the medical faculty in Cork is about half what it was while in Galway it is destroyed Further, these figures, Dr McKeown contends, show that both in arts and medicine the Catholic University College, Dublin, and Catholic University Medical School, notwithstanding their predominant position and influence, have failed to show the return of graduates which surely was expected by the Government in establishing the Royal University of Ireland In fact, from that point of view, the Royal University of Ireland has been a failure But, further, these figures demonstrate that in the arts faculty the great majority of students graduating in the Royal University of Ireland have studied in colleges or schools not associated with the university, or have studied privately, for in the three years tabulated no less than 252 out of a total of 420 who took the degree of B A did not study in any of the colleges associated with the university Many of these colleges and schools have been brought into existence or have been given a great impetus by the Royal University of Ireland, and some have come out most creditably both in the honour and pass lists Queen's College Belfast, has suffered in both the arts and medical faculty by the establishment of the Royal University of Ireland The injury to the arts school is not due, as it is in the medical faculty, to the constitution of the board of examiners and the unfair influence (in the relative number of examiners) of one Dublin school, but mainly owing to the opening of the arts degree to all comers without obligatory attendance on lectures The students graduating in arts from "private study" and from "other colleges and schools" in the Royal University of Ireland are one and a half times as numerous as those from all the privileged colleges put together The Queen's Colleges founded by the Government have been starved by the Government The chairs are not properly endowed, and no provision is made for assistant professors or for tutors The very fact that the colleges are Government institutions and controlled far too much in the past by subordinates in Dublin who delight in religious and political intrigue, have prevented the people in their vicinity endowing them as they would, had they been in the position of the University of Edinburgh or the University of Glasgow Dr McKeown suggests another in addition to the many plans previously put forward to settle this most difficult question His method may be styled, "Local Government of the Queen's Colleges" He advises that the governing bodies of the Queen's Colleges should be made as far as possible representative, and that they should be properly endowed, cut off from Government interference in their management and made local The North of Ireland would have a board to please itself, the West and South the same In this way the people of the districts in which the colleges are located would take a real interest in them The governing board might contain representatives of the teachers and of the graduates, official representatives of some public bodies and eminent persons in thorough sympathy with the colleges Were the colleges in the position in which they ought to be—local, democratic, and endowed, Dr McKeown thinks that then a re-organisation of the Royal University of Ireland after the manner of the University of London, might be seriously entertained. Whether Dr. McKeown's plan will "catch on" or not, one thing is clear to everyone, that nothing could be more unsatisfactory than the present condition of college and university education in Ireland The man who would solve such a question would indeed confer a lasting benefit on Ireland and be a true patriot.

Influenza [illegible]

For the past few weeks cases of mild influenza have occurred in Belfast, but since Christmas it has assumed a widespread epidemic form and the type of the disease is distinctly worse than in the influenza which prevailed last year Pulmonary complications are met with most frequently and the death rate in elderly patients has been very high The weather, too, has been most trying, days of frost being immediately followed by the mildest spring like weather

Death of a Medical Man from Accidental Poisoning

Mr William J Belcher, for many years the medical officer to the Union Hospital, Bandon, co Cork, was poisoned on Dec 30th by a dose of dilute carbolic acid which he accidentally swallowed in mistake for a draught of fluid magnesia Although the accident occurred at 1 o'clock in the day, and although skilled medical assistance was summoned with the utmost possible despatch, death had taken place before Dr Reid arrived It would seem that nowadays, and in these countries, carbolic acid is by far the most frequent and fatal of poisons.

Jan 2nd

PARIS

(FROM OUR OWN CORRESPONDENT)

Operations on Lunatic Patients in Asylums

THIS very grave question has been under discussion at the Society of Legal Medicine, the subject having been introduced some six months ago in an important paper by M Picqué and M Briand They came to the conclusion that the surgeon should only interfere in cases of absolute urgency M Leredu, a barrister, sent in a report to the society on the question formulated as follows —"Is a surgeon within his rights in performing a surgical operation upon a lunatic without the consent of the patient's relatives?" He answered in the negative, except in a case of absolute urgency A lunatic is unable to give consent it is his relatives who must give consent to the operation But the relatives may refuse consent, possibly from fear of an unsuccessful result, or on the other hand, with the deliberate wish to deprive a person who is a disgrace and expense to them of a chance of life Again, the relatives may not choose to answer, or the lunatic may have no relatives It is, then, the legislature that must be asked to supply an answer to the question It would be easy to settle it by an enactment drawn in some such terms as these "When a surgeon is of opinion that surgical interference is called for in the case of a person who is an inmate of a lunatic asylum he shall obtain leave to operate from the relatives of the patient In case the relatives refuse the director of the asylum shall at once inform the Procureur of the Republic This official shall put the tribunal in possession of the facts whereupon it may rule the case to be one of urgency and the proposed operation to be a last resource, making the order in the Chambre de Conseil, after having referred the matter, should it think fit, to medico-legal experts for an opinion as to the propriety of surgical intervention M. Picqué, in supporting the opinion of M Leredu, showed how difficult it was to obtain a really valid consent from relatives In 20 cases where he applied for leave he received but one answer The disagreeable consequences (which may arise to a surgeon through operating without consent being taken for granted M Picqué would only dispense with such consent in the three following instances suffocation, strangulated hernia and arterial hæmorrhage There might be others, such as metrorrhagia and conditions associated with the urinary organs, but so long as the matter was not settled, either by statute or by a resolution of the society, he would not interfere, unless he had some authorisation in writing, for fear of incurring both moral and material responsibilities which in France were very grave If the patient were to die his relatives, who had shown themselves absolutely indifferent when permission was asked of them, would not hesitate to claim damages and to attack the surgeon in the public prints Even if the operation were successful the surgeon would not be free from the risk of disagreeable consequences In the discussion which followed without any conclusion being then arrived at, it was curious to see the legal members, among whom was M [illegible], the Advocate General giving the opinion that it was right for the surgeon to operate if he th [illegible] against the wishes of the relatives, while the medical members were less bold and demanded some legal protection to cover their responsibility. As a matter of fact, despite the philanthropic and philosophic views of individual members of the magistracy, the medical profession know only too well how of late these very magistrates have, when sitting in court, shown themselves both severe and unfair towards medical men and how ready they are to entertain complaints from the relatives of patients against their medical advisers.

Spitting on the Pavement.

The Sixth Committee of the Municipal Council of Paris has recently had under consideration a proposal laid before it by M. Fortin, a member of the council, suggesting that the populace of Paris should not spit on the footways. The practice is already prohibited in omnibuses, railway-stations, and certain public places. The committee decided, after some discussion, to put up enamelled metal notices, sufficiently large to be read at some distance, in the chief streets and public buildings, bearing the following inscription: "The public are requested, in their own interests and with a view to avoid disseminating infectious diseases, to abstain from spitting on the pavement."

Jan. 3rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Statistics of the Medical Profession.

ACCORDING to Börner's Medical Directory, edited by Dr. Schwalbe, the number of medical men in Germany is 26,689. The *Deutsche Medicinische Wochenschrift* states that since the previous enumeration there has been an increase of 932—i.e., 3·6 per cent. Of these medical men 16,103 reside in Prussia, 2947 in Bavaria, 1968 in Saxony, 870 in Würtemberg, 1027 in Baden, 661 in Hesse, 766 in Alsace-Lorraine, and the remainder in the other states of the confederation. During the last 11 years the medical profession has increased 56 per cent., whereas the number of the population has increased only 14 per cent. In 1887 there was one medical man for 3000 persons, but in 1898 there was one for 2197 persons. The most considerable increase during the last 11 years was in the medical officers to hospitals, clinics, laboratories, &c., their number having risen from 581 to 1924, an increase of 232 per cent., whilst the general practitioners increased 52 per cent. and the army and navy medical officers 21 per cent. It is remarkable that in 1887 as many as 57 per cent. of the army and navy medical officers were engaged in civilian practice, but in 1898 only 31 per cent. With regard to the geographical distribution of the profession it is stated that the eastern districts have far fewer medical men than the southern and western districts. Berlin has of course the greatest number of medical men—viz., 2233; Munich, 637; Hamburg, 533; Breslau, 510; Leipsic, 411; Dresden, 408; Cologne, 332; Frankfort, 312; Charlottenburg, 298; Königsberg, 250; Hanover, 234; and Strassburg, 234. Of the Berlin medical men two were qualified in 1842, two in 1843, and four in 1844. More than 46 per cent. of the Berlin members of the profession became qualified during the last ten years.

The Institution for Infectious Diseases.

Professor Brieger, the head of the clinical department of the Institution for Infectious Diseases, is resigning this appointment to become professor of general therapy at the University of Berlin. The chair of General Therapy has been created recently; the *Deutsche Medicinische Wochenschrift* rightly observes that theoretical lectures on therapy are not of great value and that the professor of general therapy ought to have wards where he might demonstrate the different methods of treatment. In addition to losing Professor Brieger the staff of the Institution for Infectious Diseases will undergo considerable alterations: Dr. Marx is going to Frankfort, where he has received an appointment at the Institution for Experimental Therapy under Professor Ehrlich; Professor Pfeiffer, the head of the laboratory department, has been promoted to be professor of hygiene at Königsberg. The places of Professor Brieger and Professor Pfeiffer will be taken by Professor Dönitz and Professor Frosch, the German commissioners for the investigation of the plague in Portugal. Professor Koch, who is at the head of the Institute, is still in the Dutch Indies prosecuting studies on malaria.

Actinomycosis of the Kidney.

A very rare specimen was recently shown to the Berlin Medical Society by Professor Israel. It was the kidney of an army officer who in 1892, without any obvious cause, was seized with hæmaturia and severe pain in the region. In 1894 a surgeon performed nephrotomy on the supposition of the presence of a renal calculus. The kidney proved to be normal, no calculus was detected, but there were firm adhesions to the surrounding parts so that the kidney had to remain *in situ* and was not brought through the wound for inspection. The wound healed without complication, but the urine became opaque and contained blood, the patient had night sweats, and his weight decreased considerably. In 1898 a fistula formed and discharged a small quantity of sero-purulent fluid. In August the fistula was incised without any improvement resulting. Not long ago the patient came under the care of Professor Israel. He was very weak, there were several fistulæ at the old cicatrix discharging pus with granules which proved to be actinomyces, and actinomyces was present in the sediment of the urine. By cystoscopy the mucous membrane of the bladder was found to be normal. Nephrectomy was therefore performed. The lower part of the kidney did not show any alterations; in the upper part there was a yellow tumour consisting of fat with actinomyces; growths of the same kind were also present between the capsule and the kidney. In the pelvis of the kidney there was a calculus consisting of masses of calcified actinomyces. This is the first case of operation for actinomycosis of the kidney.

Midwives in Berlin.

The midwives of Berlin are very strictly controlled by the medical officers to the Berlin police. Not long ago a qualified midwife was prosecuted and fined because she had contradicted a medical man in presence of a parturient woman, this being regarded as a misdemeanour because the patient was thereby induced to believe that the medical man in charge was incompetent. The medical department of the Berlin Police has also issued an order to the qualified midwives informing them that it is illegal to recommend individual medical practitioners to women in their confinements, because a law passed in 1725 provides that the patient must be at full liberty to consult any medical man she desires. It is especially against the law for midwives to have an agreement with a medical man and to be paid by him for recommendations to patients.

Jan. 2nd.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Hygiene and the Holy Year.

IN view of the masses of pilgrims who will be quartered in Rome at frequent intervals during the Holy Year the Minister of Foreign Affairs (the Marchese Visconti Venosta) has instructed the Italian consular service throughout the two hemispheres to supply the Government with full and accurate reports as to the sanitary condition of the several countries whence the pilgrimages in question are preparing to start. This is quite a necessary precaution. The central authority is making every effort to obviate the overcrowding anticipated from the influx of so many "caravans" of the faithful. But even before their accommodation in conventual establishments and provisional "baracche" (barracks) becomes a practical question the Government must have satisfactory assurance that they will not import the germs of infective maladies from their several "places of origin" or "points of departure."

Dr. Mazzoni and the Ceremony of the Porta Santa.

The solemn inauguration of the Holy Year on Christmas Eve was not without its amusing episodes, prominent among them being that of which Dr. Mazzoni was the hero. His presence at the august ceremony was only less *de rigueur* than that of Dr. Lapponi, but owing to urgent professional engagements he was late in presenting himself. Still worse, he had forgotten to come fortified with the indispensable "biglietto d'ingresso" (ticket of admission). Arrived at the bronze door leading to the Pontifical apartments he was met with the inexorable demand, "Biglietto, signore, biglietto." Hardly hearing or attending to the reminder, Dr. Mazzoni in his haste was pressing on and in four "leaps or bounds" would have been ascending the staircase, when a heavy hand laid on his shoulder gave him pause and the same voice, rather more sternly, repeated the question, "Fostro biglietto? Foi non capite?" (Your ticket? Don't you understand?) It was the stalwart Swiss Guard whose speech bewrayed him in the accents of Solothurn or Freiburg. Dr. Mazzoni, eager to be in time, could only protest, "Ma che biglietto? Io non ne ho bisogno." (But why a ticket? I don't need one.) "Fostro biglietto! Nessuno passa senza biglietto!" (Your ticket! No one gets through without a ticket) insisted the Guard. "Ma sapéte chi sono?" (But do you know who I am?), rejoined Dr. Mazzoni. "Neppure il nipote del Papa passa senza biglietto. *Date dietro!*" (Not even the Pope's nephew passes in without a ticket. Keep back!) was the reply of the "invisus janitor," who was just about to point his halberd at the medical man's breast when a high functionary of the Vatican came up and ended the altercation. The "Cerbero Elvetico" (Swiss Cerberus) had to bow to "force majeure" and permit the surgeon who in March last had saved the Holy Father's life to pass on and reinforce his colleague, Dr. Lapponi, as a specially interested "assessor" at the proceedings.

The Crusade against Malaria.

Is the sufferer from malaria a source of danger to his healthy neighbours? The question came before the last meeting (on Dec. 27th) of the Società Piemontese d'Igiene and was answered in the affirmative by Dr. Pio Foà, professor of pathological anatomy in the University of Turin. On the strength of recent discoveries, checked by still later experience, Professor Foà maintained that malaria could be indirectly communicated, and his view, strongly supported by the president of the society, Dr. Luigi Pagliani, professor of hygiene in the same university, was unanimously approved by the meeting. There is thus, according to Professor Foà, a fresh prophylactic reason for curing malarious subject, and accordingly he proposed an "order of the day" by which the Government was invited to make provision for the sale of quinine to the fever-stricken poor at cost price. Professor Pagliani, in seconding the proposal, which was ultimately carried, was of opinion that the Società d'Igiene, as it had already interested itself in the various methods devised to combat tuberculosis, should also assume a similar attitude towards malaria and invite the profession and the Congregazioni di Carità to join in the movement indicated So far so good, but to the proposal for the cheap supply of quinine a *caveat* was added protecting the interest of the pharmaceutical profession—and this was better.

Re-appearance of the Plague at San Paulo.

From a telegraphic message received at Genoa and dated "Rio Janeiro, 28th inst.," I learn that the pestis bubonica which was thought to have disappeared from San Paulo and its neighbourhood has returned in greater force than ever. Three very marked cases were reported on the 27th and, what is worse, they were found by the physicians to partake of the pulmonary form of the disease, which is not only the most uniformly fatal but also that which is most contagious. In these cases the sputum is always a source of danger, and still more the profuse, watery, often "sanguinolent," exudation, literally swarming with bacilli As soon as the central authority was advised of this renewed outbreak, the requisite sanitary precautions previously in force were vigorously resumed, no effort being spared to localise the disease. The panic at San Paulo is, of course, immense, but the prompt action of the Government is already restoring calm. At Santos the situation continues unchanged. For 15 days the whole region has been free from the disease.

Dec 31st.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Infectious Diseases in Austria.

THE official statistics of the morbidity and mortality due to infectious diseases in Austria in the year 1898 have just been published. No less than 8674 cases of small-pox with 1594 deaths were recorded. The majority of these cases occurred in the eastern provinces, where the population is least intelligent and where vaccination cannot be carried out as efficiently as in the western provinces. Of the number just quoted 6996 cases (with 1228 deaths) occurred in Galicia and 1627 cases (with 363 deaths) in the Bukowina. In the two districts of Klinaentz and Tontina Alba 335 cases of small-pox occurred among children and four among the adults; of all the patients only two had been vaccinated, but the majority of the adults in these two districts showed small-pox scars as in a population of 2306 adults 1532 persons were found to be marked with small-pox. During 1898 there were also recorded 15,344 cases of scarlet fever (with 9651 deaths), 198,435 cases of measles (with 9179 deaths); 24,131 cases of typhoid fever (with 3544 deaths); 4147 cases of typhus exanthematicus (with 362 deaths); 6318 cases of dysentery (with 1266 deaths); 1566 cases of puerperal fever (with 846 deaths), and 32,296 cases of diphtheria (with 9095 deaths). Of these cases of diphtheria 15,333 were treated with serum injections and of that number only 2428 died, giving a mortality of 15 89 per cent; whilst among 16,963 cases treated without serum 6667, or 39 30 per cent., succumbed. These figures seem to be in favour of the serum treatment in diphtheria.

Plague on an Austrian Steamer.

The Austrian Lloyd steamer *Berenice*, which recently arrived with a cargo of coffee from Brazil at Trieste, was infected with plague in a Brazilian harbour and four cases of plague occurred on board during the voyage. As the cargo represented a value of more than 2,000,000 florins the opinions of sanitarians and of the public were divided as to the precautions which should be taken under the circumstances. The ship was taken to the Trieste quarantine station and all on board were conveyed to the Trieste Lazaretto for infectious diseases, where they are isolated and will remain for a fortnight. It has not yet been decided whether the coffee will be thrown into the sea, as is demanded by the majority of the public in the fear that the infection of plague will be dispersed throughout the country by selling it, or whether it will be transferred to new bags, or whether it will be sufficient to treat the bags with a disinfectant before sending the coffee to the market. Some medical authorities have recommended the strongest measures, while others seem to be content with less destructive procedures which would not entail the loss of these 2,000,000 florins.

New Rules for Examinations in Medicine.

Within the next few days the new rules for the qualifying examinations in medicine will be issued. The principal changes will be that the so-called preliminary examinations in zoology, botany, and mineralogy will be abandoned. The first examination will include biology, anatomy, physiology, natural philosophy, chemistry, and histology. Mental diseases, diseases of the ear, hygiene, and dermatology have now been added to the list of subjects comprised in the two final examinations

Jan 1st.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations and having conformed to the by-laws and regulations have been admitted Fellows and are arranged in order of seniority as Members of the College, viz:

Hugh James Moore Playfair, M.D. Lond., M.R.C.P. Lond., King's College Hospital, Member July 31st, 1890; Herbert William Carson, L.R.C.P. Lond., St. Bartholomew's Hospital, Member July 29th, 1895; Evan Lancing Evans, M.A., M.B., B.C. Cantab., L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital, Member Nov. 14th, 1895; Percy Samuel Lelean, L.R.C.P. Lond., St. Mary's Hospital, Member Nov. 14th, 1895; John Howell, M.B. Lond., L.R.C.P. Lond., Guy's Hospital, Member Feb. 13th, 1896; William Francis Victor Bonney, M.D., B.S. Lond., L.R.C.P. Lond., Middlesex Hospital, May 14th, 1896; Thomas Rupert Hampden Bucknall, M.D. Lond., L.R.C.P. Lond., University College Hospital, Member August 4th, 1896; Wilfred Batten Lewis Trotter, M.D. Lond., L.R.C.P. Lond., University College Hospital, Member August 4th, 1896; Arthur Murray Cudmore, M.B., Ch.B. Adel., L.R.C.P. Lond., Adelaide University and London Hospital, Member Nov. 12th, 1896; Charles Ralph Keyser, L.R.C.P. Lond., St. George's Hospital, Member August 4th, 1896; Gilbert Smith, M.B. Durh., L.R.C.P. Lond., Durham University and St. Bartholomew's Hospital, Member, August 4th, 1896; Rodolph de Salis Stawell, B.A., M.B., B.C. Cantab., L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital, Member August 4th, 1896; John William Thomson Walker, M.B., C.M. Edin., L.R.C.P. Lond., Edinburgh University and Middlesex Hospital, Member, August 4th, 1896; Herbert Munly, L.R.C.P. Lond., St. Bartholomew's Hospital, Member May 13th, 1897; Robert Gow Ralston, St. Bartholomew's Hospital, Member May 13th, 1897; Frank Mannington, L.R.C.P. Lond., Middlesex Hospital, Member July 29th, 1897; Joseph Oliver Skevington, L.R.C.P. Lond., St. Mary's Hospital, Member Feb. 10th, 1898; Edred Moss Corner, M.B., B.C. Cantab., M.A., B.Sc. Lond., L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital, Member May 4th, 1898; Thomas Joseph Patrick Hartigan, L.R.C.P. Edin., St. Bartholomew's Hospital, Member May 4th, 1898; John Law Adams, M.B., C.M. Aberd., Aberdeen University and Middlesex Hospital, Member Nov. 10th, 1898; and Arthur Ferguson MacCallam, B.A., M.B., B.C. Cantab., L.R.C.P. Lond., Cambridge University and St. Mary's Hospital, Member Nov. 10th, 1898.

17 gentlemen were referred to their professional studies.

he following gentlemen having passed the necessary examinations have been admitted Licentiates in Dental Surgery, iz.:—

William Bridell Bacon, Middlesex Hospital and the Dental Hospital of London; Horace Willie Paul Bennett, University College, Dental Hospital and Royal Infirmary, Liverpool; John Sydney Bliss and John Black, Guy's Hospital, Dental Department and School; Frederick John Blight, University College, Dental Hospital and Royal Infirmary, Liverpool; Charles Henry Bubb and Hugh Tilford Campkin, Guy's Hospital, Dental Department and School; Frank Russell Carey, Mason College, Queen's, General, and the Dental Hospitals, Birmingham; James Thornton Carter, Charing Cross Hospital and the Dental Hospital of London; Percival Pasley Cole, Guy's Hospital, Dental Department and School; Richard Kempe Devonshire, Middlesex and the National Dental Hospitals; Arthur Harvey Dixon, Mason College, Queens, General and Dental Hospitals, Birmingham; George Herbert Drake, Guy's Hospital, Dental Department and School; Henry Frankish, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; William John Duncalf, Charing Cross Hospital and the Dental Hospital of London; Francis Wilberforce Garman, Guy's Hospital, Dental Department and School; Samuel Hargreaves, University College, Dental Hospital and Royal Infirmary, Liverpool; Francis Walsh Horrocks, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; Sydney Herbert Jones and William Watkins Cadwaladr Jones, Guy's Hospital, Dental Department and School; Thomas Henry Paul Kolesar, University College, Dental Hospital, and Royal Infirmary, Liverpool; Reginald Frederick Lockett, Middlesex and the National Dental Hospitals; Sidney Herbert Longhurst, Guy's Hospital, Dental Department and School; Frederick Mackenzie, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; Harold Maurice, Guy's Hospital, Dental Department and School; Frank Webster Spence Metcalfe, Charing Cross Hospital and the Dental Hospital of London; Richard James Morrell and Jonathan Baron Morrish, Guy's Hospital, Dental Department and School; George Herbert New, Middlesex Hospital and the National Dental Hospital; Hugh Gwilym Owen, University College, Dental Hospital, and Royal Infirmary, Liverpool; Santiago Luis Paliant, Rudolph Peacock, and Frank James Pearce, Guy's Hospital, Dental Department and School; Harold Goodwin Perkins, Middlesex Hospital and the Dental Hospital of London; Charles Fox Pitt, Charing Cross Hospital and the Dental Hospital of London; Gerald Paton Pollitt, Guy's Hospital, Dental Department and School; Arthur Rice, Charing Cross Hospital and the Dental Hospital of London; Charles Frederic Rose, Guy's Hospital, Dental Department and School; Leonard Francis Vale Sadler, Mason College, Queen's, General, and the Dental Hospitals, Birmingham; Arthur Harold Saunders, Guy's Hospital, Dental Department and School; George Curnock Sawday, Charing Cross Hospital and the Dental Hospital of London; John William Sidebottom, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; Ernest Sturridge, College of Dentistry, New York, and University College, London; William Henry Tattersfield, Guy's Hospital, Dental Department and School; Edward Thorne, Middlesex and the National Dental Hospitals; Sidney James St. Helier Tweney, Guy's Hospital, Dental Department and School; Sidney Dunstan Venning, Middlesex and the National Dental Hospitals; George Gray Vincent, Charing Cross Hospital and the Dental Hospital of London; John Hamilton Wilkes, Guy's Hospital, Dental Department and School; Samuel Joseph Willcox, University College, Royal Infirmary, and General Hospital, Bristol; and Joseph Workman, Charing Cross Hospital and the Dental Hospital of London.

27 gentlemen were referred to their professional studies, 24 for six months, and three for one year.

WATER-SUPPLY OF ILFRACOMBE.—At a statutory meeting of the ratepayers of Ilfracombe held on Dec. 28th, 1899, it was decided to promote a Bill for obtaining a supply of water from Exmoor at an estimated cost of £44,000.

SMALL-POX AT BARRY.—A case of small-pox was notified from the Barry Dock district on Dec. 29th, 1899. This is the third case removed to the Isolation Hospital during the past fortnight.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ALLPORT, WILFRID, M.B., B.S. Lond., M.R.C.S. & L.R.C.P. Lond., has been appointed Senior House Surgeon to the Birmingham and Midland Eye Hospital.

Officer of Health by the Cambridge Town Council.

BATEMAN, F. J. HARVEY, B.A. Cantab., M.B., C. appointed Resident Medical Officer to the Hertford Paris.

BADMAN, E. P., M.B. Edin., M.R.C.S. Eng., has House Surgeon to the Glasgow Maternity

BERTRAM, THOMAS DUN, J.P., M.B. Glasg., has Member of the Licensing Court, District of Coonamble, New South Wales.

BUCKLEY, J., L.S.A., has been appointed Medical Officer for the Hasland Sanitary District of the Chesterfield, Derby, Union.

CRISP, A., M.R.C.S., has been re-appointed Medical Officer for the Horsey Sanitary District of the Smallburgh Union.

DAVIES-JONES, D., M.B. & M.S. Edin., has been appointed Messrs. Nixon's Collieries, Mountain Ash.

EDDOWES, ALFRED, M.D., M.R.C.P., has been appointed Honorary Physician to St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

GILES, ARTHUR E., M.D., B.Sc. Lond., M.B., B.Ch. Vict., F.R.C.S. Edin., M.F.P.P. Lond., has been appointed Gynæcologist to the Tottenham Hospital.

GILL, F. A., M.D., C.M. Aberd., has been appointed Deputy Medical Officer of the Liverpool Prison.

GOODALL, J. K., L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer for the Heath Sanitary District of the Chesterfield Union.

GOWLLAND, JOHN GEORGE BLANTYRE, L.R.C.P., L.R.C.S. Edin., L.F.P. & S. Glas., has been appointed Resident Surgeon to the Cloncurry District Hospital, Queensland, Australia, vice J. Milne.

HARRIES-JONES, E., M.B., C.M. Edin., has been appointed Resident Surgical Officer to the Birmingham and Midland Eye Hospital.

HUTCHINSON, J. A., M.D. Durh., M.R.C.S., has been appointed Medical Officer of the Northallerton Prison.

JOHNSON, P., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Borough of Stoke-on-Trent.

JONES, T. O., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been re-appointed Medical Officer of Health by the Ruthin Rural District Council.

LAWSON, T. C., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Longtown Sanitary District of the Longtown Union.

LEE, B. J., L.S.A., has been re-appointed Medical Officer for the North Wingfield Sanitary District of the Chesterfield Union.

MAITLAND, PELHAM C., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to the Brompton and Knightsbridge Provident Dispensary.

PEARCE, F. H., L.R.C.P. Lond., M.R.C.S., has been appointed Senior Assistant Medical Officer for the Workhouse, Bradford.

PRIOR, SAMUEL, M.B., C.M. Glasg., has been appointed Public Vaccinator for the Kirkbeaton District of the Huddersfield Union, vice David Robertson.

ROCHE, T. F., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Penarth Sanitary District.

SAVILLE, THOMAS, M.D., M.R.C.P., has been appointed Honorary Physician to St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

SEACOMBE, A. F., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Resident Medical Officer of the Workhouse, Toxteth.

SHEPHEARD, J., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the North Walsham Urban District Council.

UNDERHILL, S. V. H., L.R.C.P., M.R.C.S., has been appointed House Surgeon to the Suffolk General Hospital at Bury St. Edmunds.

WORLEY, E. A., M.R.C.S., L.R.C.P. Lond., has been appointed Second Assistant Medical Officer to the St. Marylebone Infirmary, St. Charles-square, North Kensington, vice Archer Browne, resigned.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

ABERYSTWITH INFIRMARY.—House Surgeon. Must also act as Secretary. Knowledge of Welsh essential. Salary £150, with the usual residential allowances (stimulants excepted).

ASHTON-UNDER-LYNE DISTRICT INFIRMARY.—House Surgeon. Salary £100 a year, with board and lodging.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Birmingham.—Assistant House Surgeon. Salary £50 per annum, with apartments and board.

BIRKENHEAD BOROUGH HOSPITAL.—An Honorary Physician and two Honorary Surgeons.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon, male. Salary £80, with board, residence, and washing.

BRECON INFIRMARY, South Wales.—Resident House Surgeon, unmarried. Salary £50 per annum, with furnished apartments, board (all found except beer), attendance, fire, and gas.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary at the rate of £50 per annum, with board and residence in the hospital.

CHESTER GENERAL INFIRMARY.—Visiting Surgeon for two years. Salary £80 per annum, with residence and maintenance in the house.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Second House Physician for six months. Salary at the rate of £30 per annum, with board and residence.

COUNTY OF SUTHERLAND.—Medical Officer of Health for the County of Sutherland. Salary £300 per annum, and £50 in lieu of travelling and other expenses, with certain exceptions. Apply to the County Clerk, Golspie.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Resident House Physician for 12 months. Salary £100 per annum, with apartments and board.—Also Resident Assistant House Surgeon for six months. Salary £30 for that period, with apartments, board, &c.

DONCASTER GENERAL INFIRMARY AND DISPENSARY.—Indoor Dispenser and Assistant to the House Surgeon. Honorarium £20 guineas per annum, with board, lodging, and washing.

GENERAL HOSPITAL, Nottingham.—House Surgeon for two years. Salary £100, rising £10 a year to £120, with board, lodging, and washing.

GENERAL INFIRMARY AT LEEDS.—Resident Casualty Officer. Salary £100 a year, with board, lodging, and washing. Also House Physician for six months, board, lodging, and washing provided.

GLAMORGAN COUNTY ASYLUM, Bridgend.—Junior Assistant Medical Officer, unmarried. Salary £150, with board, apartments, washing, and attendance.

HOSPITAL AND DISPENSARY, Newark-upon-Trent.—House Surgeon, unmarried. Salary £[illegible] per annum, with board and lodging in the hospital.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London.—Assistant Surgeon. Also two Assistant Physicians.

JEWS' HOSPITAL AND ORPHAN ASYLUM, West Norwood.—Dental Surgeon. Applications to the Secretary, 149, Bishopsgate-street Without, E.C.

KENT AND CANTERBURY HOSPITAL, Canterbury.—Assistant House Surgeon, unmarried. Salary £50 a year, with board, &c.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £85.

LONDON HOSPITAL, Whitechapel, E.—Assistant Physician.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer at the Imbecile Asylum at Caterham, Surrey, unmarried. Salary £120 per annum, rising conditionally to £150, with board, lodging, attendance, and washing. Subject to statutory deduction. Apply to the Clerk to the Board, Norfolk-street, Strand, London.

MIDDLESEX HOSPITAL, W.—Assistant in the Cancer Research Laboratories. Salary £100 per annum, with an honorarium of £50 after his second year of office.

NORTHAMPTON GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary £100 per annum, with furnished apartments, board, attendance, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Salary £150 per annum. Special arrangement for board, &c.

PARISH OF GAIRLOCH, Ross-shire.—Medical Officer. Salary from the Parish Council £200 per annum, besides private practice. To reside at Poolewe. Apply to Mr. James Mackintosh, Inspector of Poor, Poolewe.

ROYAL NATIONAL MISSION TO DEEP SEA FISHERMEN, Bridge House, 181, Queen Victoria-street, London.—Young Medical Officer for hospital mission ship *Queen Victoria* for two months. Salary three guineas per week and board. Apply to the Secretary.

ROYAL PORTSMOUTH, PORTSEA, AND GOSPORT HOSPITAL.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

ROYAL SEA BATHING HOSPITAL, Margate.—Assistant Resident Surgeon. Salary £52 per annum, with board and residence. Applications to the Secretary, Royal Sea Bathing Hospital Offices, 30, Charing-cross, London, S.W.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, London.—Honorary Physician. Also House Surgeon for not less than six months. Salary £[illegible] per annum, with board, lodging, and washing.

THE CHIEF INSPECTOR OF FACTORIES has given notice of a vacancy for a Certifying Surgeon under the Factory Acts at Leek, in the county of Stafford. There are also similar vacancies at Birkenhead and Bollington, in the county of Chester.

THREE COUNTIES ASYLUM, near Hitchin.—Second Assistant Medical Officer. Salary £150 per annum, with board, apartments, washing, and attendance. Unmarried. Apply to the Clerk, St. Neots, Hunts.

TORBAY HOSPITAL, Torquay.—House Surgeon. Salary £100 per annum and £5 for nurses' lectures. Board, lodging, washing, and attendance provided (wine, spirits, and beer excepted).

VENTNOR ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Assistant Resident Medical Officer. Salary £50 per annum, with board and residence. Apply to Dr. [illegible], R.M.O.

WEST KENT GENERAL HOSPITAL, Maidstone.—House Surgeon, unmarried. Salary 100 guineas per annum, with board and residence, &c., rising 10 guineas a year to 120 guineas.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY, Whitehaven.—House Surgeon. Salary £120 per year and £30 a year for dispensing, with furnished apartments and attendance.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—Assistant House Surgeon for six months. Honorarium at the rate of £50 per annum, and board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS

ROBINSON.—On Dec. 29th, at The Villa, Harleston, Norfolk, the wife of J. C. Reynolds Robinson, M.R.C.S., L.R.C.P., of a son.

RUTHERFURD.—On Dec. 30th, at 12, Newton-place, Glasgow, the wife of Henry Rutherfurd, M.B., of a daughter.

MARRIAGES

NASH—OLDERSHAW.—On Dec. 28th, at St. Alban's, Acton-green, Edwin H. T. Nash, M.R.C.S., L.R.C.P., of Oakhell Houses, Accrington, to Mary Monica, only daughter of Walter Oldershaw, of Blandford-road, Bedford-park.

DEATHS

HARRISON.—On Dec. 30th, at Holland Lodge, Clifton, Bristol, Selina, the beloved wife of Alf. Jas. Harrison, M.D., J.P., aged 69 years.

HOWISON.—On Dec. 23rd, James Howison, L.R.C.P., L.R.C.S., L.M. Edin., of 31, Abbey-road, London, N.W. (late of Darlington), in his [illegible]th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE COURAGE OF IGNORANCE.

BEFORE the coroner at Devizes recently an investigation was held into the cause of the death of a servant girl when evidence was given of obstinacy on the part of the deceased which medical men are well aware is commonly displayed by servant girls and which only too often prevents effective relief being given to them in their troubles. The story is briefly as follows. A servant girl in a situation at Bath felt so ill that she returned to her home in Devizes. Within a few hours of her return she died from peritonitis. The jury indicated a wish to add to their verdict some words censuring the girl's mistress at Bath for not calling a medical man to her aid, but the mistress was able to show that the girl absolutely refused to see a medical man until she got home. So she took a railway journey on a cold day when very ill and died at the end of it.

This reluctance of young women—generally young women of the lower orders—to see a medical man is a little extraordinary, though it is a matter which has so often been brought to the attention of the profession that it has ceased to cause surprise. The reaction is very generally attributed to the courage of ignorance. Young women have many pains and unpleasant sensations which mean little and which pass away spontaneously. Their belief that they will be better soon is founded upon experience and so usually turns out correct that when they are seriously ill, if the symptoms, unfortunately for them, are not very urgent, they neglect to take medical advice. But ignorance does not account for all instances of such behaviour. Vanity plays its share as well as the spirit of self-sacrifice which every good woman is ready to display. Among nurses in hospital practice nothing is more common than to find a fixed determination not to go off duty even when they are obviously unfit to discharge their work. They know that in many cases their retirement to bed will mean the overwork of some of their colleagues, and they dislike intensely the idea of giving up, feeling it to be a confession of unfitness for their post, and so with considerable clinical knowledge to inform them fully of their foolishness, they remain on duty until a serious breakdown is inevitable or actually occurs. Again, in a hospital there is such a horror of the hysterical subject and malingerer that no one wishes to incur a suspicion of being either. The hysterical invalid counts for so much in the labours of our hospitals that there need be no surprise at this. In a hospital a good matron should be, and generally is, quick to detect real sickness, and firm in insisting upon the stupid if well-meant act of martyrdom ceasing at once, but in a private family the assurance of the dependent that it is nothing is apt to be accepted as correct.

And there is one other point upon which we should like to lay stress. It is one that we have referred to before—namely, the attitude of many masters and mistresses towards their servants. In this case, as we know, the girl's mistress behaved with complete kindness in offering her servant medical attention, but this is not always what occurs. A large proportion of servants are at sensitive ages and are living far away from home. They have come from the country and from provincial towns, often from Scotland, and easily become home-sick, especially if there should be a lack of sympathy and a failure to make them feel welcome. One of the commonest of ailments in domestic servants is chlorotic anæmia, and it is amazing to see how often this condition is allowed to go on without notice and without treatment where the symptoms in a child of the family would quickly command all the resources of medicine. The neglected chlorosis drifts into chronicity with consequent impaired health or reaches a crisis in a gastric hæmorrhage with possibly a fatal issue. In many cases if mistresses did their duty they would not wait for the girl to complain nor assume that if she did not complain therefore all was well with her despite her looks. They would insist upon a medical man being consulted. It is no part of a master's or mistress's liability to provide medical attention for his or her domestic servants. All the same—or rather all the more—it is well to provide it for them. Servants often prefer their own medical man, but few of them are insensible to the kindness of a mistress who will offer her personal attention together with the advice of the medical man whom she consults for her own ailments and those of her children.

SPITTING AND TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—I read with great pleasure in THE LANCET of Dec. 30th, 1899, the report of the preliminary meeting of the Congress on Tuberculosis and hope soon to see established all over the world sanatoria in elevated dry places for the treatment of tuberculosis by fresh air and sunlight, and our milk and meat supplies so supervised that there will be no danger of contracting these diseases from those channels. But could not spitting on the streets, in churches, theatres, railways, and other conveyances be put a stop to? Such spitting practices, besides being abominable and disgusting, may be the cause of spreading diseases and I think the matter is a police one. Means [illegible] might be [illegible] in that way be done by all the [illegible] taking an interest [illegible]

Congress beginning at once to carry pocket spittoons and using them in public? Were such practices to become fashionable the poor consumptive would not feel himself so ostracised when others are using *spittoons as well as himself.* The spittoons of persons, non-smokers, would not require to be larger than a smelling bottle, and might be elegant as well as useful. Smokers and others suffering from disease might need rather larger ones; but they could still be elegant as well as useful. The making of these spittoons would develop a new industry and give employment to many. Hoping that you will find room for this scrawl in your next issue, and thanking you in anticipation,

I am, Sirs, yours faithfully,
Paisley, Dec. 26th, 1899. J. B. HUNTER, M D Glasg.

"THE DIET OF DIABETIC SUBJECTS."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 2nd, 1899, at p. 1572, I observe a query from "Glyco" concerning the diet of diabetic subjects. Perhaps it may interest him to learn that the son of the late Dr. von Dühring (not "Douring" as he states) of Hamburg is Professor Ernst von Dühring in Constantinople who has published several interesting essays on syphilis, &c. No doubt this gentleman would be able to supply some information on his father's method of treating diabetes. In general, I believe, the plan has not been supported even in Germany very warmly.

I am, Sirs, yours faithfully,
F. A. PHILIPPI, M.D.
Othmarschen, zu Hamburg, Dec. 27th, 1899.

THE ACCOMMODATION OF THE INDOOR ASSISTANT.

To the Editors of THE LANCET.

SIRS,—*May I suggest through your columns to principals who* engage indoor assistants that they should make it a rule to provide them with a bed-sitting-room or a separate sitting-room if possible? Sometimes any small poky bedroom is thought good enough for the assistant, whose chances of reading and writing are thus out of the question.

I am, Sirs, yours faithfully,
Dec. 27th, 1899. INDOOR.

"THE MACKEY FUND."

To the Editors of THE LANCET.

SIRS,—I have received the following subscriptions on behalf of the widow of the late Mr. Stephen Mackey:—*Amount previously reported,* £10 7*s.*; Mr. R. L. Legate, Bridge House, Christchurch, £2; Dr. A. Ernest Sansom, Harley-street, £1 1*s.*

I am, Sirs, yours faithfully,
LEONARD C. DOBSON, M.D. Lond.
59, Addison-gardens, Kensington, Jan. 2nd, 1900.

SEA-WATER FOR HOME USE.

To the Editors of THE LANCET.

SIRS,—Could any of your readers kindly inform me through THE LANCET of the name and address of any firm from which I could obtain sea-water in *barrels for salt water baths at home?*

I am, Sirs, yours faithfully,
St Helens, Jan. 1st, 1900. SALINE.

THE TREATMENT OF GUINEA WORM AND ELEPHANTIASIS.

A CORRESPONDENT asks if corrosive sublimate hypodermically injected has been employed in the treatment of guinea worm and if so in what strength it should be used. He also asks whether any preventive measures have been employed in elephantiasis?

"THE ANGLO-AMERICAN INSURANCE COMPANY."

To the Editors of THE LANCET.

SIRS,—You allude in THE LANCET of Dec. 30th, 1899 (p. 1870), to the arrest of the advance agent of this company. I think it would increase confidence in the *bona fides* of those who were recently acting with him as prospective directors if they took the opportunity of making their position in the affair clear and beyond possibility of suspicion. Such a course would render the success of any new company they may be promoting more probable.

I am, Sirs, yours faithfully,
Jan. 2nd, 1900. CRITIC.

LIQ. AURI BROM. ARSENATIS IN RHEUMATISM.

REFERRING to our analytical notice of this interesting gold compound in THE LANCET of Oct. 12th, 1895, p. 921, a correspondent *sends us* some experimental evidence of its beneficial effect in rheumatism. He encloses specimens of crude uric acid in the condition in which it was precipitated from urine by hydrochloric acid. He has been subject to rheumatic pains for the past two years. The first specimen of deposits, which represents what he has usually passed during the attacks, is of a chocolate colour due to a mixture of urobilin and uro-hæmatoporphyrin, the latter being significant of certain febrile conditions, especially rheumatism. The second specimen was precipitated from the urine after an acute attack accompanied by pyrexia and muscular pains. The crystals are almost black with uro-hæmatoporphyrin. The third specimen is orange-coloured and is free from rheumatic pigment. This result followed on taking bromaurum and the rheumatic pains subsided.

GRATUITOUS MEDICAL ASSISTANCE TO THE PUBLIC.

To the Editors of THE LANCET.

SIRS,—I should like the opinion of your readers on the following case:—A and B are in practice in the same town which is made up entirely of working men and tradesmen. A has his share of work and is public vaccinator. B vaccinates all he can get hold of free of charge. A has spoken to B on the matter but it has been of no avail. (A naturally does not speak to B after his refusal to stop this free vaccination.)

B allows an unqualified man to visit some of his cases. I have seen *him enter houses but cannot* prove what he does inside. I am positive there was serious illness in the houses at the time.

I should like to know to what extent these unqualified men can be used and, further, whether it is my duty to inform the General Medical Council of such a case.

I enclose my card, and am, Sirs, yours faithfully,
Jan. 2nd, 1900. LIVE AND LET LIVE.

*** *It is wrong to offer* gratuitous medical attendance indiscriminately, as the medical profession is already severely handicapped by the amount of work that is done for the public without remuneration. The limitations laid down by the General Medical Council indicate the proper use that may be made of unqualified assistants; if our correspondent can prove that B is defying the General Medical Council he can inform that body. He must beware of allowing personal animus to influence his judgment of facts.—ED. L.

ROENTGEN RAYS AT A MISSIONARY STATION.

Mercy and Truth for December states that the medical missionaries at the Peshawar station have *frequently* to deal with serious bullet-wounds and that the Rev. Dr. Welldon, the Metropolitan of India, after a recent visit to this mission gave £25 towards the cost of a Roentgen ray apparatus, the balance required being made up by three other subscribers.

WEST AFRICAN DISEASES.

A CORRESPONDENT asks to be advised as to how to obtain information with *regard to remedies for* West African diseases.

◆

Mrs. P. is strongly advised to answer no advertisement. If she or the mother advertises the strictest investigation must be conducted into *the character, means, and antecedents* of anyone who replies. An opening for fraud, to say nothing of murder, is so obviously given by such an advertisement that it will be difficult even with the *most honest and humane intention to* get any respectable paper to insert it. The best course would be to select a first-class journal and write to the editor giving assurances that an annual income will be paid for the support of the child and *not a sum down,* and that the child will be under the guardianship of its relations in its new home.

W. N. C.—The answer to our correspondent's question depends much on whether the visiting staff are permanently attached to the hospital or whether patients are to be visited by their own medical advisers. In a typical hospital in London, not a municipal institution of course, there are 184 beds, the average number occupied is 71 and there are as officers: physicians, 2; assistant physicians, 2; surgeon, 1; and resident medical officers, 2. There are also three consulting physicians. We recommend for the institution mentioned by our correspondent two *resident* medical officers and two visiting physicians.

R. F.—(1) We think our correspondent will be well advised to consult a leader of the profession in the locality. The amount to be charged should take into account his ordinary fees and the circumstances of the patient, neither of which are known to us. (2) The money is not a subject for income-tax.

Galileo.—It would be better to advertise for a ward maid, but possibly the woman for the appointment has been already selected. We do not know any institution where such partial training is given, but perhaps the nearest local hospital would help in a good work by offering facilities.

ERRATUM.—In our notice of the "Empress Puncture-Proof Bands" for cycle tyres in THE LANCET of Dec. 23rd, 1899, page 1744, the price per band should have been 5*s.* and not 7*s.* 6*d.* as there stated.

During the week marked copies of the following newspapers have been received: *Glasgow Herald, East Anglian Daily Times, Staffordshire Advertiser, Aldershot Gazette, Blackburn Telegraph, Scotsman, Hereford Times, Wigan Examiner, Times of India, Pioneer Mail, Architect, Builder, Citizen, Liverpool Daily Post, Westmorland Gazette, Truth, Yorkshire Post, Western Mercury, Bristol Mercury, New York Sun, Leeds Mercury, Kettering Leader, Western Morning News, Scarborough Mercury, Manchester Guardian, Huddersfield Examiner, Birmingham Daily Post, Gainsborough Leader, Cambridge Chronicle, Daily Argus, Birmingham, Sanitary Record, Eastbourne Gazette, Peterborough Express, Loughborough Monitor, Dundee Advertiser, Norfolk Weekly Standard, Northern Star Ulster Echo, Midland Mail, News of the World, Bath Argus.*

City Press, Reading Mercury Mining Journal, Local Government Chronicle Hertfordshire Mercury Weekly Free Press and Aberdeen Herald, Surrey Advertiser Rangoon Gazette, Hopetown Courier, Local Government Journal, Portsmouth Times Daily Courier, Hampshire Independent, Glasgow Herald, Public Health The Courrier de la Presse, Bulawayo Chronicle, Whitby Gazette, Bucks Herald, Isle of Wight Herald, Doncaster Chronicle Chester Guardian, Nuneaton Observer Halifax. &c &c.

METEOROLOGICAL READINGS

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, Jan 4th, 1900

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain-fall.	Solar Radia in Vacuo	Maximum Temp. Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Dec. 29	28·69	S	0·13	55	51	35	47	49	Cloudy
" 30	29·03	S W	0·19	74	50	45	43	45	Cloudy
" 31	29·66	S	..	62	47	37	38	39	Fine
Jan. 1	29·90	S.E.		61	50	33	40	41	Foggy
" 2	29·64	S.W	0·42	57	53	41	50	50	Raining
" 3	29·33	S W	0·09	62	52	44	44	46	Cloudy
" 4	29·57	N	0·13	46	45	43	43	45	Overcast

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS

MONDAY (8th).—London (2 P.M.) St Bartholomew's (1.30 P.M.) St Thomas's (3.30 P.M.) St George's (2 P.M.), St Mary's (2.30 P.M.) Middlesex (1.30 P.M.) Westminster (2 P.M.) Chelsea (2 P.M.), Samaritan (Gynæcological by Physicians, 2 P.M.) Soho-square (2 P.M.) Royal Orthopædic (2 P.M.) City Orthopædic (4 P.M.) Gt Northern Central (2.30 P.M.) West London (2.30 P.M.) London Throat (2 P.M.)

TUESDAY (9th).—London (2 P.M.) St Bartholomew's (1.30 P.M.) Guy's (1.30 P.M.) St Thomas's (3.30 P.M.) Middlesex (1.30 P.M.) Westminster (2 P.M.) West London (2.30 P.M.), University College (2 P.M.) St. George's (1 P.M.) St Mary's (1 P.M.), St. Mark's (2.30 P.M.) Cancer (2 P.M.) Metropolitan (2.30 P.M.) London Throat (2 P.M. and 6 P.M.) Royal Ear (3 P.M.)

WEDNESDAY (10th).—St Bartholomew's (1.30 P.M.), University College (2 P.M.) Royal Free (2 P.M.) Middlesex (1.30 P.M.) Charing-cross (3 P.M.) St. Thomas's (2 P.M.) London (2 P.M.) King's College (2 P.M.) St George's (Ophthalmic 1 P.M.) St Mary's (2 P.M.) National Orthopædic (10 A.M.) St Peter's (2 P.M.) Samaritan (2.30 P.M.) Gt Ormond street (9.30 A.M.) Gt Northern Central (2.30 P.M.) Westminster (2 P.M.) Metropolitan (2.30 P.M.) London Throat (2 P.M.) Cancer (2 P.M.)

THURSDAY (11th).—St Bartholomew's (1.30 P.M.) St Thomas's (3.30 P.M.) University College (2 P.M.) Charing-cross (3 P.M.) St George's (1 P.M.) London (2 P.M.) King's College (2 P.M.) Middlesex (1.30 P.M.) St Mary's (2.30 P.M.), Soho-square (2 P.M.) North West London (2 P.M.), Chelsea (2 P.M.) Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.) London Throat (2 P.M.) St Mark's (2 P.M.)

FRIDAY (12th).—London (2 P.M.) St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.) Guy's (1.30 P.M.) Middlesex (1.30 P.M.) Charing-cross (3 P.M.), St George's (1 P.M.) King's College (2 P.M.) St. Mary's (2 P.M. Ophthalmic 10 A.M.) Cancer (2 P.M.) Chelsea (2 P.M.) Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.) London Throat (2 P.M. and 6 P.M.)

SATURDAY (13th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.) St Thomas's (2 P.M.) London (2 P.M.) University College (9.15 A.M.) Charing-cross (2 P.M.), St George's (1 P.M.) St. Mary's (10 P.M.) London Throat (2 P.M.)

At the Royal Eye Hospital (2 P.M.) the Royal London Ophthalmic (10 A.M.) the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily

SOCIETIES

MONDAY (8th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr C. Mansell Moullin Excision of the Vesiculæ Seminales.—Dr W J Gow: Some Remarks on the Operative Treatment of Uterine Fibroids

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40 Leicester-square, W C).—7 P.M. Council Meeting 8 P.M. Special Meeting to consider the following proposed new Bye-law: That the Council be empowered to make Grants in aid of Scientific Research in connexion with Dentistry Ordinary Meeting Adjourned Discussion on Mr J F Colyer's paper on Some Notes on the Treatment of Superior Protrusion (opened by short paper from Mr Lloyd Williams, and Mr D Hepburn will show some photographs of cases bearing on the subject) Casual Communication:—Mr E. W Harwood: The Relief of Apical Overcrowding and its Results.

TUESDAY (9th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W).—Dr F Warner: Ophthalmoplegia Externa complicating a Case of Graves's Disease.—Mr A. G R. Foulerton and Dr H. C. Thomson: Investigation into the Nature of Changes produced in the Nerve-cells of the Cerebral Cortex by the action of Tetanus Toxin.

WEDNESDAY (10th).—HUNTERIAN SOCIETY.—8.30 P.M. Paper:—Dr D Grant: Cases illustrating various Conditions giving rise to Deafness (with demonstration of cases).

THURSDAY (11th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W).—8 P.M. Specimens will be shown by Dr A. Giles, Dr Purcell, and Dr F Edge Annual Meeting Election of Officers, &c President's Valedictory Address

FRIDAY (12th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W).—8.30 P.M. Clinical Evening The following cases will be shown.—Mr J Hutchinson, jun Complete Sub-peritoneal Resection of the Os Calcis.—Mr Lunn: (1) A case of Double Facial Diplegia in a Woman (2) Congenital Luxation of the Right Hip in a Child with Skiagraph (3) Paroxysmal Hæmoglobinuria in a girl of 10 years.—Mr C J Symonds Malignant Disease of the Thyroid after two Operations.—Mr Jackson Clarke: Case of Excision of the Neck of the Lower Jaw for Ankylosis.—Other cases will be shown. Patients will be in attendance at 8 P.M.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION (11 Chandos-st. Cavendish-square W).—4 P.M. Meeting

LECTURES, ADDRESSES DEMONSTRATIONS, &c

TUESDAY (9th).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, W C).—3.30 P.M. Dr J. Taylor: Demonstration on Cerebral Tumours

WEDNESDAY (10th).—ST JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W C).—4.30 P.M. Dr M. Dockrell: Malignant New Growths (Post graduate Course.)

THURSDAY (11th).—CHARING-CROSS HOSPITAL.—4 P.M. Dr Green: Cases in the Wards. (Post Graduate Course.)

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS" and not in any case to any gentleman who may be supposed to be connected with the Editorial staff It is urgently necessary that attention be given to this notice

---

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures original articles and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor

Letters relating to the publication sale and advertising departments of THE LANCET *should be addressed To the Manager"*

We cannot undertake to return MSS not used

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol II of 1899, which was completed with the issue of Dec 30th, and the Title-page to the Volume, are given in this number of THE LANCET

VOLUMES AND CASES

VOLUMES for the second half of the year 1899 will be ready shortly. Bound in cloth gilt lettered, price 18s., carriage extra

Cases for binding the half year's numbers are now ready Cloth, gilt lettered price 2s., by post 2s 3d

To be obtained on application to the Manager, accompanied by remittance

---

TO SUBSCRIBERS

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423 Strand W C are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices and consequently inquiries concerning missing copies &c, should be sent to the Agent to whom the subscription is paid and *not* to THE LANCET Offices

Subscribers by sending their subscriptions direct to THE LANCET Offices will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are —

FOR THE UNITED KINGDOM		TO THE COLONIES AND ABROAD	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance

Communications, Letters, &c., have been received from—

A.—Mons. J. Aslar, Asnières; Dr. Althaus, Lond.; Messrs. F. Archer and Co., Malvern; Messrs. Allen and Hanburys, Lond.; Messrs. Armour and Co., Lond.; Messrs. Arnold and Sons, Lond.

B.—Mr. A. Browne, Leicester; Mr. D. Brereton, Gildersome; Mr. R. Baker, Birmingham; Mr. C. Birchall, Lond.; Messrs. J. I. Bullock and Co., Lond.; Mr. H. Butterfield, Northampton; Mr. W. H. Bennett, Lond.; T. H. Browne, Ltd., Lond.; Surgeon R. F. Bate, R.N., Chatham; Miss M. Branscombe, Torquay; Sir James Blyth, Lond.; Dr. J. W. Black, Inverness; Messrs. J. Bell and Co., Lond.; Mrs. D. Bagshawe; Mons. O. Berthier, Paris; Messrs. Burroughs, Wellcome, and Co., Lond.; Mr. W. H. Brooks, Leicester.

C.—Mr. W. K. Clay, Edinburgh; Messrs. Chadwick and Co., Lond.; Cortland Wagon Co., Lond.; Mr. T. Cherry, Lond.; Mr. A. Cowes, Lond.; Mr. H. Cripps, Lond.; Messrs. Crossley and Co., Lond.; Messrs. Cassell and Co., Lond.; Messrs. T. Christy and Co., Lond.; *Chester Courant*; Conduit and Insulation Co., Lond.; Mr. A. H. Cheatle, Lond.; Dr. Church.

D.—Dr. A. S. Dick, Cathcart; Dr. T. S. Dowse, Lond.; Messrs. Dale, Reynolds, and Co., Lond.; Dental Hospital of London, Dean of; Surgeon M. Dougal, R.N.; Doncaster General Infirmary, Hon. Secretary of; Messrs. Derry and Sons, Nottingham; Mr. H. Downs, Culmstock; Mr. A. Duke, Cheltenham; Dr. C. R. Drysdale, Lond.; Dr. Clement Dukes, Rugby; Mrs. Dalgliesh, Newcastle-on-Tyne.

E.—Captain H. M. Earle, Arrah, India; Messrs. Evans, Lescher, and Webb, Lond.

F.—Mr. E. G. Ffrench, Brighton; Messrs. Fassett and Johnson, Lond.; Dr. T. Fisher, Clifton.

G.—Great Yarmouth Hospital, Hon. Secretary of; General Medical Council, Registrar of; Messrs. C. T. Getting and Sons, Lond.; Messrs. Griffin and Co., Lond.; Dr. Gilbert, Baden-Baden; Messrs. Gordon, Alexander, and Co., Lond.; Glamorgan County Asylum, Bridgend, Clerk of; Dr. J. T. Grant, Edinburgh; Dr. A. Gad, Copenhagen; Dr. R. A. Graham, Belfast.

H.—Dr. T. W. Hime, Bradford; Mr. H. B. Hulburt, Windsor; Dr. Basil Hall, Bradford; Mr. W. D. Howison, Lond.; Hovis Bread Flour Co., Macclesfield; Hospital for Diseases of the Throat, Lond.; Mr. F. Hall, Grantham; Humphreys, Ltd., Lond.; Mr. A. Helbig, Lond.; Mr. T. Hawkesley, Lond.; Mr. W. T. Hensley, Cardiff.

I.—Messrs. I. Isaacs and Co., Lond.; Imperial Accident Insurance Co., Lond.; I. and I. Food Co.

J.—Dr. A. B. Judson, New York; Mons. J. Jérome, Bruxelles; Mr. F. B. Jessett, Lond.; J. C. P.

K.—Mr. G. Key, Rugeley; Kent and Canterbury Hospital, Secretary of; Mr. E. King, Lond.; Mr. H. C. B. Kerin, Lond.

L.—Liverpool School of Tropical Diseases, Secretary of; London Throat Hospital, Secretary of; Messrs. Lewis and Lewis, Lond.; Mr. R. B. Lauder, Southampton; Mr. W. Lloyd, Cardiff; Dr. H. S. Lunn, Lond.; Miss C. P. Lewis, Llandovery; Leeds General Infirmary, Manager of.

M.—Dr. T. J. Maclagan, Lond.; Manchester Royal Infirmary, Secretary of; Medical Graduates' College, Lond.; Medical Superintendent of; Medical, Lond.; Mr. J. Milne, Ladywell; Manor Asylum, Epsom, Medical Superintendent of; *Medical Counselor* Publishing Club, Detroit, U.S.A.; Messrs. Maple and Co., Lond.; Dr. H. C. Major, Bingley; Messrs. J. Maythorn and Son, Biggleswade; M. H. C., Dublin; Dr. J. F. Macara, Darness; Wm. S. Merrell Chemical Co., Lond.; Monsall Hospital, Manchester, Medical Superintendent of; Messrs. C. Mitchell and Co., Lond.; Messrs. Manlove, Alliott, and Co., Nottingham; *Meyers Brothers Druggist*, St. Louis, U.S.A.; Mr. Moynihan, Leeds; Mr. F. T. Morris, Cardiff; Dr. T. G. Mathews, Tibshelf; Malt Diastase Co., Lond.; M. H. G.; L. D. S.

N.—Nottingham General Hospital, Secretary of; National Provident Institution, Lond., Secretary of; Newark-on-Trent Hospital, Secretary of; National Hospital for Consumption for Ireland, Dublin, Hon. Secretary of.

O.—Mr. F. A. Osborn, Dover.

P.—Mr. H. A. Powell, Folkestone; Mr. Y. J. Pentland, Edinburgh; Messrs. Potter and Sacker, Lond.; Mrs. C. Parker, Lond.; Mr. N. Paschalis, Lond.; Dr. T. F. Pedley, Rangoon; Mr. A. Paul, Lond.; Dr. Pye-Smith, Lond.; Mr. C. E. Paget, Northampton.

R.—Dr. F. W. H. Robson, Birscough Bridge; Mr. E. J. Reid, Lond.; Rebman Publishing Co., Lond.; Señor José Ramírez, Mexico; *Revista de Medicina y Cirugía*, Habana, Secretary of; Messrs. Roger and Chernoviz, Paris; Mr. R. Redpath, Newcastle-on-Tyne; Royal Portsmouth Hospital, Secretary of; Messrs. Reynolds and Branson, Leeds.

S.—Mr. A. H. Sutherland, Lond.; Shaftesbury House, Formby, Secretary of; Sanitas Co., Lond.; St. Andrew's Hospital, Northampton, Secretary of; Messrs. W. H. Smith and Son, Manchester; South Uist Parish Council, Clerk of; Messrs. J. Swain and Son, Lond.; Messrs. Smith, Elder, and Co., Lond.; Messrs. Street and Co., Lond.; Mr. J. Sellers, Lond.; *Staffordshire Sentinel*, Editor of; Strand Engraving Co., Lond.; Dr. F. T. Simson, Lond.; Mr. Morton Smale, Lond.; Messrs. A. Straker and Son, Lond.

T.—Dr. T. Telford-Smith, Bombay; Dr. G. N. W. Thomas, Bradford; Mr. T. Thatcher, Bristol; T. J. C.; Dr. C. W. E. Toller, Ilfracombe; Terrol Co., Lond.; Taunton and Somerset Hospital, Accountant of; Messrs. H. U. Taylor and Co., Bexhill-on-Sea; Torbay Hospital, Torquay.

U.—Union Assurance Society, Lond.

V.—Mr. J. W. Vickars, Lond.

W.—Dr. F. H. Wiggin, New York; Mr. T. Woods, Fleetwood; Mr. S. Wand, Leicester; *Woolwich Herald*; West Kent General Hospital, Maidstone, Secretary of; W. A. J.; Wolverhampton General Hospital, Secretary of; Whitehaven Infirmary, Secretary of; Wyleys, Ltd., Coventry; Dr. Prosser White; Dr. Waldo, Lond.; Professor Wright, Netley; Professor Woodhead, Cambridge.

X.—X. Y. Z., Llandilo.

Y.—Dr. I. B. Yeo, Lond.

Letters, each [illegible]

A.—Dr. J. Anderson, Pitlochry; Mr. W. Adams, Lond.; A. T., Malvern; A. H.; Apollinaris Co., Lond.; A. J. L.; A. G. S.; A. C.; A. E. G.

B.—Mr. B. Bird, Blackwood; Dr. D. Beatson, Kearsney; Dr. L. Buxton, Lond.; Messrs. Ballantyne, Hanson, and Co., Lond.; Dr. T. C. Booth, Urmston; Dr. C. P. Beater, Rathgar; Mr. W. Bryce, Edinburgh; Mr. F. B. J. Baldwin, Rotherham; of; Bayer Co., Lond.; Mr. B. Bysack, Hidiri, India; Dr. A. Bonner, Bradford; Mr. R. V. Bice, Needham; Mr. T. W. Bevan, Nantyglo; Dr. M. Benson, Wigan; Messrs. Barclay and Sons, Lond.; Dr. Birch, South Bank; Messrs. F. B. Benger and Co., Manchester; Bath Corporation, Treasurer of.

C.—Mr. J. M. Carvell, Catford; Dr. C. H. Chapman, Grimsby; Dr. J. T. Callcott, Gosforth; Mr. W. H. Crosse, Lond.; Dr. A. Campbell, Halifax, Nova Scotia; Cambridge Hospital, Aldershot, Librarian of; Mr. J. Cater, South Tottenham; Dr. W. Collier, Oxford; Dr. W. H. Coates, Hull; C. L.; Mr. B. K. Coomar, Calcutta; Mr. J. G. Christian, Harrogate; Staff Surgeon E. Corcoran, R.N., Channel Squadron; C. E. P.; Dr. J. McGowan, Glasgow; Messrs. W. S. Campbell and Co., Hampton-on-Thames.

D.—Mr. J. H. Divan, Carrick-on-Suir; Messrs. Douglas and Mason, Edinburgh; Dr. P. J. Daly, Cork; Dr. W. L. Dickenson, Lond.; Mr. A. Dent, Gringley-on-the-Hill; Dorset County Hospital, Dorchester, Secretary of; Hon. Mrs. Dalrymple-Hamilton, Lond.

E.—Dr. J. H. Ewart, Folkestone; E. C.; Messrs. Elliott, Son, and Boyton, Lond.

F.—Dr. W. B. Ferguson, Painswick; Dr. N. Flesch, Budapest; Hon. Mrs. W. H. Fremantle, Ripon; Flintshire Dispensary, Holywell, Secretary of; Messrs. Fletcher, Fletcher, and Co., Lond.; F. W. A.; F. H. D.; Mr. J. J. Fanning, Long Eaton.

G.—Dr. F. W. Goodbody, Lond.; Professor A. Giacomo, Naples, Italy; Mr. H. E. Girdlestone, Bournemouth; Dr. T. Green, Belfast; Galignani Library, Paris; Mr. J. Griffiths, Cambridge; Dr. L. G. Guthrie, Lond.; G. P.; G. B.; Glamorgan County Council, Clerk of; Mr. R. J. Godlee, Lond.;

H.—Mr. W. Herbert, Liverpool; Mr. W. A. Higgs, Castle Combe; Haydock Lodge Retreat, Newton-le-Willows, Proprietor of; Dr. G. Halley, Dundee; H. B.; Messrs. Hooper and Co., Lond.; Mr. W. Hill, Lond.; Dr. C. Holman, Lond.; Dr. A. J. Harrison, Clifton; H. H. B.; H. D.; Dr. J. S. Hinnell, Bury St. Edmunds; Messrs. Harman Bros., Lond.; Dr. L. N. Harding, Yarmouth; Dr. T. B. Hearder, Ilkley.

I.—Interne Pupils' Mess Association, Dublin, Secretary of.

J.—Mr. C. H. Jackman, Lond.; Mr. E. O. Jones, Bethesda; J. M.; J. J.; J. W. H.; J. M. F.; Dr. J. Jones, Clydach; J. D. H.

K.—Mr. S. Keith, Lond.; Messrs. H. and F. Knowles, St. Helens.

M.—Mr. W. A. Musher, Lond.; Dr. G. W. Macleod, Tottenham; Dr. W. J. McCardie, Birmingham; Dr. A. Mercer, Syracuse, U.S.A.; Dr. A. E. Mahood, Northam; Mr. H. W. Mills, Rustchan; Mr. P. [illegible], Thomastown; Mr. W. Moffee, Dublin; Mr. T. Meeks, Linton; Mr. M. J. Mody, Cambridge; Mr. J. Marshall, Darwen; M. S. McD.

N.—Northern Medical Association, Glasgow; Mr. D. M. Nairn, Blenheim, New Zealand; Dr. C. R. Niven, Everton.

O.—Dr. H. Oppenheimer, Lond.

P.—Dr. J. G. Pounder, Billingham; Messrs. J. Parker and Co., Oxford; Messrs. W. Porteous and Co., Glasgow; Dr. E. J. Perry, Pontycymmer; Platinon Syndicate, Lond.

R.—Mr. T. Reynolds, Steeple Bumpstead; Dr. G. A. Reid, Southsea; Dr. J. D. Rawlings, Dorking; R. F. W.; Dr. H. R. Rutherford, Bridgwater; Mr. H. Rainsford, Lond.; R. J.; Royal Alexandra Hospital for Children, Brighton; Dr. A. Routh, Lond.; R. W. R.; Dr. G. J. Robertson, Oldham.

S.—Dr. S. Stonge, Lond.; Dr. E. Smith, Lond.; Dr. A. W. Wilseymoor, Troy, U.S.A.; Captain F. J. Smith, R.A.M.C., Woolston; Dr. J. J. Mirda Silva, Porto; Mr. G. Schulpp, Lond.; St. Mungo's College, Glasgow, Treasurer of; Dr. J. A. Shaw-Mackenzie, Lond.; Mr. J. Stewart, Clifton; Mr. A. J. Stanley, Burton-on-Trent; Mr. W. A. Savage, Aberdare; Dr. W. Shears, Catford; Dr. T. Schott, Frankfurt; Dr. P. B. Smith, San Remo; Dr. T. W. Smith, Bath; Mr. K. M. Scott, Lond.; Surgeon, Leeds; Messrs. Salamon and Co., Rainham; Dr. Scaravias, Galatz, Roumania.

T.—Mr. L. A. Talleyman, Lond.; Dr. W. E. Thorne, Lond.; T. W.; Mr. P. Toller, Beverley; Dr. H. W. Thomson, Glasgow; Dr. J. Taylor, Omagh; Temperance Male Nurses' Coöperation, Lond., Secretary of; T. M. F.; Turner, Banbury.

V.—Senhor F. Vaz, Porto.

W.—Mr. J. Wallwork, Tyldesley; Surgeon Colonel F. H. Welch, Lee; Mr. J. Ward, Lond.; Dr. J. R. Woodcock, Halcombe; Mr. C. Walcott, Benton, U.S.A.; Mons. H. Welter, Paris; Dr. T. Whitelaw, Portobello; W. P.; Dr. F. W. Whyte, Strandtown; Dr. F. G. Wallace, Lond.; Mr. J. Wyman, Lond.; Dr. W. Winslow, Wallington; Mr. J. J. Waddelow, Whittlesea; Dr. H. L. Woollcombe, Dublin; Mr. W. Webster, Kings Lynn; Dr. H. W. Wise, Poynton; W. W. S.; Dr. V. Wanostrocht, Penny Compton; Dr. W.; W. J. B.; Dr. J. J. Welply, Bandon; Mr. E. R. Williams, Carmarthen; Wesleyan Mission House, Lond., Treasurer of.

Z.—Dr. S. C. Zavitziano, Constantinople; Messrs. A. and M. Zimmermann, Lond.

An Address

ON

SOME POINTS IN THE NATURAL HISTORY OF UTERINE FIBROIDS.

Delivered before the North London Medical and Chirurgical Society on Oct. 12th, 1899.

By F. H. CHAMPNEYS, M.D. Oxon.,
F.R.C.P. Lond.,
PHYSICIAN-ACCOUCHEUR TO ST. BARTHOLOMEW'S HOSPITAL.

GENTLEMEN,—In selecting for this evening the subject of uterine fibroids I have been mindful of the fact that while rarities have their own special interest the most important subjects are, generally speaking, the commonest. Again, I believe it is the general experience of teachers that each year they become more elementary, not because either their own or their hearers' knowledge gets less but because they become more and more conscious of the fact that it is fundamental principles to which resort has to be generally made for the solution of problems and that these need above all things to be insisted on. I do not therefore propose to discuss on this occasion the latest discoveries in the structure or pathology of fibroids or the details of their operative treatment, but rather to go to the foundations of the subject—to inquire to some extent into their natural history: (1) how common they are; (2) what harm they do; (3) how often they do it; and (4) what follows from these considerations.

HOW COMMON ARE UTERINE FIBROIDS?

This question can only be answered approximately. In order to answer it quite accurately we should require to know the results of post-mortem examinations of all female members of the community made with due attention to the point. Clinical examination often fails to discover a small fibroid, and, indeed, many small ones may be embedded in the walls of a uterus not in size beyond the limits of normality without making their presence evident to anyone who does not search for them in the post mortem room by multiple incisions. Clinical records in hospitals must, therefore, greatly understate their frequency on the one hand, while on the other hospitals attract to themselves pathological rather than normal specimens. The latter is also true of post-mortem hospital records, and must of course be discounted. Still, if we could take notice of the cases in which fibroids occurred without causing symptoms, or at least without constituting the complaint for which the hospital was sought, we should gain an idea of their frequency.

In attempting an answer to some of the questions concerning our subject I have based my statements upon the records of St Bartholomew's Hospital. The figures will speak for themselves.

Out-patients.—From January, 1866, to July 13th, 1899 (a period of 32½ years) the number of out-patients seen in the department for diseases of women was 40,615. Of these 40,615 cases 1043 were diagnosed as cases of uterine fibroid. Therefore the proportion of cases in which uterine fibroids were diagnosed was 2½ per cent.

In-patients (in Martha Ward, for diseases of women).—From 1881 to 1899 (July 20th), 18 years, the total number of all cases was 5785. Of these 547 were diagnosed as cases of uterine fibroid. Therefore the proportion of cases in which uterine fibroids were diagnosed was 9.4 per cent. There were no in-patient notes before 1881.

Necropsies.—1. Medical post-mortem notes, 1867 to 1899. Examination was made of the bodies of 1398 women of 30 years of age and over. Uterine fibroids were noted in 74 cases—that is, just over 5 per cent. It seems probable that many cases in which small fibroids existed have not been noted. 2. Surgical post-mortem notes, 1885 to 1899 (there were no notes before 1885). The total number of examinations of the bodies of patients of 30 years of age or over was 462. Uterine fibroids were noted in 67—that is, in 14.4 per cent. It is probable that many cases of small fibroids have not been noted. In several cases in which death occurred after operations on fibroids no post-mortem examination was allowed; therefore the necropsies do not represent the total number in which the presence of fibroids was proved. Besides this, no post-mortem examination is made without permission, and none is made on a certain number dying in the hospital. The results will be seen to vary very considerably. It might, perhaps, be suggested that it would be fair to put the error in excess due to the aggregation in a hospital of pathological cases against the error in deficiency due to the overlooking of fibroids in cases in which they were not specially searched for, but I can see no reason to suppose that these errors would balance each other. I am certain, however, that fibroids, both in clinical practice and in the post-mortem room, are often overlooked. It seems to me, therefore, from the above statistics, impossible to answer numerically the question, What percentage of women have fibroids? Still, it is quite certain that they are very common, and this is generally admitted.

It is plain that the difficulty in estimating the frequency of fibroids is somewhat complex. The numbers diagnosed either in the out-patient room, in the wards, or in the post-mortem room (all of which fall below the mark, as above explained) represent an approximation to one part of the answer to the question "How *many*?" but to answer the question "How frequent?" we need to know the numbers from which these cases have been gathered. In other words, while we know something of the *enumerator* of our fraction we still have to seek the *denominator*. The out-patients themselves are *selected* from the populace, for it is plain that people do not apply to a hospital at all unless they feel in some ways out of health. The in-patients are not only selected from the out-patients but are also selected from an uncertain and unascertainable number under the care of British medical men not only in the United Kingdom but also in British possessions throughout the world.

In-patients.—With regard to the in-patients the total number of female in-patients at St. Bartholomew's Hospital from 1881[1] to the end of 1898 (the returns for 1899 are not yet completed) was 49,396; from 1870 to the end of 1898 (no figures were available before 1870) the number was 76,669.

Statements are made as to the frequency of fibroids on the authority of Klob and Bayle. In Dr. Haultain's article, for instance, in Allbutt's System of Medicine Bayle is said to state that they occur in 20 per cent. of all women over 35 years of age. The reference given for this statement is "Dict. Paris, vol. vii, p. 73," which looks like a second-hand quotation from the following: "En général, on peut avancer que la matrice est extrêmement disposée à donner naissance à des corps fibreux; car en faisant l'ouverture du cadavre du cent femmes prises indistinctement et âgées de plus de trente-cinq ans, il en est au moins vingt chez lesquelles on trouve un ou plusieurs de ces corps accidentels."[2] This is seen to be merely an impression based on no figures. The quotation from Klob[3] is as follows: "Die runden Uterus-Fibroide entwickeln sich niemals vor der Pubertät, und sehr selten vor dem 30. Jahre. Von da an steigt ihre Häufigkeit, und ist mit den klimakterischen Jahren schon so bedeutend, dass man bei nach dem 50. Lebensjahre verstorbenen Frauen gewiss bei 40 prozent mit Fibroiden bezeichnete Uteri findet." ("Round uterine fibroids never occur before puberty and very rarely before the thirtieth year. From that period their frequency increases and at the climacteric period it is such that undoubtedly 40 per cent. of the uteri of females who die after the fiftieth year contain fibroid tumours.") This is also a mere opinion and is based upon no recorded facts.

Out-patients (general).—During the period 1885-1899 (the middle of the year) 1,918,435 out-patients were treated at St. Bartholomew's Hospital and of these at least a half, or 959,217, were females. During this period there were 113 cases of fibroid in the post mortem room—i.e., 0.01 per cent. of out-patients. There were 1198 post mortem examinations, medical and surgical, on women of or over 30 years of age. Therefore fibroids occurred at the rate of 9.4 per cent. of post-mortem cases.

---

[1] There were no records from special wards previously to 1881.

[2] Bayle: Dictionnaire des Sciences Médicales par une Société de Médecins et de Chirurgiens, vol. vii., p. 673, Paris, 1813.

[3] Pathologische Anatomie der Weiblichen Sexualorgane, 1864, S. 157.

WHAT SYMPTOMS DO UTERINE FIBROIDS CAUSE?

These include (1) weight and pressure; (2) bleeding; (3) pain (including dysmenorrhœa); and (4) catarrh.

1. *Weight and pressure.*—The symptoms of weight and pressure require little explanation. Any variety of fibroid, if sufficiently heavy, may cause symptoms of weight; if sufficiently large may cause pressure. If the tumour is above the pelvis pressure symptoms will be less; if in the pelvis a tumour of the size of a large fœtal head is almost bound to cause these symptoms. Pressure symptoms include the following conditions: (1) painful, frequent, or difficult micturition, even retention of urine; especially if the tumour is in the hollow of the sacrum. It must, however, be noted that even small tumours, which cannot conceivably cause symptoms either by weight or pressure, sometimes cause retention of urine. This can only be the result of reflex action; it is in this sense neurotic; it is also generally temporary. Pressure on the urinary tract may lead to cystitis and hydronephrosis, which in rare cases causes death. Pressure symptoms are generally aggravated before the menstrual flow, when the uterus and tumour swell and are generally relieved as soon as the flow is established. It is to this cyclical change in fibroids that we owe our best proof of the sanguineous afflux and physiological swelling of the uterus before menstruation and its subsidence with the establishment of the flow symptoms in cases of urinary obstruction are often very obscure, as is well known, and there may be none directly pointing to the kidneys. The ureters are less liable to be obstructed by a fibroid than by a malignant growth; since the fibroid as a rule pushes them aside, while the malignant growth infiltrates the surrounding tissues. (2) Painful or difficult defecation and very rarely obstruction. It is certain that pressure, from whatever cause, acts much more readily in the pelvis on the urinary than on the intestinal tract. This is exemplified by cases of retroversion of the gravid uterus, in which the stock symptom is retention of urine, while intestinal obstruction, or even serious impediment, is very rare. In the same way, where defecation is interfered with in cases of fibroids, it is usually from weakening of the bowel due to interference with its circulation, innervation and general nutrition rather than from direct pressure. (3) Varicose veins, as of the legs or abdomen. This symptom again is rare. Fibroids, as a rule, do not press on the vena cava inferior or on the iliac veins above the brim, these veins being protected by their situation and the tumour being generally more or less moveable. Symptoms of obstruction to veins are commoner in malignant growths, especially when the symptoms are one-sided, since malignant growths infiltrate the surrounding cellular tissue and grow round the veins In the pelvis a fibroid may cause venous obstruction and, incidentally, hæmorrhoids. (4) Pressure on the nerves, causing neuralgia, especially in the legs.

2. *Bleeding*—This takes place from the whole inner surface of the uterus, not only from the tumour; it is often apparently due to endometritis, the endometrium being often very greatly thickened, not especially over the tumour, where it is, on the contrary, sometimes thinner than elsewhere. In some cases the thickened endometrium takes the form of mucous polypi. When due to this cause curetting of the uterus may greatly modify the bleeding. In some cases the endometrium is, on the contrary, no thicker, or even thinner, than normal. As a rule the hæmorrhage is capillary; occasionally a venous sinus is opened by ulceration and severe and fatal hæmorrhage may result.

3. *Pain (including dysmenorrhœa).*—The symptom of pain may be caused by pressure and weight, but the character of the pain, and especially its general association or its general intensification at the menstrual period, point to a different cause. This cause is almost certainly painful uterine contractions. The uterus is believed to contract spontaneously at the menstrual period; with a tumour in its cavity or embedded in its substance it is hardly wonderful that these contractions should be aggravated. The spontaneous contraction of the uterus can be observed best in cases of large fibroids in which the uterus may sometimes be observed to grow smaller before the onset of the flow. Dysmenorrhœa is merely the above pain. It deserves one word to itself from the fact that patients who are not aware of having any tumour are often driven to their medical adviser by dysmenorrhœa. I am convinced that fibroids often give trouble very early, for it has several times happened to me to see a patient of the age of 30 years dysmenorrhœa and sterility, with a continuous history of dysmenorrhœa since puberty or soon after, for which the cervix had been dilated or divided in vain and in uterus was now palpably enlarged by a small fibroid, the character of the pain not having changed since its onset.

4. *Catarrh.*—This is sometimes very great. It is commonly present in, and is probably due in many cases to, endometritis of the body of the uterus. The copious colourless secretion in these cases, rather thinner than in ordinary cervical catarrh, gives us the best opportunity for studying the secretion of the uterine mucosa as distinct from that of the cervix.

As regards the above symptoms, it must be distinctly stated that subperitoneal fibroids cause no symptoms except those of weight and pressure. When a woman with a subperitoneal fibroid suffers from hæmorrhage, this is not due to the subperitoneal fibroid, but to an interstitial or submucous fibroid, since these tumours, like other misfortunes, are often not single.

WHAT IS THE MORTALITY FROM FIBROIDS.

In order to arrive at a statement on this subject it will be well to divide the cases into those which have been operated on and those in which no operation has been performed. As has already been stated, the medical post-mortem notes of St. Bartholomew's Hospital from 1867 to 1899 show that examination was made of the bodies of 1398 women of 30 years of age or over. Uterine fibroids were noted in 74 cases, or just over 5 per cent. The cases are as follows: 1. In 1873 a patient, aged 45 years, died from "repeated copious bleeding from the uterus. Convulsions preceded death." At the post-mortem examination besides other fibroids were "two large pedunculated fibroids in the uterine cavity" 2 In 1878 a patient, aged 39 years, died from diseased kidneys due to the pressure of a uterine fibroid. In 1879 a patient, aged 44 years, died from sepsis following incision of the capsule of a submucous fibroid. In 1880 a patient, aged 47 years, died from sepsis following the removal of a fibroid polypus. The following patients, who will be included later under the results of operations, also died; a patient, aged 44 years, from a sloughing fibroid, and two others, aged respectively 43 years and 46 years, from incomplete enucleation 3. In 1896 a woman, aged 62 years, died from dilation of the ureters and the kidneys, doubtfully due to the pressure of a fibroid. In all the other cases the fibroids were in no way responsible for the death of the patients. Thus we see that the mortality of the 74 cases apart from operation amounted to three, or 4·05 per cent. But if we calculate the percentage of mortality apart from operation we shall see that it took 2,160,112—that is, half of the total number of outpatients from 1866 to 1898—to furnish three cases. Thus the percentage of mortality apart from operation was 0 000138.

The surgical post-mortem notes (which date from 188 previously to which none are available) from 1885 to 1899 giv accounts of the examination of the bodies of 462 females o 30 years of age or over The number in which fibroids were noted is 67. In the following 15 cases death was due directly or indirectly to the fibroid. Two patients, aged respectively 31 years and 32 years, died from sepsis after oöphorectomy. A patient, aged 37 years, died from sepsis. The fibroid was mistaken for an ovarian tumour and was punctured after abdominal section. Two patients, aged respectively 44 years and 48 years, died from peritonitis after hysterectomy. A patient, aged 44 years, died from shock after hysterectomy. Patients died after hysterectomy at the following ages. 44 years, 39 years, 37 years, 42 years, 34 years, and 37 years. One patient, aged 50 years, died after colotomy for intestinal obstruction caused by fibroids. In the remaining 52 cases the fibroids had nothing to do with the death of the patient It will be seen that no patient died apart from operation. Cases of operations will be subsequently referred to In many cases no post-mortem examination was made

In the Martha Ward (for diseases of women) at St. Bartholomew's Hospital, of which the notes date from 1881, 5785 women were treated between 1881 and July 20th, 1899. Of these there were 547 cases of uterine fibroid—a proportion of 9 4 per cent. Out of these 547 cases there were 29 deaths, all of which, with one exception, followed operation. In the exceptional case the patient died in 1885 a few hours after admission and it is doubtful whether the fibroid had anything to do with death (no necropsy was allowed) The history was one of vomiting for several weeks, worse for a week in hospital the symptoms were vomiting and collapse The deaths were as follows After hysterectomy, 15 deaths; after oöphorectomy, two deaths, after removal of polypus, two deaths, after enucleation of the tumour, four deaths, after removal of the sloughing fibroid, three deaths, after exploratory abdominal incision one death, and after ovariotomy, one death (the fibroid caused no symptoms)

The details of operations are as follows Polypi removed 91 with two deaths (2 2 per cent), one of which occurred in 1882 from peritonitis and the other, which took place in 1895, was a case of incomplete operation on a large fibroid polypus Hysterectomy 55 operations with 15 deaths (27 2 per cent) One death occurred in 1883, five in 1894, two in 1895 three in 1896 two in 1897, and two in 1898 Oophorectomy five operations with two deaths both occurring in 1888 (40 per cent) Sloughing fibroids removed 13 with three deaths (23 per cent) One death took place in 1891, one in 1894 and one (following labour) in 1898 Enucleation 31 operations with four deaths (12 9 per cent) The deaths occurred respectively in 1885 (from sepsis), in 1888 (from pulmonary embolism) in 1889 (from sepsis incomplete operation) and in 1893 (from collapse incomplete operation) An exploratory abdominal incision was performed in one case in 1888 Nothing was removed, there was sepsis Incisions of capsule two with no death Incision and drainage of a cystic fibroid were carried out in one case The patient recovered

The following table gives the results of abdominal hysterectomies for fibroids at all the London hospitals of which statistics are published at least as far as I have been able to ascertain

TABLE I —*Showing the Abdominal Hysterectomies for Fibroids performed at Five of the London Hospitals*

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN

(210 Operations 30 Deaths Mortality 14 per cent)

Year	Operations	Deaths	Year	Operations.	Deaths
1889	14	2	1894	25	3
1890	24	0	1895	17	3
1891	19	5	1896	17	4
1892	30	3	1897	21	3
1893	23	2	1898	20	6

ST BARTHOLOMEW'S HOSPITAL

(55 Operations, 15 Deaths Mortality 27 per cent)

1883	1	1	1896	7	3
1891	1	0	1897	10	2
1892	3	0	1898	9	2
1894	10	5	1899*	7	0
1895	7	2			

* Up to July 20th.

MIDDLESEX HOSPITAL

(42 Operations 9 Deaths Mortality 21 per cent)

1890	5	2	1894	1	0
1891	3	1	1895	3	0
1892	3	2	1896	6	1
1893	0	0	1897	21	3

CHELSEA HOSPITAL

(92 Operations, 11 Deaths Mortality 12 per cent)

1894	4	0	1897	33	5
1895	6	1	1898	40	4
1896	9	1			

ST THOMAS'S HOSPITAL

(34 Operations 9 deaths Mortality 26 per cent)

1892	3	0	1895	13	4
1893	3	0	1896	5	2
1894	5	2	1897	5	1

The above figures make a grand total of 433 cases with 74 deaths, or an average mortality of 17 0 per cent Taking the mortality for each year we get the following figures —

Year	Operations.	Deaths	Percentage
1889	14	2	14 0
1890	29	2	6 9
1891	23	6	26 0
1892	39	5	12 8
1893	26	2	7 6
1894	45	10	22 2
1895	46	10	21 7
1896	44	11	25 0
1897	90	14	15 5
1898	69	11	15 9

I have preferred to take hospital statistics as a basis for arriving at the mortality from operations on fibroids to taking the results of special operators because what we are seeking is not the question how skilful any given operator may be, but what is as a matter of fact the mortality after this operation It will be seen that the mortality is even now very much the same as it was 10 years ago It must also be remembered that extensive operating tends to lower the percentage of mortality for it includes many simple and therefore less dangerous cases than would be operated on where well marked symptoms only are regarded This is a well known fact

Summary —We have now considered the subject as far as our present inquiry goes Taking St Bartholomew's Hospital as our field of investigation we see that fibroids occur in the post mortem room at the rate of 0 01 per cent of female out-patients, or 9 4 per cent —i e, 1 in 10 000—of necropsies, and that in only three cases did fibroids cause death apart from operation The mortality from operation is 17 per cent The mortality apart from operation is 3 in over 2 000 000 (2 160 112) or 0 000138 per cent It seems undeniable that deaths from fibroids apart from operation are excessively rare

The proper place for the deaths after hysterectomy is a matter for debate and must depend upon the practice of the surgeons concerned If, for instance the surgeon's practice is to operate in cases in which life is not threatened these deaths are not properly deaths from fibroids but deaths from operation, if on the other hand, the surgeon operates principally on cases in which life is threatened the deaths after his operation may be justly reckoned in large part as deaths from fibroids It seems quite evident that the mortality will be greater in the latter case also and that percentages of mortality after operation are by no means necessarily a just test either of the skill of the operator or of the correctness of his practice In this connexion it may be well to remind ourselves of the bearings of ovariotomy on hysterectomy The similarity between the two operations has rather obscured the contrast between the two diseases The natural termination of all ovarian tumours of the usual kind is death Speaking generally, therefore they should all be removed The natural course of fibroid tumours of the womb, on the contrary, is that with rare exceptions they do not cause death Speaking generally, therefore it is not necessary to life to remove them

Whether it is desirable or not to remove them depends upon the merits of each case For instance bleeding is a symptom which may urgently call for relief by operation though deaths from hæmorrhage are extremely rare A perpetually recurring severe loss of blood may ruin a life even if it does not cause death and may expose a patient to a greatly increased risk from many intercurrent diseases It must be remembered, also that long continued severe hæmorrhage is apt to destroy the power of making blood, it destroys the mint as well as the bank Pain, again though very difficult to estimate in another, may be a correct indication In this matter objective signs of suffering such as loss of sleep and affection of the pulse during the pain are to be carefully observed and are of more value than graphic descriptions on the part of the patient Pain may ruin a life though it probably never causes death Pressure symptoms apart from pain are often an urgent indication for operation Dangerous pressure symptoms almost invariably affect the urinary tract and cause retention of urine a condition which should not

very little time was available before departure from England no sufficient supply of anti-typhoid vaccine could be prepared before starting. It was therefore necessary to manufacture vaccine *en route* during the intervals which occurred in the course of the sittings of the Plague Commission in Calcutta and Agra respectively. In these places the resources of local laboratories, presided over in the one case by Mr. Nield Cook and in the other case by Mr. Hankin, were in the most generous manner placed at my disposal for the purpose of making the vaccine. The vaccine was standardised on guinea pigs which were carried about from place to place for the purpose of keeping them continuously under observation. Inasmuch as the bottles of vaccine had to be opened up repeatedly for the purpose of drawing off the material, and inasmuch as it was not possible to carry about an incubator to verify the continued sterility of the vaccine, this last was re-sterilised at 60° C. previously to undertaking each new series of inoculations. These particulars will suffice to show that the inoculations were undertaken under conditions which were very far from ideal. In particular there is reason to suppose that the results obtained (this applies notably to the inoculations done in Meerut and Lucknow which came last in series) may have been unfavourably influenced by a weakening of the vaccine brought about by repeated re-sterilisation.

Character of the vaccine which was employed.—The vaccine material which was brought out from England consisted of lysolised (1 per cent. lysol) four-week-old cultures of a virulent typhoid bacillus. These cultures had been prepared about 12 months previously They had been sterilised by an exposure to a temperature of 60° C. The quantity of culture which was employed for each inoculation varied between 0 5 and 0 75 cubic centimetre. This last was the minimum quantity which was fatal to 100 grammes of guinea-pig. This vaccine was employed in inoculations done in Bangalore and at Agra. The additional vaccine material, which was either prepared at Calcutta and Agra or which was afterwards sent out from Netley, consisted of virulent typhoid cultures which had been grown for 24 hours on nutrient agar at a temperature of 37° C. These cultures also were sterilised for the most part at 60° C. In some cases, however, a higher sterilising temperature was employed. The quantity of this agar vaccine which was inoculated varied between 0 3 and 0 5 cubic centimetre, this last quantity corresponding approximately to the quantity of culture which grew on one square centimetre of agar surface. Measured by its effects on guinea-pigs this quantum was considerably less toxic than the quantum of broth culture which was spoken of above. Both varieties of vaccine gave in the doses in which they were employed fairly severe reactions on man Unfortunately it was not in any case possible to undertake two successive inoculations.

Method by which the statistical material which is given below was collected.—The statistical material which is presented below has been compiled from information furnished to me by officers of the Royal Army Medical Corps actually in charge of troops in the various stations. This information has been supplemented by reports received from the commanding officers of the various inoculated regiments. I desire here to express my acknowledgments of the kindly assistance which was everywhere afforded me, not only in the actual carrying out of the inoculations but also in the collection of the statistics This last task has not been free from difficulty owing, among other things, to the fact that the various regiments are, in the hot season, broken up into detachments which are dispersed in the various hill stations. The whole of the information which has as yet come to hand with regard to the results of the series of inoculations referred to above is summarised in the table given on the following page.

Taken as a whole the statistical material given herewith, though it cannot from the nature of the case be assumed to be either complete or free from errors, would appear to show conclusively that a certain measure of protection was conferred by the inoculation of the quantities of dead typhoid culture which have been specified above. In appraising the amount of that protection from the data which are given above the following facts must not be lost sight of:—1 The inoculated men in the above units were, taken as a whole, in practically every case men who were much more liable to contract typhoid fever than the uninoculated men; for in practically every case the inoculated consisted to a large, and sometimes to a preponderating, extent of young men who had only recently come out to India, while the uninoculated consisted to a very large extent of older and more seasoned—in other words, of less susceptible—individuals. It was in every case pointed out in the preliminary lecture in which the facts regarding anti-typhoid inoculation were laid before the men, that the young and susceptible new-comers were more particularly in need of the protection which, it was hoped, would be afforded by the inoculations. The commanding officers and the company officers, further, in many cases used their influence to get, so far as this was possible, all the young and unseasoned soldiers to volunteer for inoculation.

Read in the light of the above facts many of the results appear under a much more favourable aspect than that in which they appear on a mere inspection of the figures given in the table above. Thus, for instance, in the case of D Battery Royal Horse Artillery, a consideration of the facts will show that the results of inoculation are not fairly gauged by the fact that the sole case of typhoid fever which occurred in the battery was a case which occurred in an inoculated man.[5] The following were the circumstances under which the inoculations were done. The battery in question had only arrived from England a few months previously to the date of inoculation. On the previous day the battery had lost its first man from enteric fever. Owing to this and other favouring circumstances more than half of the battery, including most of the men who had come out from home, volunteered for inoculation. Those who did not volunteer for inoculation consisted in large part of seasoned men who had been transferred to this battery after its arrival in India. In view of this it will be manifest that the fact which deserves notice here is not so much the fact that one case occurred in the inoculated, while no case occurred in the uninoculated; it is rather the fact that a battery consisting in large part of men newly arrived from home has in the 11 months subsequent to the institution of the inoculations had only one case of enteric fever. The same thing holds true of the inoculations done in the 2nd Battalion Gordon Highlanders. Here, again, we have a body of inoculated men consisting in predominant part of men who had just come out from home; while we have a body of uninoculated in which there was a large element of seasoned soldiers who had been taken over from the battalion which had just returned to England. The figures given in the table for this regiment, which are already very favourable to inoculation, become much more strikingly so when they are considered in connexion with the circumstances which have just been detailed.

2 It must further be borne in mind in connexion with certain of the statistics which have been given above that the inoculations were in certain cases undertaken in the actual presence of a typhoid fever epidemic. These were the conditions in the case of the Gordon Highlanders at Umballa and more particularly in the case of the 3rd Hussars in Lucknow. In the case of the Gordon Highlanders 30 cases of enteric fever had occurred during the three months which had elapsed between the arrival of the regiment from England and the institution of the inoculations. In the case of the 3rd Hussars some 10 deaths from enteric fever had occurred in the interval of a few months which had elapsed since their arrival in India. In like manner a few cases of typhoid fever were occurring in the York and Lancaster Regiment at Agra at the time of inoculation. In conformity with the fact that inoculations were done in these cases in the presence of typhoid fever it was only to be expected that some of the inoculated would prove to have been incubating typhoid fever at the time of the inoculation This turned out to be the case in the 3rd Hussars, five cases of enteric fever (occurring among the inoculated men) being admitted to hospital within the first 19 days after inoculation. In two of these cases there was a definite history of the men having been ill previously to inoculation. One similar case occurred among the inoculated in the York and Lancaster Regiment within a few days after inoculation These cases have been distinguished by italics in the table, and they have not been reckoned in the general summary of cases contracted subsequent to inoculation.

3 Lastly, it is to be borne in mind that the results given above apply to men as distinguished from officers. In the

---

[5] The case in question was a somewhat anomalous one It was the case of a man who, while in hospital for an injury to the foot, suddenly developed a high temperature and died within 24 hours The post-mortem examination revealed ulceration of the intestine which was diagnosed as typhoid ulceration

my attention has been called from several different quarters to the possibility that the anti-typhoid inoculation may confer a certain protection against malarial fever. In the case of one particular regiment I have been furnished by the commanding officer with lists personally prepared by the company officers giving with respect to each inoculated man particulars as to whether he had suffered from "fever and ague" (*a*) before inoculation; and (*b*) after inoculation These lists, compiled six months after the date of inoculation, show that of 121 men who had previously suffered from "fever and ague" 111 declared themselves to have been quite free since, the remaining 20 declaring themselves to have been practically free Only two men who had not previously suffered from "fever and ague" declared themselves to have suffered slightly since In view of these statements the question as to whether any protection against malarial fevers is in reality afforded by an injection of a dead typhoid culture may, in spite of the *a priori* improbability of such being the case, perhaps be deserving of attention.

Netley.

PLAGUE IN RELATION TO SINGAPORE.

By MAXIMILIAN F. SIMON, M D ST. AND.,
PRINCIPAL CIVIL MEDICAL OFFICER, STRAITS SETTLEMENTS AND HEALTH OFFICER, PORT OF SINGAPORE.

THE following remarks on the experiences of Singapore during the past six years may be not without interest as illustrating to a certain extent some points in the nature of plague as regards the facility or otherwise of its transmission by sea

The geographical position of Singapore, between India and the West generally on one side and China and the Far East on the other, has given the place the position which it holds as a very large centre of trade Besides merchandise Singapore receives from China for employment locally and for transmission to Java, to Sumatra, to the States of the Malay Peninsular, and to other places immense numbers of Chinese immigrants. It also receives immigrants from India, though in less numbers, as the larger proportion of these disembark at Penang It is manifest, therefore, that Singapore is markedly exposed to any danger which may exist as regards transmission of plague by sea when that disease is prevalent in the countries from which these immigrants come

The quarantine regulations at Singapore have now been for many years assimilated as nearly as possible to those of the port of London, and they may be described shortly as consisting mainly in the principles of inspection, isolation, and disinfection. The system, however, differs from that of England in that, as it would be quite impossible to trace immigrants after landing, they are, after removal from their ships, detained under observation at the quarantine station, where there is accommodation for nearly 2000 persons, until the period of incubation since the last risk of contracting infection is passed, unless such period has already been passed on board, the ship in the meantime, after disinfection if necessary, being allowed *pratique* These regulations have been found to work very satisfactorily and with the least possible delay to trade

In 1894 plague was prevalent in Hong Kong from May to September and it was found necessary to stop immigration from Hong Kong from June 19th to Sept 21st, before and after which date it was allowed as usual, and thus it went on in May and June while plague was bad for about six weeks In that year 72 289 immigrants were inspected on account of plague On June 14th in an undoubted case of plague the patient was landed from the steamship *Paklan* The sufferer was a Chinese fireman who had fever, delirium, and inguinal buboes He was landed at the quarantine island and after a long and serious illness he recovered No attempt had been made to isolate him from the other firemen with whom he had freely communicated. The crew and immigrant passengers were kept under observation for nine days and no other case occurred In 1895 plague prevailed, but not to a great extent, in Macao, Swatow, and Hainan In that year 108,635 passengers were inspected on account of plague, but no case was detected. In 1896 there was plague in Hong-Kong from February until August, in Hainan from April until September, and on the southern coast of China from June until September. In this year 145,814 passengers were inspected, and on March 5th one case of plague was found on the steamship *Wingsang*, from Hong-Kong, the patient being a coolie passenger; he died on the next day. No attempt at isolation had been made, but no further cases occurred among the passengers while under observation. During that year five doubtful or suspicious looking patients were landed from various ships In 1897 there was plague in Hong-Kong, but not to an epidemic extent, very few cases occurring from May to the end of the year, in Amoy from June to October, and in Swatow from April to November—immigration from these two places being prohibited for a certain period of the year. In this year, also, plague was prevalent in Bombay and Western India from March onwards. During the year 115,542 passengers were inspected, and one case strongly resembling plague was found, which ended in recovery after three weeks' illness. A considerable number of "doubtful" patients were landed and treated in isolation during the year. In 1898 Hong-Kong was proclaimed infected from March to August, but immigration continued. Calcutta was declared infected from May to October, and the western coast of India throughout the year. During the year 144,686 passengers were inspected and three cases of plague were found—two Chinese immigrants on the *Keong Wai* and one, an Indian soldier from Hong-Kong, on the *Lightning*. The two Chinese had fever and delirium, and one had a submaxillary bubo and the other an inguinal bubo. Agar-agar tubes inoculated from the blood of these men in one case failed and in the other it yielded an almost pure cultivation of the plague bacillus Both men died within 24 hours. The Indian soldier, in whose case, also, the disease was verified by cultivation from a deep puncture into an inguinal bubo, died in three days from pneumonia Three "doubtful" patients were treated in isolation this year and all recovered. No attempts at isolation had been made of the three plague cases, but no other cases occurred during nine days' observation among the other immigrants In 1899 Hong-Kong was proclaimed infected from March 15th to Oct 15th and the southern coast of China from June to September, Calcutta was declared infected in February and still remains so, and the proclamation against Western India has remained in force. It was found necessary to prohibit immigration from Hong-Kong, Swatow, and Amoy from June until October. In this year up to date 139,158 immigrant passengers have been inspected and 10 cases of plague have been found, as noted in the following table:—

No.	Ship.	From	Sex of patient.	Date of admission to Quarantine Hospital	Result.
1	Kutsang	Hong Kong	M.	May 8th, 1899.	Died May 9th, 1899
2	"	"	"	"	Died May 10th, 1899
3	"	"	"	"	"
4	Marquis Bacquehem	"	"	May 16th, 1899	Died May 18th, 1899
5	On Sang	"	F	May 19th, 1899.	Recovered, discharged July 1st, 1899
6	"	"	M	May 24th, 1899	Died May 25th, 1899
7	"	"	"	May 25th, 1899	Recovered, discharged July 1st, 1899
8	Bisagno.	"	M.	May 27th, 1899	Died May 29th, 1899
9	Kohinoor	"	M	June 5th, 1899	Dead when admitted
10	Hyson.	"	F.	June 7th 1899	Died June 8th, 1899

REMARKS

Nos 1, 2, and 3 all had fever and delirium; No 1 had a large axillary bubo, No. 2 had an inguinal bubo; in No. 3 no bubo was discovered Agar-agar tubes from the blood of No. 2 and No 3 (the latter from a vein in the neck after death) gave growths of plague bacilli There had been three deaths on board the *Kutsang* during the voyage from [illegible]

Major Firth, and which were supplemented by some further inquiries made by me that none of these officers have suffered from enteric fever, whereas two uninoculated officers who came out in the same troopship have succumbed to that disease plague—two with fever and bubo, and one with no bubo. The three men who died on board, with the three men who died in Singapore, and another man who remained healthy, seven men in all, were all members of one family, from a village near Swatow. There was no, or very little, attempt at isolation. There were 774 immigrant passengers on board, but no further case.

No. 4 was a case of Inguinal bubo, the cultivation from the blood being characteristic. There was no attempt at isolation. There were 609 immigrants on board, but no other cases.

Nos. 5, 6, and 7.—As regards these cases see text of the paper. Cultivations from No. 5 and No. 7 gave doubtful results, but there was really no doubt as to the diagnosis. A cultivation from blood from a vein in the neck after the death of No. 6 gave characteristic growth and bacilli. There was no isolation. There were 484 immigrants on board, but no other cases during nine days' observation from May 24th. Two deaths had occurred on the voyage down from "high fever."

No. 8.—One death, of a child, said to be from acute bronchitis, had occurred on the voyage down; this patient was the mother of the child. Fever, afterwards delirium, inflamed gland at the elbow, and cellulitis of the arm were noted. A cultivation from blood gave characteristic results. The patient had been isolated for two days on board. There were 874 passengers on board, but no other cases.

No. 9.—Died on board prior to landing. There was enlarged femoral gland with bloody exudation around. A cultivation made from a scraping from the centre of the gland gave characteristic results. There had been no isolation. There were 732 immigrants, but no other case.

No. 10.—In this case there were fever, dazed appearance, femoral bubo, and congestion of the lungs. A cultivation from the blood gave characteristic results. There had been a doubtful short isolation on board. There were 812 immigrants, but no other cases.

In the eight out of the above 10 cases which ended fatally (with the exception of Case No. 1, in which the nature of the disease was so absolutely certain that no attempt at verification was considered necessary), cultivation growths showed characteristic plague bacilli. In the two cases which ended in recovery, though the growths which resulted from cultivation from the blood appeared to be characteristic, on microscopical examination the usual characters of plague bacilli could not with certainty be identified, the appearances rather resembling those of diplococci, but there is no reasonable doubt as to the correctness of the diagnosis of the disease in both cases. In this bacteriological work I have received much kind help from Dr. W. R. C. Middleton and Dr. J. A. R. Glennie, medical officers to the municipality. During this year five "doubtful" cases were treated in isolation, all ending in recovery.

In each year numerous cases of fever, detected on inspection of immigrants, were detained for a few days under observation. Over 200 of such cases were detained in 1898 and there have been over 300 of such cases up to date this year. None of these cases are included among those which I have called *"doubtful" cases of plague; these latter I* shall refer to later.

The voyage from Hong-Kong to Singapore takes from five to seven days, that from Swatow and Amoy to Singapore a day or two longer

In none of the cases of plague that were detected, except in two or three in 1899, as noted in the table above, in which the patients had been isolated on board for two or three days, had any attempt at isolation of patients been made until the cases were detected in Singapore. In every case, after isolation of the sick at Singapore, the remaining immigrants were kept under observation with frequent inspection for nine days and on no occasion, except that of the *On Sang* to be referred to hereafter, did any further cases of disease occur. During the whole six years no attempt had been made to disinfect cargo or passengers' baggage, except that the clothing and baggage of the sick were of course dealt with.

As regards the *On Sang* the first patient whose case was detected on arrival was a woman who had fever, a certain amount of cerebral disturbance, and a large femoral bubo, consisting of more than one inflamed gland, very tender, and with surrounding exudation. She was, of course, isolated on arrival, and a man, a relation of hers, chose to be isolated with her to help in looking after her. In four days after this a man among the rest of the passengers was found to be very ill with fever, and examination revealed a comparatively small, recent, and very tender inguinal swelling and a large popliteal glandular swelling with the skin over it of a purplish colour and apparently commencing to slough. He died on the next day and plague was verified after death. The unusual situation of the bubo, in the popliteal space, may account for this patient's having been overlooked before, or he may have evaded inspection in some way until he became too ill; he turned out to be the husband of the sick woman. On the following day the attendant on the woman, who was also a relative, was found to have fever and a characteristic inguinal bubo, and there is no doubt that this was a mild of plague though bacteriological evidence was not conclusive. These three people came from the same village and there is no doubt, I think, that they brought the infection with them in some way. The husband mixed with the other immigrants for two or three days after his arrival here and no doubt he had been ill for some days before, but he did not spread infection.

It will be observed that in each year except 1894 and 1895 a certain number—in some years a good many—of what I have called "doubtful" cases have been detected among immigrants and treated in isolation. All these cases presented symptoms of fever, sometimes rather high fever, and had buboes without any obvious cause for them. The buboes were, for the most part, femoral or inguinal. They were all tender, *and in all cases they presented the* appearance of an enlarged gland or glands, fixed, with exudation around them, and the skin over them in a few cases slightly discoloured. All these cases recovered without the buboes going on to suppuration, and from none of them in which trial was made could cultivations of the plague bacillus be obtained, some inoculations of tubes proving sterile, others resulting in the growth of a coccus.

I do not for a moment pretend that individual immigrants may not on occasions have evaded inspection; indeed, it would be wonderful were it not so, or even that some doubtful cases may have escaped notice, but I am confident that no case of plague has been overlooked. So far as I know there has been during these six years no case of plague in Singapore, though we have had false alarms on several occasions. Dr. Middleton, the municipal health officer, agrees with me as to this point. I am confident that had cases occurred, even in very moderate numbers, we should have found them out as the occurrence of cases in Penang was discovered.

The following points are, I think, worthy of notice in connexion with the above particulars. 1. The very small number of plague cases detected among immigrants, at least up to 1899, notwithstanding the prevalence of the disease in China. This is, no doubt, in some measure to be accounted for by the fact that at most, if not all, of the Chinese ports coolies were medically inspected before departure. 2. The *fact that (except as regards the cases from the On Sang,* which are explained above) although, as I have stated, no attempts, *except in one or two instances in 1899*, at isolation of the sick on the voyage were made, still in no single *instance during the six years has* the disease spread among immigrants who have had cases of plague mixed up with them for several days. 3. The question as to whether the disease may not be capable of modification when a sufferer is removed *from the infected environment.* It has long been thought, though some instances of late years seem against it, that plague cannot live within a certain distance of the equator—that it is not a disease of the central tropics. A *late limited outbreak of the disease in Penang,* four degrees north of Singapore, which *is itself* less than one and a half degrees north of the line, certainly shows that cases can occur in that latitude; but there *is* no doubt that the germ did not propagate well in that outbreak or it would have been much more severe than it was, and it still remains to be seen if there will be any recrudescence. Again, I believe that the disease has travelled further south in India than has ever been known before, but though there were some cases in Madras it did not gain any footing there. As regards Ceylon, the southern end of which is in a latitude very little north of that of Penang, I believe that in ships coming there from Bombay and the upper parts of the west coast of India the conditions have been very similar to those found here—viz., very few cases have been detected, or have occurred, on board—and that in *none* of these has the disease spread. With regard to the cultures it was found that about eight days was the limit of their life. Taking into consideration the fact that with the exception of the 1894 case, which was a bad one, all the cases which had the disease badly and in which the bacilli could be with certainty identified speedily ended in death; that the few cases which were not so severe, but as to the nature of which there was no reasonable doubt, could not be bacteriologically identified with certainty and ended in recovery; and that the numerous doubtful cases which presented symptoms, not perhaps very severe, closely resembling those of plague, also could not be verified and all ended in recovery, it seems to me that the disease is susceptible of modification or that it can abort.

From one case we can never tell with certainty what may happen in the future, but the history of the experiences of Singapore up to the present date seems to indicate (1) that plague is not readily transmissible by sea far south of localities in which it is epidemic or endemic, and that should it in later years spread more towards the equator it will do so probably by slow extension overland, the germ becoming gradually acclimatised; (2) that when removed from endemic environment the disease is not at all readily communicable from person to person; (3) that the danger of conveyance of infection by cargo and baggage for any distance by sea, at all events below what has been thought its boundary of latitude, is practically nil; and (4)—but this indication I submit with a certain amount of diffidence—that, unless a patient has received a very strong dose of infection or unless the morbid process in the body has reached a certain point prior to embarkation, when a patient leaves the infected environment and travels by sea towards the central tropical zone the disease has a tendency to abort. The bacilli either disappear in some way or become modified and inert, leaving the patient to gradually lose the fever which has been deprived of its specific exciting cause and to recover from the glandular affection, which having also lost the specific cause of its access and increase, tends to resolve in the same way as after ordinary inflammation.

Singapore.

CASE OF PERFORATED GASTRIC ULCER ON THE POSTERIOR SURFACE OF THE STOMACH; OPERATION; RECOVERY.

BY SAMUEL DAVEY, M.R.C.S. ENG.,
L.R.C.P. LOND., D.P.H.;

WITH REMARKS

BY FREDERIC EVE, F.R.C.S. ENG.,
SURGEON TO THE LONDON HOSPITAL.

ON Nov. 6th, 1899, I was called about 1 P.M. to see a married woman, aged 38 years, whom I had attended on two previous occasions—viz., in April and June of 1899—with symptoms which undoubtedly pointed to the presence of a gastric ulcer. On my arrival at about 1.30 P.M. I found the patient in an extremely collapsed condition and elicited from her (she was only able to utter words in monosyllables) the following history. Since she had seen me in June she had been fairly well, with the exception of occasional attacks of "indigestion," until that morning, when about 11 o'clock she was seized with an acute and sudden pain in her "stomach," which she localised over the whole of the epigastric region, but stated that the pain was much worse on the left side of the abdomen, the area indicated being of about the size of one's hand and immediately over the cardiac end of the stomach. The patient was lying on the couch with the legs flexed on the abdomen; the abdominal muscles were extremely rigid and the slightest attempt at manipulation of the abdomen caused severe pain. The extremities and the tip of the nose were quite cold and the pulse was quick and small. She had vomited twice, but blood had not been noticed. Unfortunately, the vomit had been thrown away. At three o'clock I saw her again and found her much in the same condition; there had been no more vomiting, but the state of collapse was just as great. I now had her carried into her bedroom, the frequent application of external heat which I had ordered on my first visit being continued, and I also injected hypodermically a quarter of a grain of acetate of morphia. Mr. F. Eve, to whom I had previously wired, arrived at about 6.45 P.M. and saw the patient with me. Meanwhile a marvellous change had occurred in her condition; the pain had quite disappeared, the legs were extended, and the rigidity of the abdominal muscles had to a very great extent subsided. With the exception of some coldness of the nasal tip all the symptoms of collapse had passed away, in fact, so far had the patient recovered that she expressed herself as being perfectly comfortable. Since my visit at three o'clock the temperature had risen to 102° F. and manipulation of the abdomen could be carried out without giving rise to pain. The possibilities of the case were carefully explained to the friends and the patient and an exploratory operation was strongly advised; to this procedure the friends and the patient readily agreed.

The patient being under chloroform and strict antiseptic precautions being observed, Mr. Eve opened the abdomen in the middle line, the incision being about five inches in length and commencing about two inches below the ensiform process. When the peritoneal cavity was freely opened a very small amount of turbid peritoneal fluid welled into the wound. The anterior surface of the stomach now presented itself and although a careful search was made no perforation could be detected. On tearing through the great omentum a few recent flakes of lymph were observed adhering to the posterior surface of the stomach, near the lesser curvature. Although careful inspection was again made no perforation could be found. Mr. Eve now divided the left rectus muscle horizontally, parallel with the costal margin, in order that a better view of the stomach might be obtained. The stomach was gently drawn out of the abdomen and turned upwards when a perforation on the posterior surface close to the lesser curvature and attachment of the lesser omentum was seen. The gastric juice welled slowly from an opening just large enough to admit an ordinary probe, and around the orifice was a disc-shaped induration of the stomach. The perforation and adjacent area were stitched with about eight Lembert's sutures so as to cause an infolding of the wall of the stomach at this part. All visible flakes of lymph were sponged away and the abdominal cavity was thoroughly washed out with boiled water. A Keith's tube was inserted in the lesser cavity of the peritoneum and the wound was closed in the usual way.

There is nothing special to report in the after-history of the case. The temperature fell to normal by midnight of the day of the operation. The Keith's tube was removed on the fourth day and the stitches on the tenth; the abdominal wound healed throughout by first intention. On Dec. 4th, 1899, a month after the operation, the patient was up and able to walk slowly from one room to another.

Remarks by MR. EVE.—The most noteworthy feature of this case was the remarkable manner in which the symptoms of perforation had passed off when I saw the patient, although she had only had a quarter of a grain of morphia four hours previously. She did not appear ill, had no pain, and no tenderness could be elicited even on applying firm pressure over the epigastrium. The points which in our opinion justified an operation were the previous definite history of ulcer of the stomach, the very typical symptoms of perforation observed by Mr. Davey, the presence of a temperature of 102°, together with slight rigidity of the abdominal muscles, and the absence of any lesion of the thorax or elsewhere to explain the temperature and previous symptoms. My hands were very much strengthened by Mr. Davey's very firm conviction that perforation had occurred.

When asked if I would postpone operating until the following morning and see the patient again then, I declined to do so on the ground that if the perforation existed the chances of recovery would be greatly discounted by the delay. The perforation was only found after minute examination. This was due to the small size and the very slight amount of fluid oozing from it. Its site was determined by a well-marked induration of the stomach wall around it and the presence of a few patches of lymph in its neighbourhood. Although the opening was situated on the posterior wall close to the lesser curvature and about from one and a half to two inches from the cardiac orifice there was no difficulty in exposing it or inserting the sutures. No free gas existed in the abdominal cavity. When present I think it is mainly the result of decomposition. Cases of peritonitis due to gastric ulcer are recorded in which the abdomen was full of gas although no perforation existed.

HEALTH OF PLYMOUTH.—At the meeting of the Plymouth Borough Council held on Jan. 8th the medical officer of health (Mr. F. M. Williams) stated that the death-rate for 1899 was at the rate of 21 per 1000, showing a slight increase over that for 1898, an increase which was principally owing to a heavy mortality from infantile diarrhœa during July and August. Mr. Williams also alluded to the present high death rate in Plymouth, which, he said, was largely caused by diseases of the respiratory organs, and he expressed a hope that the council would endeavour to abate the crowding that existed and provide more air spaces and better dwellings.

A NOTE ON SOME FURTHER EXPERIENCE OF OPERATIONS UNDER LOCAL ANALGESIA PRODUCED BY EUCAINE β.

BY ARTHUR E. BARKER, F.R.C.S. ENG.,
PROFESSOR OF THE PRINCIPLES AND PRACTICE OF SURGERY AT UNIVERSITY COLLEGE.

AT the beginning of last year in a "Clinical Lecture and Demonstration" delivered at University College Hospital[1] I drew attention to some of the leading features of the method of local analgesia which has of late been practised in many parts of the world. Since then I have given the procedure a fairly extended trial and on the basis of all the cases treated in this way by myself, during the year 1899 I venture to offer some further remarks upon the subject.

In the first place, it may be stated that all the patients enumerated below, except one who was delirious, elected after due explanation to have the operation performed under local analgesia. Any who objected decidedly were not urged to have it. A good many expressed a strong desire for it either because they had a dread of general anæsthesia from previous experience or for other reasons. I believe that I am correct in stating that not one of those who were operated on under local analgesia alone regretted it. And it may further be stated that several who had had a previous experience of chloroform or ether and for subsequent operations selected eucaine β, expressed themselves as more than pleased with their choice. Some of these latter had, for instance, had one radical cure for hernia done under general anæsthesia and the other on the opposite side under local analgesia, other conditions being equal.

The first point which comes out of a study of our series is the fact that no ill-effect has followed the use of the normal saline solution with 1 in 1000 of eucaine β added to it which has been employed for local analgesia. Not only have no toxic troubles arisen, even when five or six ounces of the solution were used, but the primary union of the wounds has not been in the least interfered with. The only thing which I have noticed as possibly a specific effect of the drug was free sweating in several cases and pallor in a few. But this might have been due to other causes, as also that a very few of the patients vomited during the operation, and I think it was. In long operations I have sometimes used as much as six ounces of the solution and certainly without any ill-effect. This is only what one would expect from the harmlessness of even larger quantities given to animals. But if it is quite clear that there is little, if any, immediate or subsequent ill-effect from local analgesia produced in this way it is equally plain that there are certain limitations to its use. Children, for instance, appear to be unsuitable subjects for this procedure. The mere sight of the surgical preparations for operation frightens them and their unstable emotional condition is upset by the slightest pain. Very timid adults for the same reason are also better dealt with by general anæsthesia. If the part to be operated on is acutely inflamed I have found it very difficult, if not impossible, to render it quite insensible to pain, although in one case of typhlitis and general peritonitis I find it noted that from beginning to end of the operation there was no trace of pain, though the patient showed no evidence of blunted feeling otherwise. Again, it must be remembered that this procedure only causes *local analgesia* and in many operations it is next to impossible to render insensible all the structures which may be affected by the manipulations of our operation. For this reason when the intestine is being resected it is necessary to avoid all drag upon the mesentery which is beyond the reach of the injection, otherwise the patients state that they have a feeling as if the abdomen were being "pressed upon" or they may say that there is griping. In one case of posterior gastro-enterostomy, for instance, which was on the whole borne by a delicate woman extremely well the necessary lifting out the stomach for diagnosis produced this feeling and even vomiting. When the organ was allowed to slip back the rest of the
without any pain at all
recovery. Again, in operating for the radical cure of inguinal hernia, of which I have had many cases, I have noticed that if the cord is much dragged upon the strain is productive of great discomfort, but that if it is fully injected as high up as possible and separated from the sac without
no pain is complained of. This also applies to the omentum and sac and I have often asked the patients to note particularly when I was ligaturing these structures and cutting them off, and they have told me that they felt nothing. The same was seen well in three cases in which I have recently operated for the removal of considerable thyroid adenomata of the size of an orange. The incision, a large one, and the subsequent dissection were painless, but on drawing out the tumour to get at the last deep attachments the patients stated that there was a "pressing" sensation in the neck. It was not severe, but was worth noting. In one other similar case of thyroid disease where there was a good deal of bleeding, and where it was necessary to hurry, I gave chloroform for the last part of the operation.

There is another drawback to this method which deserves notice if only to show that it is a trifling one. When the fluid is first injected the result is to produce a distension for a time of the areolar spaces, so that an appearance of artificial œdema is seen. This undoubtedly makes the first dissection less clear for the moment. This condition does not last long as the fluid trickles out of the wound and I have come to disregard it altogether. But to the beginner it is disconcerting to some extent. Another point, too, deserves notice in reference to the actual dissection. If this is carried out by *rapid* cuts or snips with scissors the moment of division of small vessels is felt as a twinge, whereas if the cuts are made more deliberately with knife and scissors nothing is felt as a rule. All these facts tend to diminish the rapidity of operation somewhat, which is a drawback from the surgeon's point of view. But this is compensated for to the patient by the absence of sickness after the operation and the fact that he can enjoy food in many cases at once, indeed many have enjoyed their cup of tea during the operation. The cases which appear to be most suitable for this procedure are those in which there is considerable danger of lung complications following the use of chloroform or ether. In intestinal obstruction, for instance, in weak or elderly persons this is peculiarly the case. They have often suffered for days from stercoraceous vomiting and have been recumbent and will have to remain so. In such cases no one can deny the danger of keeping them for a long time under the influence of general anæsthesia, especially as they will often be sick after recovering from the anæsthesia and consequently cannot be fed or stimulated by the stomach. In such cases the local analgesia answers admirably, and I have no hesitation in urging these patients to it if they are not strongly opposed. Again, a colotomy or resection of gut under these conditions is a typical case in point and such patients will thank the surgeon afterwards for having spared them the use of chloroform. Quite recently I have done a colotomy on a lady in the country who dreaded *general* anæsthesia. Under eucaine β she felt, she said, practically nothing of my manipulations from the first cut to the last stitch and was very grateful for the local analgesia, as she had experienced the unpleasant effects of the general anæsthetics on several occasions in former years. Again, in cases of empyema, where it is often questionable whether chloroform or ether will be safe, I have found local analgesia very satisfactory. But here it must be remembered that in the deeper structures hyperæsthesia will be present owing to the inflamed state of the pleura and costal periosteum. It is necessary then to be very careful in injecting very fully the whole area of the deeper structures to be dealt with. And even so, perhaps a little pain will be felt as they are divided. But this is a small price to pay for the avoidance of the ill-effects of chloroform or ether in such cases. In two cases now in my wards operated on for empyema on phthisical patients this is well illustrated and the patients if asked will give a very good account of the procedure. In one other I had to complete the operation under chloroform as a piece of rib had to be excised.

But there is no doubt that the method requires considerable practice on the part of the surgeon before he can obtain the best results. This I can vouch for after carefully working at it for more than a year and a half, during which a considerable variety of cases have been treated by it. It is necessary to have, in the first place, a good syringe easily sterilised and good and particularly fine needles. The proper solution must be warm when used and must be fully distributed over the area to be dealt with. Five minutes or so after its introduction the tissues are ready for operation and in about 20 minutes they will require fresh injection. Deliberate dissection and handling must be cultivated and all dragging and tearing as far as possible be avoided. The operating table must be made as comfortable as possible for the patients, who are fatigued and sore if placed upon a hard surface and required to remain motionless for long. Some kind of screen between them and the operator is desirable. I usually put a small cradle over the head and over this a towel. If there is no special reason against it these patients will be cheered and strengthened by a cup of tea or some stimulant before and during the operation. In some cases of excitable patients a small preliminary hypodermic dose of morphia has seemed to be of benefit.

---

[1] THE LANCET, Feb. 4th, 1899, p. 282.

All these points, and doubtless many others, require to be learned step by step and each case teaches something which will perhaps be useful in the next. At first the surgeon suffers from the feeling that he may be causing pain to the patient, and this is a certain check to his manipulations. There is something "uncanny" in making a dissection on an individual who is perfectly conscious and perhaps talking to you at the time, and it is hard to realise that he is not suffering and consequently the surgeon may hesitate. But when a few cases have been operated on in this way and we are sure of our position this hesitation wears off and we proceed more rapidly, to the patient's great benefit, of course. Some of the cases, I must say for myself, have filled me with amazement The patients have appeared perfectly indifferent and very often in the best of spirits all the time. Even those who feel a little pinch or drag here or there make light of it as a rule. I heard one patient humming a tune to himself during a radical cure of hernia which I was doing.

The cases in which during the year 1899 this mode of operating has been selected for some of my patients for one reason or another arrange themselves in the following groups:—

Radical cure of hernia	15
Herniotomy for strangulation	1
Resection of intestine for gangrene	1
Gastro-enterostomy	1
Abdominal section for epityphlitis	2
For perforated gastric ulcer	1
For carcinoma of the gall bladder (exploration) .	1
Removal of goitre	4
Gouging carious bone ...	1
Empyema	4
Varicocele	1
For varices on legs	5
Colotomy	4
Removal of scar on the nose ...	1
Rectal cases	2
Sublingual exostoses ..	1
Salivary fistula	1
Abscesses opened	2
Removing of wire	2
Wiring patella	2
Stitching a semilunar cartilage in the knee	1
Total	53

Of these there were nine in which I thought it best, either on account of actual pain or extreme nervousness, to give general anæsthesia in the middle of the operation and to finish it under the latter. There were one radical cure of hernia, one perforated gastric ulcer, one goitre, one empyema, one colotomy, two rectal cases, one salivary fistula, and one wiring of the patella. Of these I will only say that I do not think rectal cases suitable for this procedure as a rule, inasmuch as the dragging on the bowel will usually influence parts not to be reached by the solution. Nor do I think that in a case of perforated gastric ulcer the procedure is suitable for the same reason, and besides, the peritoneum is inflamed and the operation is sure to be a long one. The salivary fistula was in connexion with an abscess and therefore unsuitable as the parts to be cut could not be infiltrated. In all the other cases I think I could now with increased experience perform the operation without pain. Selection will always be necessary, but I think that even from this limited number of trials I have learned much in this direction and that local analgesia will always be a useful procedure in certain cases, though it will not for a long time take the place of general anæsthesia. Of course the 53 cases tabulated above form but a small group in proportion to the number of operations done in the course of the year in which I have used general anæsthesia, but as far as they go they are fairly representative.

Harley street, W.

TETANUS FOLLOWING NEPHROPEXY.

BY THE LATE HENRY THOMPSON, L.R.C.P. LOND., M.R.C.S. ENG.,
SURGEON TO THE HULL ROYAL INFIRMARY.

A MARRIED woman, aged 47 years, who for years had suffered from a loose right kidney, came under my care for the purpose of having it fixed to the side. Examination showed an extremely loose right kidney which could with ease be pushed to the left side of the umbilicus. The patient was a spare, intensely neurotic woman and it turned out afterwards that for years she had been suffering from aggravated domestic troubles and had been reduced owing to the sins of others from a condition of great affluence to one of comparatively narrow means. This trouble had preyed upon her mind and together with the kidney trouble had converted her into a chronic invalid. Otherwise her physical condition was fair and a successful result was anticipated.

The operation took place on Nov. 23rd, 1898. Nothing could have been easier or apparently more satisfactory. Special care was taken both with the preparation of the patient and of the instruments, and careful thought and inquiry have failed to discover any flaw in the course of the operation. Not a single vessel required a ligature and the kidney was fixed to the periosteum of the last rib and to the muscles attached to the rib by three silk stitches which had been soaking in carbolic acid solution (1 in 20) for months. For safety's sake, in case of a vessel bleeding after the wound was stitched up, a small drainage-tube was passed down to the *kidney* and was removed on the second day. The patient apparently went on quite satisfactorily until the ninth day. The wound healed by first intention except just the track of the drainage-tube. The temperature had never risen above 99 6° F. and I considered her to be convalescent. On Dec. 1st she was told some very bad home news which upset her very much; she passed a very restless night and the next day complained for the first time of some pain and twitching in the seat of the wound in the right flank. This pain was intermittent but the hand placed upon the side could distinctly feel a spasmodic contraction which appeared to be quite involuntary. On the 4th the patient complained of some stiffness about the jaw, but the tetanic symptoms never became really severe until the day of her death which took place on the 7th, 14 days after the operation.

I can only call the above case a surgical tragedy. Nowadays under antiseptic or aseptic surgery tetanus has become one of the rarest of sequelæ. During the last 20 years the above is the only case of tetanus that I have had in private practice, and I am sure that in our hospital we do not see a case a year and those that we do see are almost invariably admitted into the hospital with the tetanus already developed. I wish to submit for consideration the following points. 1. Is there such a disease as idiopathic tetanus? or can tetanus be produced only by the bacilli introduced from without or by their toxins? 2. Granted that the bacilli may have been introduced by means of food, green vegetables, &c., can they lie dormant until some sudden accident, operation, or nervous shock sets them free or gives them a suitable soil to develop their evil ways? In my early days tetanus was always described as being of two varieties, traumatic and idiopathic, but since the discovery of its bacillus by Nicolaier in 1885 and the further development of its natural history by Tizzoni, Cattani, Faber, and others, it is now universally held that upon the impregnation of a wound by the club-shaped bacillus tetanus can alone depend. Some cases have been reported where tetanus has followed an apparently simple bruising only, but it is thought that in all such cases an undiscovered wound or abrasion has been the site of the inoculation. Tetanus has been known to follow a simple fracture and a case of that sort has been recorded by Sir George Humphry. In the above and similar cases may it not be possible that the tetanic symptoms may be due to reflex irritation of the motor centres in the spinal cord and brain by the local disturbance, rather than to any influence of the bacilli or their toxins acting through the blood? It is important to remember with reference to the possibility of the occurrence of idiopathic tetanus that the reported cases of this nature have as a rule been milder and have more frequently recovered than have the traumatic cases; still, if the now prevailing view be correct there must, in all supposed idiopathic cases have been some lesion to admit of the entrance of the bacilli, unless we allow that they may be aerially conveyed. The place of entrance may be an ulcer in the mouth, pharynx, or alimentary canal, or in some other undetected part. In horses it is said to be caused by wounds in the gums from eating straw, and cases supposed to be idiopathic have originated in this way. The tetanus bacillus has been found in garden earth, in road-scrapings, in the dust between the boards of the floors of rooms, and in the pus of certain suppurating wounds, and its special habitat seems to be soil impregnated with horse-dung. But in the case I have narrated how could any bacillus from earth or elsewhere have come in contact with the wound? A day or two before the operation the patient ate celery for luncheon. Could some bacilli have been present in the imperfectly cleansed celery and have come in contact with an abrasion in the mouth? Were the antiseptic measures in fault? Special attention was paid to them. The instruments were all thoroughly boiled and due attention was paid to the cleansing of the skin.

The last point that I wish to touch upon is the influence of mental shock upon the production of tetanus. The patient was *apparently* in quite a satisfactory state until she sustained the great mental shock in the afternoon of Dec. 1st. This upset her very much and the symptoms of tetanus developed within a few hours. Here, did the shock produce the tetanus or did it have such a depressing influence upon the patient that the previous phagocytic action was held in abeyance and the bacilli having free play rapidly developed their virulent toxins? Or was it a mere accident that the mental shock preceded the development of the tetanus with which it had nothing to do, when the reason why the tetanic symptoms developed the day after the shock would be because the period of incubation was at an end? I will not enter into any detail as regards treatment except to say that when this case was under treatment the action of tetanus antitoxin was so uncertain that, looking upon the case as a very mild one until the day of death, we did not use it. Latterly, however, I have been so much impressed by cases recently published, that I should certainly press the intra-cerebral injection of antitoxin if I should have the bad luck to have a second case of tetanus.

Hull.

SOME FACTS GATHERED FROM EXPERIENCE RESPECTING MISCIBLE BLACK CARBOLIC DISINFECTING FLUID AND CARBOLIC DISINFECTING POWDER.

THE MEANING, COMPOSITION, MODE OF TAKING SAMPLES AND METHODS OF ANALYSES.

BY FREDERICK W. ALEXANDER, L.R.C.P. EDIN., M.R.C.S., D.P.H. ENG.,
MEDICAL OFFICER OF HEALTH OF POPLAR AND BROMLEY.

WITHOUT entering into the germicidal or antiseptic or deodorant properties of "black miscible carbolic disinfecting fluid" which is used largely in solution by more than one sanitary authority for road-watering and gully-flushing, &c., I think it would be useful to the members of the medical profession who also use this disinfecting fluid in many of its various forms to make known some points which have been manifested to me when I have been obtaining analyses upon the same bulk from different analysts, inasmuch as by their varying results it must obviously appear that there is no uniform method of analysis adopted. That the result of analyses should vary even when made by the same analyst is a very serious matter not only for local authorities but also for the individuals supplying the article, as both may be put to enormous expense and great worry should the matter be contested in a court of law.

I would first give from experience a word or two as to the meaning of the term "black miscible carbolic disinfecting fluid." Unless the percentage is mentioned (which should be qualified by the words, "of tar acids and guaranteed commercially or practically free from salting.") one may be supplied with any preparation of alkalised gas tar creosote which, unless the component parts and percentage were stated, would not come under the Merchandise Marks Act, 1887. H. Mansfield Robinson, LL.D. Lond., and Cecil H. Cribb, B.Sc. Lond., F.I.C.,[1] state: "The provisions of the Sale of Food and Drugs Acts should be extended to such articles as disinfectants, antiseptics, cosmetics, and articles added to food for culinary purposes or in its preparation. By the Adulteration Acts of Massachusetts disinfectants, antiseptics, and cosmetics are included in the Act, and the necessity for such articles being covered has been shown in several districts by the sale of quantities of carbolic powder which contained no carbolic or cresylic acid. In one case the sale of such worthless powder caused an outbreak of scarlet fever through the failure of the supposed disinfectant."

A miscible black carbolic disinfecting fluid may consist simply of liquid tar oils in which in order to be made miscible or capable of forming an emulsion there would have to be employed resin, an alkali, and a soap. Such a mixture may then be offered to a local authority while containing little or no percentage of tar acids and yet be styled "miscible black carbolic disinfecting fluid," and may turn white upon the addition of water like a fluid which contains a large percentage of tar acids, and in some cases present even a more milky appearance. Fluids of this description could be manufactured, according to the market value of creosote, at from *5d.* to *6d.* per gallon, whereas a mixture containing say 35 per cent. of tar acids would entail more careful manufacturing and the price would be necessarily enhanced by the value of the percentage of tar acids. Both of these liquids (more especially if pyridine bases be present) would be very nearly alike to the sight and smell and could only be detected by crucial analysis. "Carbolic" is a name generally applied in commerce to all phenols or acids obtained from coal-tar. When a percentage of tar acids is mentioned it means in the trade total combined percentages consisting mainly of acids such as phenol (true carbolic acid), cresol (cresylic acid), and xylenol. A solution would not contain true carbolic acid alone unless one specified it and at the same time defined the acid as crystallising at definite temperatures by "Lowe's test." True commercial carbolic acid is sold by Lowe's test and generally is of the following three grades: 50° F., 60° F., and 75° F. In passing it may be stated that cresylic acid is said to have an antiseptic power considerably above that of carbolic.

In ordering carbolic disinfecting fluids it is necessary to add the words, "guaranteed commercially or practically free from salting." "Salting" appears to be the *bête noire* of the manufacturers of "black miscible carbolic disinfecting fluids." By "salting" is meant the deposit of crude naphthaline which will occur in cool weather with a black miscible carbolic disinfecting fluid which has been manufactured during a warm period of the year when it is difficult to properly extract the excess of naphthaline, a process which requires great care. When "salting" takes place the liquid becomes thick and will not flow out of the vessel.

Naphthaline is extracted from tar oils by allowing them to cool, freezing when necessary, and subsequently filtering in special machinery. This, of course, removes all except what is naturally soluble in the oil at the lowest temperature to which the oil is subjected. When purified, naphthaline can be used by a specially contrived apparatus in conjunction with ordinary coal gas to enhance the candle power of the light. Naphthaline is also manufactured into tablets and sold in chandlers' shops, &c., to the public under the name of "naphthaline" tablets or "carbon" tablets.

When specifying for the supply of "disinfecting carbolic powder," in order to obtain the full benefit of the disinfectant, not only should the percentages of tar acids be quoted, but the following words should be added, "guaranteed an inert base," by which is meant that the phenols should be mixed with a substance which merely absorbs them and does not enter into chemical combination. As to the method of taking a sample of black miscible carbolic disinfecting fluid for analysis, drawing from a tap at the bottom of the cask is not satisfactory. The following method of sampling is the "standard" one and is used for all fluids or liquids by "experts" and of course should be used by the trade generally. The barrel or cask should be thoroughly shaken, it should then be laid on its side, the bung be taken out, and the sample be taken by means of an ordinary hollow glass sampling rod, which should be passed through the bunghole to the opposite side of the barrel, thus ensuring a fair average of the whole contents of cask or barrel.

---

[1] The Law and Chemistry of Food and Drugs, p. 15.

The miscible black carbolic disinfecting fluid, of which samples were taken, was ordered from the manufacturers to contain 35 per cent. of tar acids. Seven analyses were made as follows—one by the analyst of the manufacturers and six by four other analysts. Two analysts analysed two samples each. The following is *in extenso* the result of the manufacturers' analyst: water, 15·5 per cent.; total oils to 270° C., 55 per cent.; phenols, 35 per cent.; pyridine bases, 2 per cent.; specific gravity at 60° F., 1·069; of good appearance and wholly and readily emulsifiable in water. Two of the results obtained by other analysts agreed with those of the analyst of the manufacturers. Without giving in detail the certificates of analysis of the remaining four samples, the phenoloids or tar acids as certified were respectively—28·7 per cent., 24·6 per cent., 23·0 per cent., and 13·7 per cent. In some of the certificates other items were given, but tar acids were specially asked for when sending the samples and I give them as quoted in the results.

The varying of the percentages of tar acids and the wording of the certificates suggest that analysts adopt different methods of analysis. By the kindness of the manufacturers I was present when their analyst made a second and a third examination of the samples from the cask containing the fluid under dispute and by their very kind permission I am allowed to describe the method of testing adopted by them, which is as follows:—

Method of testing 35 per cent. disinfecting fluid.—100 cubic centimetres of the fluid to be tested is placed in a small flask and enough dilute H_2SO_4 (one part H_2SO_4 in three) added to neutralise it. About nine cubic centimetres will be found to be necessary. It is warmed and well shaken, then put into a separator and then, after standing a few minutes, the lower aqueous portion is drawn off. The increase in volume being noted, it is neutralised with dilute caustic soda (of a specific gravity of 1·210) and the volume of the resulting pyridine bases read. Subtract this from the increase in volume and the amount of water (first portion) is obtained. The oily upper portion is then run into a Würtz flask fitted into Liebig's condenser and distilled up to 270° C. To prevent bumping some pieces of marble or limestone are put into the flask before commencing to distil. When all the water is distilled over (which may be noted by the cessation of frothing) the distillation is slackened for a moment to allow of the water being read. This, added to the first portion, gives the total water. The distillation then goes on up to 270° C. and the tar oils come over with the acids in solution. The total distillate is then placed in a small flask and washed with three washes of dilute caustic soda, (1) of a specific gravity of 1·125 (30 cubic centimetres), (2) of a specific gravity of 1·210 (20 cubic centimetres), and (3) of a specific gravity of 1·210 (20 cubic centimetres). The distillate is warmed and well shaken with each wash, then put into a separator, and after standing a few minutes the lower portion being drawn off each time into a graduated cylinder (stoppered) in which it is neutralised by the careful addition of dilute H_2SO_4 and in which the tar acids obtained may be read. A further wash of 20 cubic centimetres dilute caustic soda (1·210) may be given to see if all the tar acids are removed and after this a wash of 15 cubic centimetres of dilute H_2SO_4 is put to the oil, warmed and shaken, separated into a graduated cylinder, neutralised with soda (1·210) and the resulting pyridine bases added to those formerly obtained give the total percentage of pyridine bases in the fluid.

Method of testing disinfecting powder.—50 grammes of the powder are weighed into an ordinary retort and directly distilled into a 100 cubic centimetre graduated measure (or a 50 cubic centimetre measure will do). Care must be taken to apply the heat gradually at first, so as not to crack the retort. First, the water distils off, and secondly, the phenols. The heating is continued as far as possible and the resulting volume of water and phenols are read in the measure. Before finally discontinuing the distillation it is usual to shake the powder in the retort up well and again heat. Then the percentage of phenols in the powder is to the amount read as 10·5 : 10. 10 : 10·5 :: amount of cubic centimetres of phenols read × 2 : percentage of phenols in powder by weight. This is necessary as the specific gravity of phenol is about 1·050. This method is not applicable to a powder in which the phenols are combined with the base, or to a powder having as a base peat or any other substance which can be destructively distilled. To find if the distillate be phenols or neutral oils dissolve in about seven times its own volume of caustic soda (of a specific gravity of 1·125) when, if phenols, they should dissolve.

In forwarding to you this communication I have not the least pretension of posing as an analyst or as one who has a knowledge of the manufacture of tar products. I have merely mentioned facts which have come before me whilst endeavouring to safeguard the public interests as a public servant and I thought that knowledge obtained in such a manner might be of great use, not only to the medical profession, but to the public at large, more especially as it might prevent litigation should there be any dispute in respect of such kinds of disinfectants between those engaged in the care of the public health and those who manufacture carbolic disinfectants or contract for the supply of such articles. I may say, in conclusion, that the investigations which I have recently made have fully convinced me of the necessity of adopting uniform systems of testing such disinfectants as this communication deals with on the part of all public bodies who employ them. Without this we shall be subject to continual trouble and disappointment.

Bow road, E.

TUBERCLE BACILLI IN MILK, BUTTER, AND MARGARINE.

By H. E. ANNETT, M.D. VICT., D.P.H.,
PROFESSOR KOCH'S INSTITUTE, BERLIN, AND THE THOMPSON YATES LABORATORIES, LIVERPOOL.

IN the midst of the great movement at present occupying the attention and interest both of the profession and the public—namely, the provision of sanatoria and homes for the phthisical—there is some danger of the fact that tuberculosis is a preventable disease being considerably neglected. The human digestive tract plays an important, but probably the most easily preventable, rôle in infection by tubercle bacilli; a rôle, however, insignificant in comparison to that of the respiratory tract, in tuberculosis of adults, but very important and considerable in the case of young children and infants. In view of the most recent experimental work on the question of the presence of tubercle bacilli in milk, butter, and margarine, an apology for again introducing this subject, on which much has already been written, is deemed unnecessary.

TUBERCLE BACILLI IN MILK.

Numerous bacteriological examinations of milk during the last ten years have proved the presence of tubercle bacilli in a greater or less percentage; for example, in Berlin milk by Obermuller[1] to the extent of 61 per cent., and by Petri,[2] also in Berlin milk, only of 14 per cent.—using the method of inoculation of animals as the test. Also Rabinowitsch and Kempner[3] found that 28 per cent. of 25 samples of Berlin milk contained tubercle bacilli.

In the medical officer of health's report[4] to the Liverpool Health Committee on the question of tubercle bacilli in the milk supply of Liverpool 2·8 per cent. of the 144 samples collected from sources within the city were proved to be infective by experiments of Professor Sims Woodhead, Professor Boyce, and Professor Delépine, while 29·1 per cent. of 24 samples taken on arrival from parts of Cheshire, Shropshire, &c., at the railway stations were found to be tuberculous. Similarly Professor Delépine[5] reports of the milk supplies of Liverpool, Manchester, and other parts, 5·55 per cent. of 54 samples collected from town dairies, and 17·6 per cent. of 125 samples of milk from country farms collected at the railway stations proved to be tuberculous. Again, milk collected from 16 Cambridgeshire dairies, a sample from each, was reported by Kanthack and Sladen[6] to have produced tuberculosis in guinea-pigs on inoculation to the extent of 56·3 per cent. of the milk (nine samples).

---

[1] Hygienische Rundschau, 1895, No. 19.
[2] Arbeiten aus dem Kaiserlichen Gesundheitsamte, 1898, vol. xiv.
[3] Rabinowitsch and Kempner: Zeitschrift für Hygiene, 1899, p. 137.
[4] Report and Brit. Med. Jour., 1897, vol. ii., p. 102.
[5] Brit. Med. Jour., 1898, vol. ii., p. 917.

Professor Boyce, to whom I am indebted for permission to use his results, has carried on numerous experiments during the last two years for the Health Committee of the Corporation of Liverpool. During the year 1898 84 samples of "town" milk, of which seven (= 8 3 per cent.) proved to be tuberculous on guinea-pig inoculation, and 28 samples of "railway" or "country" milk, of which five (= 17·8 per cent.) were infective, were examined, while during 1899 to the end of June, of 75 samples of "town" and 63 samples of "railway" milk 6·6 per cent. of the former and 17 4 per cent. of the latter proved to be tuberculous. These results indicate the effects of better sanitation in the cowsheds, shippons, and dairy premises in large towns, as compared with country places, enforced by local by-laws ensuring better ventilation, spacing, cleanliness, and regular inspection.

The consideration of the relation between the presence of tubercle bacilli in milk and the extent of the disease in the animal yielding that milk adds greater and more important interest to the question. The use of tuberculin for the detection of tuberculosis in cattle seems to be an almost infallible test. The presence of a small tuberculous lymphatic gland has often proved, post mortem, to be the only lesion occasioning the reaction to tuberculin; indeed, some investigators are so sure of its infallibility that they assert that although no naked eye lesions may be detected at the usual examination, a careful search will discover deposits in parts generally never looked at—spinal column, joints, and interior of bones, &c.

In 1880 Bollinger[7] by inoculation experiments found the milk of a cow with tuberculosis of the udder to be infective, as also that of another case of tuberculosis without lesion of the udder. May[8] obtained only one positive result with the milk of six "graped" cows, and Stein[9] four positive results from 14 "graped" cows. Bang[10] of Copenhagen has made numerous experiments. The milks from 63 cows with advanced tuberculosis were proved to be tuberculous only in 14 per cent. Hirschberger[11] asserts from his experiments (20 cases with 11 positive results) that milk may be infective when only a small lesion occurs in the lung. Ernst[12] examined 114 samples of milk from 36 tuberculous cows showing no udder lesion and 28 67 per cent. proved to be infective; Smith and Schröder[13] found the milk infective in two cases out of six tuberculous animals with no udder lesion, and Schröder later found the same in two samples of milk from 31 tuberculous cases. Delépine[14] proved the presence of tuberculosis in the milk of two cases out of six which had reacted to tuberculin and showed clinically more or less evidence of the disease. In these two cases the udders showed lesions microscopically. Later he examined the milk of 24 suspicious udders with results shown in his table reproduced:—

Table showing Results of Milk from 24 Cows whose Udders were Suspicious.

Milk from udders—	No. of samples.	Producing tuberculosis.			
		Actual number.		Percentages	
A. Certainly diseased	10	5	6	50 0	31·5
B. Probably diseased	9	1		11·1	
C. Healthy	5	—		—	—
Total	24	6		—	—

Rabinowitsch and Kempner's[15] researches are most complete. 15 cows were tested with tuberculin giving a distinct reaction. Three months later samples of their milk were tested and that of 10 of them (66 6 per cent.) proved to be tuberculous. At the time the milk was taken, and previously, clinical examinations of the animals were made and in cases of death post-mortem examinations. The results were as follows: (*a*) Only one cow showed distinct tuberculous udder lesions clinically (besides lung symptoms); her milk (two samples) proved to be infective. (*b*) One cow showed, microscopically only, tuberculosis of the udder (clinically and post mortem advanced disease of organs); the milk was found to be tuberculous. (*c*) Three cows showed advanced general tuberculosis, the udder histologically exhibiting chronic interstitial inflammation without tuberculous deposits; the milk of all three was found to be tuberculous. (*d*) One cow with lung lesions and some emaciation; the milk was found to be tuberculous. (*e*) One cow showed symptoms of commencing lung lesions; the milk proved to be tuberculous. (*f*) One cow on first examination was suspected; on two subsequent examinations the animal seemed normal; the milk was found to be tuberculous. (*g*) Two animals showed no symptoms on three examinations extending over a period of five months, but their milk proved to be tuberculous. (*h*) Four others, three showing clinical signs, and one none, gave non-tuberculous milk (four, two, two, and two samples respectively). (*i*) In one other case, exhibiting post mortem acute and chronic lesions, the inoculation experiments on guinea-pigs failed from the presence of a pathogenic coccus. Therefore, omitting the last case, 10 out of 14 animals (71·4 per cent.), all of which had reacted to tuberculin, yielded tuberculous milk. More experimental work is evidently desirable, but one must clearly infer from these experiments that any animal which reacts to tuberculin indicating lesions which, may be, cannot, even by repeated clinical examination, be detected, is capable of giving milk, which will produce tuberculosis in the guinea-pig on inoculation.

In contrast to Rabinowitsch's results Ostertag[16] concludes, from experiments with the milk of 50 animals which reacted to tuberculin, but showed clinically no sign of disease, that the milk of such animals is absolutely non-infectious for guinea-pigs.

TUBERCLE BACILLI IN BUTTER.

It has been proved by many authors that butter made from tuberculous milk was also infective, and by Heim[17] and Gasperini[18] that tubercle bacilli live and keep their virulence in butter for a period of even 12 days.

Brusaferro[19] found virulent tubercle bacilli in one sample out of nine; Roth[20] in two samples out of 20; Schuchardt[21] only in one out of 42 samples; and Gröning[22] in eight (47 per cent.) out of 17 samples.

From the results of experiments by Rabinowitsch[23] it is now doubtful whether the animals in the above-mentioned experiments (references 19 to 22) were infected with Koch's bacillus tuberculosis. She examined 30 samples of butter from Berlin and 50 from Philadelphia and *in no single case* found bacilli "which by means of culture and the pathological results of guinea-pig inoculations could be pronounced as identical with Koch's bacillus tuberculosis," but "23 samples (28·7 per cent.) produced changes which, both macro- and micro-scopically, resembled those of tuberculosis, but which by more extensive and exact examination could be distinguished with ease." Other authors have described similar pseudo-tuberculosis organisms—Petri[24] in milk, Moëller[25] in milk, in "Timotheus" grass, and in fæces of cattle. The characteristics of Rabinowitsch's micro-organism are as follows. It is immotile and in form closely resembles the bacillus tuberculosis. The bacilli generally occur singly and are often slightly curved, but when growing rapidly in tissue bacilli are often found lying parallel. Sometimes they form long unbranched threads, and sometimes are divided into short pieces. The bacilli are somewhat thicker than bacillus tuberculosis and often show a club-shaped swelling on one side. Spores are not formed, but one portion of the bacillus stains often more intensely than the rest. The bacilli stained by many methods of staining tubercle bacilli cannot be distinguished from the latter; only by the employment of very dilute watery solutions of methylene blue could any distinguishing feature be observed—viz., that bacilli from a culture of bacillus tuberculosis stain only at one spot, the rest of the bacillus remaining unstained, while in the case of bacillus pseudo-tuberculosis the whole bacillus stains faintly and generally uniformly, seldom showing a more deeply stained part.

---

[6] THE LANCET, Jan. 14th, 1899, p. 74

[7] Aerztliches Intelligenzblatt, 1880, p 409.

[8] Archiv für Hygiene, 1883, Band I., p. 121.

[9] Inaugural Dissertation, Berlin, 1884.

[10] Deutsche Zeitschrift fur Thiermedicin und Vergleichene Pathologie, 1884, and 1891, p 1.

[11] Archiv für Klinische Medicin, 1889.

[12] American Journal of the Medical Sciences, November, 1889.

[13] United States Department of Agriculture, Bureau of Animal Industry: Bulletin 3, 1893, p. 60; also Bulletin 7, 1894, p 75.

[14] Journal of Comparative Pathology, 1897, p. 192.

[15] Zeitschrift fur Hygiene, 1889, Band i, p 145.

[16] Zeitschrift fur Fleisch- und Milchhygiene, 1899, p 221.

[17] Arbeiten aus dem Kaiserlichen Gesundheitsamte, 1889, Band v, p 294.

[18] Giornale della Reale Società d'Igiene, 1890.

[19] Giornale di Med. Veter. Prat., 1890, p 201.

[20] Correspondenzblatt fur Schweizer Aerzte, 1894.

[21] Inaugural Dissertation, Marburg, 1896.

[22] Centralzeitung für Veterinär-, Viehmarkts-, und Schlachthof-Angelegenheiten, 1897, Nos 14 and 15.

[23] Zeitschrift fur Hygiene, 1897, p 90.

[24] Arbeiten aus dem Kaiserlichen Gesundheitsamte, 1898, Band xiv.

[25] Therapeutische Monatshefte, November, 1898.

Cultural differences, however, occur. On agar the bacilli taken direct from an infected animal produce visible colonies on the second or third day. At first the agar surface is covered with a thick, moist, creamy layer; in old cultures by a folded membrane often orange- or copper-coloured. After repeated passages through animals cultures on agar or glycerine-agar show a dry, brittle, crumpled membrane resembling that of bacillus tuberculosis. In plate cultures the deep colonies are grey in colour, round or oval, and uniformly granular. On the surface colonies are better developed, have a uniformly granular grey centre, and a clear wavy outer zone; the surface of the colony is often dry and conical. On butter agar in fresh cultures the colonies are small, white, and dry, later spreading over the whole surface and becoming yellow or copper-coloured. On potato a luxuriantly growing, moist, grey layer is formed. In gelatin growth proceeds very slowly at ordinary room temperatures, colonies becoming visible on the third day. In broth, and especially in glycerine broth, growth is rapid, forming in two or three days a folded membrane on the surface, the broth remaining clear, the culture closely resembling that of bacillus tuberculosis. Broth cultures are distinguishable from those of bacillus tuberculosis by their characteristic odour, being unpleasant and ammoniacal, that of bacillus tuberculosis being agreeable and resembling the odour of flowers. A small quantity of indol is formed in broth cultures, which is not so in bacillus tuberculosis cultures. Milk is not coagulated and on the surface is an abundant yellowish-red layer which clings firmly to the glass. On albumin-free colourless media a growth appears in two or three days, becoming in ten days a thick yellow folded membrane, bacillus tuberculosis in the same time on such media forming a thin layer just covering the surface and just beginning to fold. The presence of fat in these bacilli can easily be demonstrated as in the case of bacillus tuberculosis.

Pathogenic properties of bacillus pseudo-tuberculosis.—The following are the post mortem appearances observed in a guinea pig killed three or four weeks after intra-peritoneal injection of butter containing the bacillus pseudo-tuberculosis. There is a slightly distended abdomen; also peritonitis with adhesions varying in nature from delicate fibrinous bands to firm connective tissue. The peritoneum and mesentery are studded with nodules. The mesenteric glands are swollen and may contain purulent or caseous matter. The liver is covered with nodules and patches which may be raised above the liver substance or may penetrate into the liver parenchyma. The spleen is sometimes only enlarged, at other times thickly studded with nodules. The kidneys show yellowish patches. The lungs are covered with small transparent nodules which do not penetrate into the lung tissue. The sternal lymphatic glands are swollen, but show no caseation. Numerous bacilli can be demonstrated in these lesions. Many animals after injection show considerable signs of illness during the first 14 days with diminution in weight and then recover. Pure cultures of this bacillus are only pathogenic for guinea-pigs (but not always); rabbits and white mice are immune. After intra-peritoneal inoculation of guinea-pigs some die in from four to eight weeks with considerable emaciation and show the following post-mortem appearances; others survive. At the seat of inoculation there is a purulent infiltration containing the characteristic bacilli; also peritonitis varying in intensity from a flocculent fibrinous exudation to strong connective tissue adhesions. The mesentery is studded with small nodules; the glands are enlarged but not caseating; there are patches on the liver, and miliary nodules throughout an enlarged spleen. The thoracic cavity and organs are often almost exempt from lesions. Infected animals do not react to tuberculin. Histologically the nodules in the liver and spleen consist of a collection of lymphoid elements with but very few epithelioid and multinuclear cells. The bacilli are found in the middle of a young nodule, towards the periphery if caseation has commenced. The typical giant cells of tuberculosis do not occur. More often—especially after inoculation with butter containing the pseudo-tuberculous bacilli—the nodules appeared to consist of a central necrosed portion surrounded by leucocytic infiltrated area.

TUBERCLE BACILLI IN MARGARINE.

Margarine was first prepared by M. Mège Mouriès.[7] In his process 1000 kilogrammes of ground fat from freshly slaughtered cattle is mixed with 300 kilogrammes of water, one kilogramme of potassium carbonate, and two sheep's or pig's stomachs cut into pieces, and is heated at 45° C. by steam for two hours. The fat rises and, after being skimmed, is run off and heated at from 30° to 40° C. with 2 per cent. of salt, the clear fat being then poured off from the sediment and cooled at from 20° to 25° C. The granular solid product is cut into pieces, packed into linen, and exposed to hydraulic pressure at about 25° C. with the production of a solid cake of stearin and a liquid oleomargarine, which is passed through cylinders and washed by a shower of water. Of the melted oleomargarine 50 kilogrammes are mixed with 25 litres of cow's milk and 25 kilogrammes of water in which has been macerated 100 grains of finely ground mammary gland of the cow. Annatto is added and the whole churned for about two hours and the product kneaded and washed.

In the method employed in the United States, Austria, and some parts of Germany pepsin is not added, the original finely ground fat being subjected to a temperature below 50° C. for some time. The oleomargarine is mixed with sour milk and a small quantity of bicarbonate of soda and annatto and is churned. After about 15 minutes it is cooled in ice and then kneaded to eliminate the water, then returned with more sour milk and is ready for sale. In Holland the oleomargarine is melted at about 50° C. and is mixed with the requisite amount of milk and of the best Kampen butter and earthnut (arachis) and other oils (cotton, palm, cocoanut, &c.) to lower the melting-point to that of butter. The Kampen butter is prepared specially for this manufacture from an unskimmed mixture of milk and cream and is preferred on account of its powerful flavour which, though unpleasant alone, imparts a pleasant flavour to the margarine.

Hence margarine may be infected in three ways—(1) from the original cattle (tubercle bacilli survive even a temperature of 55° C. for almost four hours); (2) from the butter and milk added; and (3) from contamination during manipulation (phthisical workmen, &c.). Few researches as to the presence of tubercle bacilli in margarine had been done before the year 1899. Morgenroth,[16] of the Hygienic Institute, Berlin, early last year examined 20 samples of margarine and in nine cases proved the presence of virulent tubercle bacilli of Koch—a very large percentage (45 per cent.).

In October, 1898, in Berlin I commenced researches on this question. 36 samples of margarine were collected from shops in different parts of Berlin. Two guinea-pigs received 5 cubic centimetres each from each sample intraperitoneally, the margarine having been just melted at from 45° to 50° C. and injected semi-fluid. Of the 36 samples 21 caused death of both guinea pigs inoculated within 10 days; nine others caused the death of one only of the pair—from peritonitis or septicæmia. So that 15 samples only could be considered, nine with one animal each, six with two. These were all killed some eight or 10 weeks after inoculation, but with one sample only, and that in both the guinea-pigs injected, could there be found any lesion indicating the presence of tubercle bacilli. In these were nodules on the mesentery, containing caseous material; enlarged, purulent mesenteric glands, the intestines and organs were adherent to each other and to the abdominal wall, the liver was enlarged and studded with several dirty yellow patches penetrating into the liver tissue, the spleen was adherent but apparently normal (it was enlarged in one case), and the lungs were dotted on their surfaces with small transparent nodules. The lymphatic glands and nodules on the liver contained bacilli in large number staining by Ziehl-Nielsen's method. Cultures failed because of rapid overgrowth of accompanying micro-organisms. Subcutaneous inoculation into guinea-pigs from the lymphatic glands and liver nodules gave rise to abscesses which evacuated and healed, bacilli staining by Ziehl-Nielsen being demonstrated in the pus. These animals, some weeks after, showed no further lesion. In ns of the nodules in the organs of the original guinea- the *typical* tuberculous characteristics (giant cells and elloid cells) failed. The lesions were therefore probably sioned, not by Koch's bacillus tuberculosis, but by organism identical or similar to that described by inowitsch and detailed above.

---

[16] Hygienische Rundschau, November, 1899.

n Liverpool early in 1899 the experiments were con- ned with 13 samples collected from various shops in the y. Subcutaneous inoculation was practised, two guinea- gs for each sample. In this case only two guinea-pigs died ithin 10 days—so that two samples had only one animal ach. Out of these 13 samples only one proved to be tuber- ulous, the guinea-pig exhibiting post mortem the typical characteristics, both macro- and micro-scopically, of real tuberculosis. Inoculations from the lesions subcutaneously were followed by typical tuberculosis in guinea-pigs. Thus out of a total of 28 samples, 15 of Berlin and 13 of Liverpool margarine, only one proved to contain virulent bacillus tuberculosis of Koch, and that in a sample from the latter city.

I wish to take this opportunity of thanking my late colleagues at Professor Koch's Institute for their great courtesy and kindness towards me during the 18 months when I worked among them, and particularly Professor Koch, Professor Pfeiffer, Professor Brieger, and Professor Frosch for their help and advice during my researches.

Liverpool.

THE FEASIBILITY OF CARRYING OUT THE OPEN-AIR TREATMENT OF CONSUMPTION AT THE PATIENT'S HOME;

WITH AN ACCOUNT OF A SUCCESSFUL CASE.

By T. A. SOMERVILLE, M.R.C.S. ENG., M.O.H.,

AND

EUGENE S. YONGE, M.D. EDIN.,
HONORARY ASSISTANT PHYSICIAN TO THE MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT.

THE statement recently made by a distinguished physician[1] that in 95 per cent. of the cases of phthisis seen by the medical practitioner the patients are unable to afford treatment away from their homes, does not appear to us to be very wide of the mark. And in addition to the item of expenditure there are, amongst other disabilities which bar the way to effective treatment, those salient ones of severance from home; the cessation, in the case of the bread-winner, of the family income; and the depressing influence, to some temperaments, of an environment of sick people; all of which render it advisable to possess a substitute for the treatment by sanatorium or sea-voyage when such methods are impracticable.

following ca
acute

him a great deal of work and worry. been, in consequence, rather "burning the candle at both ends." On examination there was some loss of resonance and of expansion at both apices, with increased vocal fremitus, bronchophony, harsh breathing, and prolonged expiration at the left apex. There was a faint systolic mitral murmur and accentuation of the pulmonary second sound. The temperature averaged 102° F. in the morning and 103° in the evening. The larynx was in a condition of catarrhal inflammation, and microscopic examination of the sputum revealed large numbers of tubercle bacilli. The cough, pyrexia, and other symptoms continued without much change for about three weeks. On June 29th the patient was seen by us in consultation and we considered the case to be one of early acute pulmonary phthisis with a catarrhal laryngitis, possibly pretuberculous. The condition of matters was explained to the patient and the various methods of carrying out the open-air treatment were discussed. He was extremely unwilling to take a voyage or to leave his home for any length of time, as he felt that the neglect of his business, which was a personal one, would result in serious trouble, and both he and his friends were so much opposed to the usual sanatorium treatment that the idea was relinquished.

Creasote, maltine, and an inhalant were prescribed; a liberal diet was enjoined and the patient was advised to spend as much time as possible in the open air. His house was, fortunately, situated in the country, at a village about 12 miles from the city where he carried on his business. Although in no sense a health resort, the climatic and sanitary conditions of the village are good. The death-rate is 14 per 1000 and there are few indigenous cases of phthisis. The rainfall for 1899 was 26 25 inches and there is seldom any fog. The patient's residence, which is built on sandy soil, faces south-east. On August 9th, after adopting the modified treatment indicated above for about six weeks, the patient was again seen in consultation; and the condition then reported was that the cough, night-sweats, and anorexia had all considerably lessened; the nocturnal temperature had fallen to 99° and a gain in weight of 16 pounds had accrued. An examination of the lungs, however, showed that the tuberculous process was still active. There were signs of softening at the right apex and at the right base there was a small patch of pleurisy. The left apex and the larynx were practically in *statu quo*. It was therefore suggested that he should carry out the open-air treatment quite systematically and that it should be supplemented by moderate over-feeding and graduated exercise under our supervision. The method then adopted was to spend at least six or seven hours daily in the open air, either walking about slowly or driving, or sitting in the garden. The "lung gymnastics" recommended by Dettweiler were frequently practised. If the weather were wet the patient sat in a shelter (summer-house) facing the south; or if not very rainy he took short walks clothed in suitable garments—which he exchanged for dry ones as soon
as he came indoor—and thick waterproof boots. The
windows in his bed in the sitting-room which he
occupied always re open. His friends at first
to this e soon got
was

second week the digestive organs rebelled somewhat. The patient suffered from gastric catarrh and lost one pound and he also felt generally less well. During the third week the gastric symptoms disappeared and two pounds in weight were superadded. After that time he gained, on an average, one pound per week up to Oct. 13th (about three and a half months from commencing treatment), when he found that he had gained an aggregate of 28 pounds, or an average on the whole time of about two pounds per week. His present weight (Jan. 1st, 1900), seven months after commencing treatment, is 10 st. 11 lb., an increase of 2½ st. in that time.

The total effect of the combined fresh air, the feeding, and the exercise was that, in addition to the gain of weight, the cough and expectoration rapidly and entirely disappeared, the night-sweats vanished, he had no return of the dyspepsia, the temperature kept within normal limits, the larynx returned to its normal condition, and the patient, on Oct. 13th (about two months after commencing the open-air treatment systematically), appeared both subjectively and objectively to be perfectly well. The condition of the lungs at this date was, no abnormal dulness at either apex, expansion good, breath sounds vesicular, and expiration not prolonged. The moist râles had quite vanished. Re-examinations of the sputum have failed to give any evidence of tubercle bacilli. The patient informs us that he spent one of the six months during which he was under treatment at Rhyl in North Wales. He wrote to us last at the end of December, 1899, and reported himself as being perfectly well.

The case described above appears to have been an acute tuberculous broncho-pneumonia, an instance of one of the commoner forms in which phthisis florida, or what is popularly known as "galloping consumption," is met with. The loss of flesh and strength in such patients is very striking, and frequently out of proportion to the physical signs. The temperature is high, the pulse is rapid, and the respirations are increased. There may be repeated chills, as in the instance of our patient; and we suspect that the symptoms noted early in May were attributable to the tubercle bacillus rather than to the organism of influenza. Three points greatly in favour of the method adopted were the incipiency of the disease, the power which the patient enjoyed of securing abundant good food and favourable surroundings in the country, and the intense interest which both he himself and his friends took in the treatment. Perhaps the most serious indictment which has been brought against the home treatment of early phthisis is the absence of that discipline which prevails in sanatoria, and without which it would sometimes be impossible to enforce what may appear to the lay mind as unnecessarily drastic measures. The only remedy for this appears to be the substitution, in a measure, of the authority of the practitioner in attendance for that which would appertain to the director of a sanatorium, were the patient in such an institution, and the early settlement of the rival claims, on the one hand, of the patient's friends and, on the other hand, of the medical man, to conduct the treatment of the case. If the practitioner feels unequal to the task of breaking through the phalanx of lay ignorance and prejudice with which he may be confronted, it appears to us far better to advise that the patient be sent to a sanatorium.

It is possible for any phthisical patient living in the country and possessing a garden in which a small shelter can be erected to carry out the treatment; but he should be under the strict supervision of his medical man who takes the thermometer as his principal guide to the amount of exercise, &c., which the patient is to practise. Daily supervision of this kind was carried out in the case quoted above. The shelter, facing the south, should contain a couch or chair and be provided with moveable curtains or shutters to keep out the cold winds and driving rain. The open-air treatment ought not to be intermittent, but carried on throughout the 24 hours, the windows being widely opened when the patient cannot be out of doors.

'But although the home treatment of consumption will in all probability yield the best results where the pinch of poverty is not felt, it does not follow that the poor are altogether debarred from its advantages.' Osler,[2] in a recent paper, has advocated its employment for the benefit of this class of patient. And whilst he admits that the quality of fresh air in large cities may not be very good, he remarks that it is the best that a large proportion of our patients have to breathe, and it is considerably superior to the atmosphere of the ill-ventilated, over-heated rooms in which the majority of them live. Even for those of the poorer classes who apply at a hospital for consumption when the disease is in its curable stage, there are many weary days of "waiting for beds" when effectual treatment is practically in abeyance, when valuable time is being lost, and the patient is slipping towards the boundary which delimits the possibility of cure. For such as these Osler gives the following directions:—Take the almanack and count off the hours of sunshine. In the winter cut off two hours in the morning and one hour in the evening, and for the rest of the day the patient must be out of doors. If there is no possible arrangement for life out of doors the patient must be put in a room with a southern exposure and the bed moved in the sunshine, with the windows wide open. If there is a balcony or verandah with a good outlook towards the south it should be arranged for the patient; if not, a shelter could be put up in the yard at a very moderate cost. On a well-padded lounge, covered with a couple of thicknesses of blankets, the patient sits or reclines all day. Only on blusterous, stormy, or very rainy days is the patient to remain in the house. No degree of cold is a contra-indication.

We have drawn attention to the case reported above with a view of stimulating the home treatment of consumption in those instances where treatment at a sanatorium—which is preferable if possible—is found to be, for some reason, impracticable; and also with the idea of counteracting the feeling which some of the profession entertain towards the sanatorium treatment, that in the management and cure of early phthisis the axiom *aut sanatorium aut nihil* practically sums up the whole position.

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. *Proœmium.*

GUY'S HOSPITAL.

A CASE OF SEVERE INTRA-UTERINE HÆMORRHAGE FROM CYSTIC MOLAR PREGNANCY.

(Under the care of Mr. J. H. TARGETT.)

A WOMAN, aged 28 years, was admitted into Guy's Hospital on Sept. 29th, 1898, for swelling of the abdomen and vaginal hæmorrhage. She had had four full-term and normal parturitions and no miscarriages. Her last confinement was on July 15th, 1897, and she nursed the child for about a year. Menstruation returned during the latter part of her lactation and her last menstrual period began on July 1st, 1898. On August 15th she had a sudden hæmorrhage from the vagina and began to be sick, but she had no idea that she was pregnant. The bleeding occurred whilst the patient was at supper and was accompanied with sharp pain in the right iliac region and groin. It recurred at intervals during the night and the next day she was better, but on the third day the hæmorrhage became continuous and the vomiting was frequent. There was no abdominal enlargement at this time, but from the onset of the bleeding until the date of admission the abdomen had steadily increased in size. Micturition was frequent and the bowels were much confined.

When admitted to the hospital more than six weeks after the onset of the hæmorrhage the patient was decidedly blanched and much wasted. The temperature ranged between 99° and 100·5° F. The breasts were very small and lax; they contained no secretion and showed no recent pigmentation. The abdomen was occupied by a large central swelling of the size of a seven months' gestation. It was pyriform in shape, rising out of the pelvis to the level of the ninth costal cartilages, and had a uniform outline. The tumour had an elastic feel and gave a most distinct thrill in all directions, but it hardened on palpation like the pregnant uterus. The loins and epigastric region were resonant, and no fœtal heart-sounds or uterine souffle was detected after repeated examinations. Per vaginam the cervix uteri was found to be softened and the external os patulous, and there was a constant but not profuse discharge of a dark-red sanguineous fluid. The abdominal tumour was directly continuous with the cervix uteri and was therefore without doubt the enlarged body of the uterus. In view of the large size of the uterus, the constant sanguineous discharge, and the absence of all signs of a fœtus a diagnosis of vesicular mole was made.

---

[2] Loc. cit.

On Oct. 1st the uterus was evacuated under an anæsthetic. The cervix was slowly dilated with Hegar's dilators and by degrees two fingers were inserted, but the dilatation was difficult owing to rigidity of the cervix. The body of the uterus felt like a large sac with lax walls and a small rigid orifice. It seemed to be filled with soft blood-clot. By pressure on the fundus the clot was brought within reach of the two fingers in the uterus and thus removed as rapidly as possible. But the uterus did not contract and the hæmorrhage at one time was very profuse and alarming. Much of the clot, however, was dark and had evidently existed in the uterus for some time. The last portion of the uterine contents consisted of typical vesicular mole, recent blood, and fluid. To control the hæmorrhage the flabby uterus was strongly anteflexed over the pubes by bimanual pressure and a hot douche was prepared. The combined effects of kneading, pressure, and heat induced uterine contraction and retraction, and two hypodermic injections of ergotin were then given. The quantity of blood lost could not be estimated, but it must have been very considerable as the uterus reached nearly to the ensiform cartilage and fully three-fourths of its contents consisted of old and recent blood-clot, the rest being cystic mole. It was afterwards found that the cervix had been split rather deeply into the right fornix, which must have occurred during the rapid digital evacuation of the uterus on account of the hæmorrhage, as no instruments were used for this purpose. The rigidity of the cervix greatly hampered the use of the fingers.

The subsequent progress of the case was slowly towards recovery, and during the greater part of a tedious convalescence the temperature ranged between 99° and 100·5°, but it only reached 101° on one occasion. A small cellulitic effusion formed on the right side of the cervix in connexion with the above-mentioned laceration, and this in turn appeared to cause a swelling in the right iliac region which gradually enlarged and extended back into the right loin. It felt distinctly elastic, like fluid, and could be grasped bimanually through the loin suggesting a hydronephrosis on the right side, possibly due to pressure on the right ureter. The involution of the uterus was much delayed, and when the patient went to a convalescent home seven weeks after the operation the fundus uteri was still three inches above the pubes. The right iliac swelling had disappeared and the parametritis was much diminished but the patient was still decidedly anæmic. No suppuration occurred either in connexion with the iliac swelling or the cellulitis of the right broad ligament.

Remarks by Mr. TARGETT.—The occurrence of severe intra-uterine hæmorrhage in cases of cystic mole and the resemblance between this condition and concealed accidental hæmorrhage are not mentioned in the text-books, but Dr. Herbert Williamson has recently drawn attention to the subject in a valuable paper read before the Obstetrical Society of London.[1] He records a case which in many points resembled mine, but the hæmorrhage was less severe. In regard to the differential diagnosis from concealed accidental hæmorrhage he thinks that the absence of the fœtal heart-sounds and of the uterine souffle is very important. I have met with two other cases of cystic mole associated with abundant hæmorrhage into the uterine cavity and in one of these the abdominal tumour had been mistaken for an ovarian cyst, and ovariotomy was about to be performed. In the case mentioned above the thrill obtained from the large abdominal tumour was so perfect that the same mistake might have been made, but was prevented by the detection of intermittent uterine contractions. Though concealed accidental hæmorrhage is more likely to occur in the later months of pregnancy, yet it may be met with in the first half of the period of gestation, and then the clinical symptoms will more closely resemble those of a cystic mole. A patient came under observation recently for severe vaginal hæmorrhage of three weeks' duration. She considered herself to be four months pregnant, but the uterus was fully of the size of a six months' gestation. No fœtal heart-sounds were heard and no part of a fœtus could be felt. The patient was decidedly anæmic. On exploration of the uterus the cavity was found to contain three pints of old and recent blood-clot with a dead fœtus of about four months' development. The diagnosis of cystic mole had been made, but in reality the condition was concealed accidental hæmorrhage with intra-uterine death of the fœtus. It is generally stated that dilatation of the cervix sufficient for the introduction of two fingers will enable the operator to evacuate the uterus; but in the above case the rigid cervix, though admitting two fingers, split rather than dilated on manipulation, and the same thing happened in one of Dr. Williamson's cases. Moreover, with a uterine cavity so greatly dilated and relaxed, the removal of its contents through such a narrow orifice was tedious and difficult and not without risk to the patient from inefficient control of the hæmorrhage. It would have been better if the cervix had been more fully dilated by hydrostatic bags before the operation was begun. As regards mortality I may note that out of six cases seen during the last three years none died directly from the disease, but one of them developed within a few months a typical deciduoma malignum, to which she speedily succumbed.

LIVERPOOL NORTHERN HOSPITAL.

TEN CASES OF MALIGNANT PUSTULE.

(Under the care of Mr. CHAUNCY PUZEY, Mr. DAMER HARRISSON, and Mr. R. W. MURRAY.)

THE great value of excision in cases of malignant anthrax is amply demonstrated by this interesting series of seven cases, although it is possible that the ipecacuanha had some share in the results. The assistance in diagnosis which is afforded by the bacteriological examination of the fluid in the vesicles cannot be over-estimated, and it is, moreover, always advisable to examine the blood for the bacilli as the prognosis depends greatly on the question of the generalisation of the micro-organisms, though cases have been described in which recovery has followed excision even after the bacilli had been discovered in the blood. For the notes of the cases we are indebted to Dr. J. Mandall Coates, late senior house surgeon.

CASE 1.—A tanner, aged 27 years, was admitted into the Liverpool Northern Hospital on March 13th, 1899. The patient had a well-marked pustule, with the characteristic vesicle formation surrounding the central black eschar, situated at the left angle of the jaw. There was considerable swelling all round it extending down the neck and round under the chin. He complained of great difficulty in swallowing and felt very ill. The temperature was 101·8° F. It was stated that four days previously he had noticed in the above situation "a pimple," of which he had taken no notice, and that it had gradually got worse until the date of admission. The difficulty in swallowing had lasted some 12 hours before admission. The fluid from the vesicles on microscopical examination contained the typical bacilli of anthrax in great abundance. Shortly after admission the pustule was freely removed, a circular portion about one and a half inches in diameter being excised. Pure carbolic acid was applied to the cut surface and the wound was packed to prevent hæmorrhage, which was free. The temperature at the time of the operation was 104·2°, but it gradually fell, and on the following morning it was 102·4° and the patient felt very much better. Ipecacuanha powder (five grains every hour) was given and the powder was also dusted on the wound each time it was dressed. From this date onward the patient improved and on the 16th the temperature was normal; on the 22nd the surrounding œdema had almost disappeared and he was discharged on May 15th.

CASE 2.—A tanner, aged 19 years, was admitted into the hospital on April 25th, 1899. In this case the pustule was situated at the back of the neck in the middle line and displayed the same typical characters as that in Case 1. There was a considerable amount of swelling entirely obliterating the hollow behind the neck. The constitutional symptoms were slight and the patient complained only of some stiffness on moving the neck. The fluid from the vesicles was examined, but owing to the specimens being inadvertently destroyed the bacteriological diagnosis was uncertain. Shortly after admission the patient was operated on, the pustule and a portion of the surrounding tissues being freely excised; the cut surface was treated by the application of pure carbolic acid. Ipecacuanha powder internally and externally was ordered. The temperature dropped on the next day, but on the 27th it rose to 104° F. The constitutional symptoms became more marked, there was no improvement on the 28th, signs of pulmonary embarrassment becoming apparent and the œdema extending down the neck. On the 29th his breathing became very embarrassed and tracheotomy was performed, the operation being rendered difficult by the fact that the trachea was displaced very much to the right by the œdema; no anæsthetic was used. The operation relieved his breathing for a time, but he gradually sank and died in the evening.

---

[1] THE LANCET, Oct. 14th, 1899, p. 1019.

Case 3.—A tanner, aged 27 years, was admitted into the hospital on May 22nd, 1899. He had a typical pustule on the back of the right metacarpal phalangeal joint. Four days previously to admission the patient had noticed a small pimple in the area mentioned which had gradually got larger. On admission the temperature was 100° F. There were no constitutional symptoms and the œdema was slight. The pustule with some of the surrounding tissue was excised, the portion removed being of about the size of a crown piece, followed by the free application of pure carbolic acid and the internal and external use of ipecacuanha powder. The patient made a good recovery and was discharged on July 1st.

Case 4.—The patient, a washerwoman, aged 35 years, was admitted into the hospital on June 4th, 1899. The patient had a pustule at the right angle of the jaw. It was typical and its character was confirmed by bacteriological examination. Treatment was the same as in the foregoing cases. She made a good recovery and was discharged in four weeks. She stated that she had first noticed the pustule about three days previously. It was ascertained that she had been washing the clothes belonging to a tanner and it is reasonable to suppose that this was the source of infection in her case.

Case 5.—A tanner, aged 36 years, was admitted into the hospital on May 23rd, 1899. In this case the patient had two separate and discrete pustules, one on the back of the right forearm about its middle and the other on the edge of the lower jaw about two inches to the right of the symphysis. They were typical in character and the fluid from the vesicles in both instances contained anthrax bacilli. The temperature on admission was 98° F. There were no constitutional symptoms. The patient had first noticed the pustule on his arm four days previously, while that on his face he noticed the day after. One point noteworthy in his history was that he had not been working in the tannery for a week before. The treatment was the same as in the other cases and he made a good recovery.

Case 6.—A tanner, aged 22 years, was admitted into the hospital on June 29th, 1899. The site of the lesion was the forehead. The pustule was typical and its character was confirmed by bacteriological examination. He had first noticed the pustule four days previously to his being admitted. The treatment was similar to the foregoing. He made a good recovery.

Case 7.—A tanner, aged 21 years, was admitted into the hospital on July 8th, 1899. In this case the pustule was situated on the front of the left forearm. On examination the fluid from the vesicles was found to contain the characteristic organism. There was also a little above the elbow of the same arm a pustule similar in appearance but very much smaller. The treatment was on the same lines as that of the other cases. He made a good recovery.

Remarks by Dr. Mandall Coates.—Rarely in this country is anthrax seen in human beings showing an epidemic-like character as it did in these cases and its occurrence is noteworthy. Two tanyards were involved, the source of infection being some hides imported from China. Once such infected hides have undergone all the processes necessary in the manufacture of leather it is apparent that the tanyard will be dangerous for some time to come, even if the infected hides are removed, and the possibilities of infection to individuals working in the yard are by no means remote. The advisability of enforcing regulations as regards personal cleanliness, thorough washing, and changing of the working clothes is shown in Cases 4 and 5. In the former case the patient had never been in a tanyard in her life and in the latter the patient had not been working in the yard for a week, but had been wearing his working clothes. Counting the cases which were treated in other institutions there were at least 10 altogether, of which four were fatal, and these were amongst the first to come under notice. The time between the patient first noticing the pustule and admission to hospital was generally either three or four days. The constitutional symptoms were more especially marked in the earlier cases which were fatal, and the slight symptoms in the later cases seemed to point to a diminution in virulence of the organism. As regards the use of ipecacuanha its use in the above cases may have been beneficial, but I think we must rely much more on early recognition of the lesion and free excision. Certainly in one case (Case 6) in which its administration was delayed for two days it had a beneficial effect on the temperature. As to the diagnosis, in none of the cases was it doubtful, and it can always be confirmed in five minutes by microscopic examination of the fluid in the vesicles. This means of diagnosis was used in all the above cases and in six of them it afforded absolute proof.

Note.—Since the above was written three more cases have been admitted. Two of them were men working in the tannery referred to; the third case was that of a woman whose occupation was wool-sorting. In these cases the same line of treatment was adopted and they have all recovered, thus making 10 cases with nine recoveries and one death.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Bacteriology of Venous Thrombi.—Mycotic Tumour from a Horse.—"Spontaneous" Carcinoma.—Experiments with the Toxins of the Pneumococcus.—Exhibition of Specimens.

A meeting of this society was held on Jan. 16th, Dr. **Sidney Coupland**, the Vice President, being in the chair.

Dr. **Coupland** referred to the absence of the President Mr. Watson Cheyne, on account of his departure for South Africa.

Mr. W. **Pakes** read a paper on the Occurrence of the Bacillus Proteus Vulgaris in a Venous Thrombus. He described a case of thrombosis of the right and left iliac and femoral veins occurring in a patient suffering from phthisis and tuberculous enteritis. The clot in the left iliac vein was examined post mortem and a pure culture of the bacillus proteus vulgaris was obtained therefrom. In spite of the fact that this organism was frequently associated with post-mortem decomposition he did not think that this would explain its presence in the case he described, since these organisms were present in the clot in considerable numbers without any obvious decomposition. He pointed out that an organism like the bacillus proteus vulgaris, which was not pathogenic to a human subject in good health, might become so to a patient whose vitality had been reduced by a wasting illness such as phthisis. He thought that in view of the slight knowledge which we possessed concerning the causation of thrombi it would be well if every case of thrombosis could be examined bacteriologically.

Dr. T. G. **Stevens** gave an account of the Bacteriological Examination of a Thrombosed Ovarian Vein following Hysterectomy. The case was one of subacute septicæmia following abdominal hysterectomy. The right ovarian vein was found to be thrombosed from the ligature to the vena cava. Cultures were made, with every precaution against possible contamination, in broth from the breaking-down clot in the vein. The broth culture, after plating on gelatin, showed colonies of the bacillus coli communis group and the bacillus pyocyaneus. The case was brought forward in the hope that when thrombosis occurred in accessible sites more bacteriological examinations of the thrombus might be made. Such examinations, it was hoped, might be an aid to the surgeon in treating cases of thrombotic pyæmia.

Mr. **Alexander G. R. Foulerton** showed a Mycotic Tumour which had occurred in the Maxillary Sinus of a Horse. The tumour was of irregularly oval shape, measuring 10 centimetres in the longer and 8·5 centimetres in the shorter diameter. It consisted of a central core of soft caseous material enclosed within a mass of dense fibrous tissue, the latter measuring from 2 to 4·6 centimetres in thickness. The core contained a large quantity of the mycelium of a mould fungus. The pathogeny of the tumour was supposed to be as follows. The dense outer fibrous layer probably represented the overgrown wall of a suppurating cyst which had been connected with the fang of a carious tooth. The caseous core represented the inspissated contents of the cyst cavity which had been infected by the mould fungus from the mouth. The mycelium was arranged in star-shaped masses; individual threads differed considerably in their thickness; there was no evidence of sporulation. The mycelium stained well by the ordinary aniline dyes, but not by Gram's method. As there had been no opportunity of making cultures it was impossible to give an opinion as to the exact species of the fungus. It was, however, probably not streptothrix actinomycotica, the common ray fungus of horses and cattle. Nor could it be confounded with the aspergillar moulds which also infected horses. From the nature of the specimen it seemed clear that the fungus had existed within the tumour during the life of the animal and did not merely invade the tissues after death. Mr. Foulerton concluded by asking if any of the members could throw light on the nature of the growth.

Mr. S. G. **SHATTOCK** exhibited a specimen of "Spontaneous" Carcinoma of the Uterus in the Rabbit. Histologically the growth consisted of a columnar-celled papilliferous carcinoma and it affected both the uteri. The mucosa between the many growths was papillary and from such areas the origin of the carcinoma could be traced. There were a certain number of peritoneal metastases. The chief interest of the specimen lay in its bearing upon the experiment recorded last year by Dr. Lambert Lack. This experiment consisted in exposing the ovaries in a rabbit, scraping them, and closing the abdominal wound; the animal, after remaining well for 12 months, then showed signs of abdominal carcinoma and was killed. Many peritoneal nodules were found of columnar-celled carcinoma and the thoracic viscera were involved. Dr. Lack's conclusion was that the dissemination of normal epithelial cells from the ovary had led to the growth of the tumours, and in arriving at this he had been largely influenced by the fact that Professor J. McFadyean had not seen or heard of carcinoma in the rabbit. The condition of the uterine mucosa in Dr. Lack's case was precisely as in that exhibited and there was, moreover, a growth as large as a cherry in the uterine wall itself. Mr. Shattock contended, therefore, that unless the same result could be repeated it must be regarded as a coincidence. The injury inflicted on the ovary also complicated the experiment and he had modified it on a series of rabbits by the method of intra-peritoneal injection of scrapings of ovary, &c., suspended in warm sterilised salt solution. The dissemination of peritoneal papillomata after rupture of a papilliferous ovarian cyst was not a just comparison since normal characters could not be safely ascribed to such epithelium. The contagiousness of the warts that occurred in the mouths of dogs had been proved by the experiments of Professor J. McFadyean and Mr. F. Hobday. These experiments showed also that an immunity to infection might be acquired by inoculation and Mr. Shattock suggested that the disappearance of peritoneal papillomata following removal of the ovarian growth might be due to a similar acquired immunity. When the case of normal epithelium was considered such experiments as were forthcoming told the other way. The intravascular injection of gland emulsions by Lubarsch and his pupils Krückman and Lengemann was in no case followed by the growth of tumours; neither was the traumatic detachment of tissue, whether the fragments were allowed to remain *in situ* or transplanted to another animal of the same species. Though the blood stream was chosen, yet the metastasis that took place both in sarcoma and carcinoma by this stream showed that if the emboli possessed the right characters the growth of tumours followed. The epidermal cysts of the palm and palmar aspects of the fingers that arise from the traumatic dislocation of epidermis into or beneath the substance of the corium furnished an excellent object-lesson of what ensued in such cases. He had referred to this on the occasion on which Dr. Lack had exhibited his specimen in July of last year. Amongst the same class of phenomena must be ranged the multiple formation of cysts which may follow the rupture of an ovarian dermoid. Here, again, there ensued a production of simple circumscribed cysts and not a carcinomatous infection of the peritoneum such as should arise were the mechanical hypothesis of the origin of carcinoma a true one.—Dr. **SIDNEY COUPLAND** remarked that the facts to which Mr. Shattock had drawn attention were of the greatest interest and the inferences deduced had certainly carried conviction to his mind. Certain epithelial cells seemed to be endowed with the property of malignancy. The subject of the infectivity of warts was also one of great interest in view of the remarkable way in which they appeared and disappeared spontaneously.—Mr. C. A. **BALLANCE** thought that it was a fact now generally recognised that the action of normal epithelial cells when transplanted into other tissues or lymph spaces was limited. They only had a certain power of development, but when malignant their power of growth was unlimited. What was this property of malignancy? Dr. Lack's experiment did not settle the question, but in the contents of the Graafian follicle they had something quite special, for if these epithelial cells came in contact with (became infected by) certain other cells, the spermatozoa, they at once took on that most remarkable power of growth which resulted in the fœtus. Almost the same thing might be seen in cancer cells which took on unlimited growth (terminated in short only by the death of the individual) when they became infected by the hypothetical microbe of cancer. He (Mr. Ballance) agreed with Mr. Shattock that Dr. Lack's experiment was nothing more than a remarkable coincidence. An experiment required to be repeated again and again to be of any use. He and Mr. Shattock had repeatedly, in the course of their experiments, found that what they had taken for a law was only an incident.

Dr. A. G. **AULD** read a paper embodying the Results of Experiments with the Toxins of Pneumococcus performed in the Research Laboratories of the Conjoint Board. Nearly 200 animals, chiefly rabbits, were experimented on during a period extending over two years. The first series of experiments related to the production and action of toxins found in the organism. To counteract the effects of the lactic acid produced by the coccus, which inhibited its further growth, various media which were described were used. Side by side with the animals inoculated with virus "control" animals were always kept. Toxins of gradually increasing virulence and cultures of different generations were injected in the different series of experiments which were fully described by Dr. Auld. The most notable result of these experiments was undoubtedly the increased sensitiveness to the pneumococcus produced by inoculation of its toxins, in rabbits at least. Under all circumstances of dosage this super sensitiveness was manifest, and consequently any attempts to immunise in this way seemed to be contra-indicated. These results, however, harmonised to some extent with what had been found in the case of plague and other toxins. This harmful action of the toxins would indicate that the intra-cellular poisons of the bodies of the micro-organisms were probably the most suitable immunising agents, and this view was borne out by the experiments of Foà and Scabia,[1] who stated that a watery glycerine extract of the dead bodies of the pneumococci formed a much better minimising medium than the diluted virus itself. The lethal dose of toxin obtainable in these experiments was about one-hundredth part of the weight of the animal, which corresponded with the lethal dose of the filtered extract of the blood and tissues of rabbits dead from pneumococcal infection, as was found by Isaeff. The occurrence of fore-leg paralysis in two cases was noteworthy, and, as far as Dr. Auld was aware, had not hitherto been observed. It would appear that the poison had a relative affinity for the nerves and their centres supplying these parts. Dr. Auld, in conclusion, desired to acknowledge the help and participation which he had received from Dr. Cartwright Wood in these researches.—Dr. J. W. H. **EYRE** wished to ask Dr. Auld what was the source of the pneumococcus used in these experiments and what were the features by means of which he established its identity, since it was important to establish its identification. Another point he wished to refer to was the reaction of the media in which the cultures were grown; it was not sufficient that these should be neutral, they must be decidedly alkaline to grow the pneumococcus successfully.—Mr. W. **PAKES** remarked that this increased susceptibility or hyper-sensibility of an animal produced by the introduction of pneumococcus toxins was a somewhat novel result in his experience and he would like to know in what other organisms it obtained.—

---

[1] Gazetta Medica di Torino, 92; 13, 14, 16.

Dr. **AULD**, in reply to the first speaker, said the organism was a capsulated diplococcus whose identity was beyond dispute. As regards the alkalinity of the media, this was insured by the layer of chalk at the bottom of the flask, which was occasionally stirred or shaken, a fact to which he had already made reference. It was to this high alkalinity that he attributed the extreme virulence of some of the growths which he had obtained. The hyper-sensitiveness of the animals produced by the toxins was certainly a remarkable result, but it was to be found under certain conditions in connexion with plague, diphtheria in guinea-pigs, and he believed with tuberculin under certain circumstances.

The following card specimens were exhibited:—

Dr. E. M. **CORNER**: A Supra-patellar Sesamoid Bone.

Dr. H. A. **LEDIARD**: (1) A Loose Cartilaginous Elbow-joint; and (2) Hydatid Cyst from Muscle.

CLINICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Jan. 12th, Sir R. **DOUGLAS POWELL**, the President, being in the chair.

Mr. J. **HUTCHINSON**, jun., narrated a case of Subperiosteal Resection of the Os Calcis, followed by complete reproduction of the bone. The patient was a lad who at the age of 15 years became the subject of acute periostitis and osteitis of one os calcis. At the end of five weeks from the onset of the disease, after the sinuses had been explored, the os calcis was found to be necrosed, and three weeks later the whole bone was removed, taking care to leave the periosteum, in which new bone was beginning to form. After this the patient, who had been extremely ill with high fever, began to improve, and now at the end of ten months he was walking well with the aid of a stick. There was a well-shaped firm heel on which the patient could stand upright with perfect ease.—Mr. **HERBERT PAGE** remarked that removal of the os calcis was not a new operation. It was done by his father in 1848, and he had in his possession a plaster-cast of a man's foot on whom the operation had been performed in that year. Mr. Hutchinson's case was a very interesting one, the chief importance lying in the fact that the os calcis had been so completely reproduced.—Mr. J. **HUTCHINSON**, jun., in reply, said that he did not wish to lay claim to any originality, but he thought that the case was one of sufficient rarity and interest to bring forward as showing what favourable effects could be produced by subperiosteal resection of the os calcis.

Mr. J. R. **LUNN** showed two cases of Diplegia Facialis, one occurring in a man and the other in a woman. Both were due to double ear disease. Both sides of the face were quite paralysed and immobile, the skin was smooth, and it was impossible for the patient to close the eyelids in either case. All the muscles showed the reaction of degeneration, the masseters alone being unaffected. Both patients were absolutely deaf and the membrana tympani were perforated. The woman at first had been quite unable to taste anything, but lately the sense of taste had returned. In the man, who had been paralysed for a longer time, taste was wanting at the tip and sides of the tongue but was preserved elsewhere. There was no paralysis of the palate in either.

Mr. **LUNN** also showed a case of Congenital Dislocation of the Right Hip occurring in a child, aged five years. The family history was not obtainable. The dislocation was on the right side. The patient stood with the right foot markedly everted; her gait was "waddling," but this was not so marked whilst running. An appreciable amount of lordosis was present, but it disappeared in the recumbent position. The upper border of the right trochanter was above Nelaton's line. There was a limp on the affected side, and the right shoulder was lower than the left. There was no appreciable wasting of the gluteal muscles. Traction caused a disappearance of the shortening which amounted to three-quarters of an inch. The head, neck and shaft of the bone were slightly atrophied.—Mr. J. **JACKSON CLARKE** asked what treatment it was proposed to adopt in the case, which was certainly one of a moderate degree of congenital dislocation. There was a considerable limitation of abduction in these cases which was inconvenient. He thought well of Laurenzi's bloodless method of treating such cases. The results of this method he had found very satisfactory.

Mr. **LUNN** also showed a case of Paroxysmal Hæmoglobinuria occurring in a child aged six years. The patient was admitted on Nov. 28th, 1899, for hæmaturia. Her urine had been examined on a great many occasions, no reaction for blood being obtainable until Dec 9th. The urine was blood-coloured when exposed to the cold, but a positive guaiacum and ether test was seldom obtained. She had not had scarlet fever. The patient had never been known to pass any calculi per urethram, but was said to have once had "gravel." Mr. Lunn had seen her sister, who was evidently suffering from syphilitic choroiditis and interstitial keratitis.—Mr. W. G. **SPENCER** referred to a case of paroxysmal hæmoglobinuria under his care in which gangrene occurred after a horse bite. There was a considerable degree of arterial tension in that case. He also referred to the association of such cases with Raynaud's disease. These cases sometimes ended in uræmia, and at any rate the prognosis of cases associated with high arterial tension was generally grave.—Dr. A. F. **VOELCKER** thought it was very interesting to note the association of syphilis with the disease in the child. In three cases of paroxysmal methæmoglobinuria which he had seen there had been this association and in one of them, that of a child, the syphilis had been acquired. Another interesting point in Mr. Lunn's case was the blood changes. In some cases of methæmoglobinuria he had noticed in the blood that the corpuscles did not run into rouleaux, but that they seemed to show an unduly adhesive power so as to form long snake-like chains under the microscope. In all three cases of methæmoglobinuria associated with syphilis, he had noticed this change.—Dr. G. A. **SUTHERLAND** remarked on the occurrence of albuminuria in these cases. Some held that intermittent albuminuria and paroxysmal hæmoglobinuria were different stages of the same disease—the former being the initial condition. He would like to know whether there had been any oxalates in the urine. This was often a striking feature in these cases and it persisted after the hæmoglobinuria had passed off.—Mr. **LUNN**, in reply, said that the child was one of a family of 24. She was all right unless she was exposed to cold; then the temperature would rise to 99° or 100° F., the patient would become somewhat collapsed, and blood would be passed in the urine. There was no history of any symptom of Raynaud's disease in the case. Oxalates had been found in the urine.

Mr. **CHARTERS SYMONDS** showed a case of Malignant Goitre after two operations in a woman. The growth was first seen in September, 1897, and affected the left lobe only; it was hard, fixed, and nodular. The thyroid cartilage was pushed over to the right. There was morbid dyspnœa so that tracheotomy was becoming necessary. There was a history of a thyroid swelling for nine years which had been stationary till 18 months before the September of 1897. In October, 1898, a part of the growth was removed and a tracheotomy tube was introduced. The pressure was so much relieved that the tube was removed in six weeks. A second and more extensive operation was performed on April 18th, 1899, as the pressure had again returned. At this operation an attempt was made to remove the whole of the growth. The trachea was exposed and freed from the growth, the upper and central parts being easily extirpated. It was thought unwise to remove the lowest part because of the relation to the great veins. The interest of the case lay in the very little bleeding that occurred; in the relief afforded; in the unilateral character of the growth; and in the long history of a local enlargement before the malignant growth appeared. Mr. Symonds referred to another case which he had treated in a similar way. The growth was a true epithelial formation. At the present time the patient was comfortable, could sleep without stridor and, save for a small tracheal fistula, suffered little inconvenience. There was complete paralysis of the recurrent nerve.—Mr. **ARTHUR BARKER** asked if the other case which Mr. Charters Symonds had seen had run as chronic a course as this one. It seemed to him that malignant disease of the thyroid gland was somewhat peculiar in this respect and he mentioned one case in which the enlargement had existed for six years before it took on what seemed to be a malignant growth and then it lasted for 12 years, during which time six operations had been performed. He had brought the case before the Pathological Society of London and the Morbid Growths Committee had decided that the microscopic appearances were undoubtedly malignant. He had also met with another similar chronic case.—Mr. **CHARTERS SYMONDS**, in reply, said that this case had only had a history of three years. His other case had been less chronic than those referred to by Mr. Barker. It was to be remembered that there were certain adenomatous forms of thyroid tumour which very much resembled malignant disease.

Mr. J. **JACKSON CLARKE** exhibited a case of Ankylosis of the Temporo-maxillary Joint in a girl, aged nine years, who had had complete fixation of the lower jaw for over three years dating from soon after an attack of scarlet fever. When the condition was first noticed the patient was taken to a London hospital, where, after an unsuccessful attempt to break down adhesions, the molar teeth on the left side were removed in order to allow the patient to be fed. Her appetite during the three years had been very large but she remained very thin. At the North-West London Hospital in November last Mr. Clarke exposed the right temporo-maxillary joint by an incision planned to avoid the trunk of the facial nerve, the parotid duct, the superficial temporal artery, and other structures near the joint, and removed the whole of the neck of the bone. The result of the operation was entirely satisfactory. After a few days the patient could masticate food. On leaving the hospital 14 days after the operation, the patient had gained six pounds in weight, although she was now satisfied with a smaller quantity of food. At the present time she could open the mouth more than an inch. Mr. Clarke referred to another case in an adult with bilateral ankylosis where he had performed similar operations on both sides. In this case an equally good result was obtained and up to the present time, nine months after the operation, the patient had improved rather than otherwise, having by exercise obtained a greater power of protruding the jaw.—Mr. **ARTHUR BARKER** remarked that the improvement in these cases was a permanent one. It used to be thought that stiffness due to synostosis occurred even after operation, but that was in pre-antiseptic days, and Mr. Clarke's case reminded them that this synostosis did not occur under modern aseptic methods. He referred to a case of a child who had suppurative mischief in the joint at the age of five years on whom he had operated successfully at the age of 14 years. Mr. Clarke's case was also interesting from the fact that there was not much muscular atrophy on the side of the operation, as there had been in some cases which he had seen.—Mr. **CLARKE**, in reply, referring to the prognosis in these cases, hoped that the facial contour would improve in time, that the bone which now lagged behind would come forward, and that the muscles would fill out.

Mr. **FREDERIC S. EVE** exhibited a case of Arthrectomy of the Knee for tuberculous disease with restoration of movement. The patient was a girl, 13 years of age, who was admitted to the Evelina Hospital with all the usual signs of strumous disease of the knee. For six weeks she was treated with Scott's dressing and strapping, the limb being placed on a splint. No improvement resulting, on June 13th Mr. Eve performed a complete arthrectomy, removing the whole of the thickened synovial membrane. A thin slice was removed from the extremity of the internal condyle where the cartilage was destroyed. The lateral and crucial ligaments were carefully preserved, but the semilunar ligaments were removed. The incisions in the capsule were brought together by silk sutures. A month after the operation the adhesions were broken down under chloroform, and from that time passive movement was kept up on two or three occasions under anæsthetics. The limb was now quite straight and firm, the knee could be flexed to a right angle, and the patient walked firmly and evenly upon it. She wore a splint every night to obviate the tendency which these joints sometimes had after arthrectomy to flexion He thought that after a period of one month was the best time to begin to start passive movement. If less time than this were allowed too much movement resulted and if more, fibrous adhesions might occur —Mr. **ARTHUR BARKER** congratulated Mr. Eve on the success of this case. It realised the desire which surgeons always had in these cases to preserve the movement of the joint. This seemed to be an exceptional success, but he hoped that one day such results would become more frequent. —Mr. **CHARTERS SYMONDS** hoped that the sanguine view expressed about the future of such cases would be realised. He had recently seen a similar case on which he had operated six years before, and the patient, now between 16 and 18 years of age, suffered a great deal of pain in the joint. When these joints had been used for awhile they sometimes gave rise to considerable pain and the permanent benefit was not always realised.—Mr. **J. HUTCHINSON**, jun., had in two cases succeeded in getting a range of 30°, but he had never seen so much range of movement as in Mr. Eve's case.—Mr. **J. JACKSON CLARKE** also thought the result exceptionally successful, for the operation of arthrectomy required considerable selection, and only some cases were suitable. Moreover, the results from the older methods of treatment were not altogether discouraging, and he mentioned some cases in point.—Mr. **FREDERIC EVE**, in reply, said that the case had been distinctly of the subacute variety of tuberculous disease of the joint, one in which fibrous tissue was undoubtedly forming in the synovial membrane.

Mr. **FREDERIC EVE** and Mr. **HUGHES R. DAVIES** showed a case of Resection of the Lower Third of the Radius and Ulna with Myeloid Sarcoma of the Lower End of the Radius. The patient, a woman, aged 21 years, fell and sprained her wrist in June, 1898. In the following September a swelling appeared at the lower end of the right radius; this gradually increased and when seen in February, 1899, there was a typical myeloid sarcoma of the lower end of the bone. On March 4th, 1899, the lower thirds of both radius and ulna were excised by Mr Eve and all the tendons around the wrist were divided, shortened, and sutured. At the end of six weeks she could write her name and could now write well, use her hands for dressing, meals, and for all ordinary purposes. She could also grasp firmly with the fingers any articles such as a glass or a pen and play the piano by the aid of a leather splint.

Dr. **VOELCKER** showed a case of the Hereditary Ataxy of Friedreich in a boy, aged 12 years, who had been under his observation since August, 1896. There was no family history of any nervous disorders. When the patient was five years of age he was said to have had "German measles" and congestion of the lungs, after which he had St. Vitus's dance, which left him helpless. Since then he had had tremors. When he was first seen in 1896 he was a rather undersized boy, and there were irregular tremors of his head, tongue, and upper limbs, the left side being worse than the right side, and he had well-marked Romberg's sign, but no nystagmus The pupils were equal and reacted to light and accommodation. There was no ocular palsy. Sensation to touch and pain was normal. Coördination was very imperfect. The speech was rather thick. Knee-jerk was not obtained. The patient had no trouble with micturition or muscular wasting. In November, 1897, ophthalmoscopical examination showed atrophy of both discs with old retino-choroiditis and some opacities in the vitreous. In January, 1899, his colleague, Mr. Donald Gunn, reported that the changes in the fundi were briefly those of an old syphilitic retino-choroiditis. During 1899 he had an attack of herpes labialis to which he had been liable. In November, 1899, it was noted that on tickling the soles the great toes were extended. For the last three weeks the unsteadiness had increased and his handwriting had become more shaky.—Mr. **J. HUTCHINSON**, jun., asked on what evidence the condition of the fundi oculorum was regarded as syphilitic. He was not satisfied that because there was atrophic retino-choroiditis the lesion was necessarily of syphilitic origin.—Dr. **VOELCKER**, in reply, said that he based his statement as to the syphilitic nature of the eye lesion on the opinion of his colleague, Mr. Donald Gunn.

Dr. **H. BATTY SHAW** exhibited a case of Erythro melalgia which was under the care of Dr. J. Rose Bradford. The patient was a man, 29 years of age, in whom there was obviously poor circulation Both radial pulses were small and he also exhibited coldness and blueness of the nose. He had met with an injury from a cricket-ball on the left wrist six years previously, but had made a good recovery. Three years ago he noticed that the left hand and wrist were becoming red, painful, and swollen. After this the condition had progressively increased with exacerbations from time to time until the present state had been reached, in which the left hand was of a deep purple colour, much swollen and œdematous The lividity, but not the œdema, extended to the elbow-joint He suffered a good deal of pain, which presented the unusual feature of being worse in warm weather It was also worse when the arm was raised or when he exerted himself. The sensation and electrical reaction were quite normal. The patient wished to have the arm amputated on account of the pain in it and its uselessness.

Mr. **ARTHUR BARKER** showed a man in whom he had removed the Tongue, the Floor of the Mouth, and the Symphysis of the Jaw for a Malignant Disease five years ago. The glands had been removed at a subsequent operation. As far as could be seen there was no recurrence anywhere. The patient could not chew on one side, but otherwise he was perfectly well. The case, he thought, was very encouraging.

Mr. BARKER also showed a case of Fractured Patella occurring in a man who had been admitted into the hospital three weeks previously. There was very little sign of injury and the fracture, which was the result of direct violence, might have been overlooked had it not been for the Roentgen rays. The skiagram showed an extensive stellate fracture of the patella.

BRITISH GYNÆCOLOGICAL SOCIETY.

Annual Meeting.—Election of Officers.—President's Valedictory Address.

THE annual meeting of this society was held on Jan. 11th, Dr. MACNAUGHTON JONES, the President, being in the chair.

The TREASURER presented his annual report and received a vote of thanks which was proposed by Mr. STANMORE BISHOP, seconded by Dr. HERBERT SNOW, and carried unanimously.—A vote of thanks to the retiring officers was moved by Dr. HEYWOOD SMITH, seconded by Dr. T. M. DOLAN, and carried unanimously.—The scrutineers reported that the officers and council for 1900 had been elected as follows: Honorary President: Dr. R. Barnes. President: Dr. W. J. Smyly. Vice-Presidents: Mr. W. Armstrong, Dr. Clement Godson, Dr. R. H. Hodgson, Mr. F. Bowreman Jessett, Dr. Skene Keith, Dr. L. Landau, Dr. J. Macpherson Lawrie, Dr. J. J. Macan, Dr. R. Milne Murray, Dr. James Oliver, Dr. A. Pinard, and Dr. R. D. Purefoy. Treasurer: Dr. J. A. Mansell Moullin. Council: Dr. W. Alexander, Dr. W. H Bourke, Professor Murdoch Cameron, Dr. John Campbell, Mr. G. Roe Carter, Dr. John H. Dauber, Dr. T. Eastes, Mr. J. Furneaux Jordan, Dr. George E. Keith, Dr H. Macnaughton-Jones, Dr. T. Morton, Dr. W. H. Newnham, Dr. J. Inglis Parsons, Professor A. W. Mayo Robson, Dr. F. W. Ramsay, Dr. C. H. F. Routh, Dr. F. F. Schacht, Dr. W. Japp Sinclair, Dr. W. Slimon, Dr. Heywood Smith, Dr. R. T. Smith, Mr. J. W. Taylor, and Dr. W. Travers. Editors of the Journal: Dr. J. J. Macan, Dr. Arthur E. Giles, and Dr. H. Macnaughton-Jones, jun. Honorary Secretaries: Dr. Arthur E Giles and Mr. Charles Ryall. Trustees of the property of the society: Dr. G. Granville Bantock, Dr. Fancourt Barnes, and Dr. Clement Godson.

The PRESIDENT then delivered his valedictory address on the Correlation between Sexual Function and Insanity and Crime. He said that he wished to inquire how far the process of menstruation affected a woman by originating morbid impulses in the various groups of her pelvic nerves which find their response in reflected neuroses in other organs and thus influence the coherence and stability of her nervous acts. Or, again, in what directions and to what extent the normal fulfilment of ovulation with menstruation developed for the time being erotic impulses, encouraged the state of neurosis generally, or so lowered the psychical and physical inhibitory control as to lead to a hyper-exaltation of the entire nervous system, with increased susceptibility to slight irritations and a weakened will-control that permitted of distorted mental visions and erratic moral acts, vulgarly called crimes, that the woman was helpless to evade or subdue. To elucidate these points he proceeded to inquire whether there was evidence that menstruation, both normal and abnormal, did so influence the woman, and under what conditions it was most likely to do so; and secondly, how far disease of the sexual organs in women was correlated with symptoms of alienation from slight interferences with their mental equilibrium to more profound disturbances, such as melancholia, dementia, or mania. This in turn led to the consideration how far removal of the diseased organs by operation was salutary or otherwise to the woman and to what extent the operation in itself might on the one hand mitigate or on the other hand increase the mental trouble. After discussing these points from the physiological, clinical, and statistical sides he summed up his conclusions as follows: 1. That the correlation of insanity and disordered sexual function arising out of affections of the generative organs was a factor to be taken into serious consideration in the treatment of the mentally afflicted. 2. That where there was ground for the suspicion that some physical condition of the uterus or adnexa existed which might produce or aggravate the mental affection a careful examination, under an anæsthetic if necessary, should be made. 3. That in the investigation of criminal acts committed by women, either during the menopause or while the menstrual function was either active or suppressed, due weight should be given to the influence exerted by its irregularity or abeyance on the mind of the woman; in doing this her previous history and temperament should be considered. 4. That the special dangers of the climacteric period should be remembered and the symptoms indicative of threatening climacteric mania recollected. The principal of these were moroseness and depression of spirits, attacks of hysteria, occasional hallucinations, delusions with regard to relations, unjust dislikes, unfounded apprehensions of some grave crime committed or injury inflicted on them, and suicidal tendencies. 5. That in operations on the female generative organs there was a greater predisposition to mental disturbance than after other operative procedures. 6 That women who have been previously insane were predisposed to a relapse by the development of disease in their sexual organs, and especially to such recurrence of insanity after operation on these organs. Under all such conditions and in the face of these warnings the greatest supervision and care were required to anticipate the insane impulse and to prevent suicide or crime in the case of women who manifested symptoms that were due to a correlation between disorders of sexual organs and mental instability.

A hearty vote of thanks to the retiring President for his interesting and important address was moved by Dr. C. H. F. ROUTH, seconded by Dr. W. J. SMYLY, supported by Mr. E. STANMORE BISHOP, and carried unanimously.

EDINBURGH OBSTETRICAL SOCIETY.

Albuminuria, Multiple Pregnancy, Papyraceous Fœtus, and Placenta Prævia.—Differentiation of Connective Tissue in the Human Fœtus.—The Early Changes at the Caudal End of the Primitive Gut in Human Embryos.—Exhibition of Specimens.

A MEETING of this society was held on Jan. 10th, Dr. MILNE MURRAY, the President, being in the chair.

Dr. JAMES RITCHIE read a paper on Albuminuria, Multiple Pregnancy, Papyraceous Fœtus, and Placenta Prævia. The patient was aged 32 years and was pregnant for the second time. At five months she was complaining of severe headache, breathlessness on exertion, and debility. There was considerable œdema over the body and the urine, which was scanty, was found to contain a large amount of albumin, but it contained no tube casts or blood. The treatment adopted was rest in bed, free action of the bowels, a teacupful of water or whey every two hours, no other food, and 15 grains of sodium bromide four times a day. In a few days there was marked improvement so that milk and water could be given and later some toast. The progress made was very satisfactory and only a trace of albumin was left. In the seventh month there was slight hæmorrhage followed by sharp flooding on the next day. The os was found to be partially dilated and a firm wedge of placenta extruded. As there was no further hæmorrhage the progress was left to nature. The fœtus, evidently about five and a half months, when born was found to be macerated. The placenta was found to consist of one mass, but there was a firm smaller exsanguine portion. The membrane consisted of two sacs, a larger and a smaller; the latter nearer to the os uteri contained a small flattened fœtus. A succenturiate portion of placenta was expelled next day and later some further shreds. For several weeks before confinement the amount of albumin in the urine was small and yet the nutrition of the fœtus was so impaired that it died. The albuminuria of pregnancy occurs independently of heart or kidney disease. Its occurrence during one pregnancy does not indicate that it will recur during subsequent pregnancies. It is due to some condition peculiar to the pregnancy involved—probably some unusual condition in the relation of the products of conception to the mother. It is associated with the development of an unusual toxic condition of the blood. Although a micro-organism has been described in connexion with eclampsia—a diplococcus—it has not yet been proved to have a causal relation. The cause of the albuminuria of pregnancy is peculiarly prejudicial to the nutrition of the fœtus and the severity of the result is not in proportion to the amount of albumin in the urine. Beyond these facts we are still in ignorance of the pathology of the disease and therefore our treatment cannot yet be founded on a secure basis. The bowels should be cleared out. To favour elimination and to increase action of the kidneys nothing is better than water or whey. There is usually a pulse of high tension in these cases and so digitalis is harmful. For the headache a sinapism to the nape of the neck may be used, and bromides may be given for the sleeplessness. After there is a copious flow of urine milk or milk and water may be given. Rest in bed is helpful by diminishing the amount of food necessary to the waste of exercise. After improvement the diet may be increased by other foods if it is found that the change has no effect in increasing the albumin which may be present in the urine.—Professor A. R. Simpson, Dr Berry Hart, Dr. H. M. Church, Dr. J. W. Ballantyne, Dr. Keppie Paterson, Dr. McVie, and Dr. Milne Murray *discussed the paper.*

Dr. Berry Hart read a paper on the Cause of the Differentiation of Connective Tissue in the Human Fœtus, with special reference to the essential nature of Hydatid Mole. Dr. Hart first discussed the development of connective tissue, especially in the myxomatous stage and went on to the fully developed type. He pointed out that the myxomatous *stage was permanent for the umbilical cord, that* the tissue in the villi fell short of fully developed connective tissue, while that in the rest of the fœtus went on ultimately to the higher form. He believed that the relation of the thyroid to myxœdema in the adult, as well as the structure and the evidence of activity of the thyroid in the fœtus, made it highly probable that Semon's theory was applicable in fœtal life, that, in fact, the thyroid secretion favoured the development of connective tissue from the myxomatous to the higher type. He pointed out that the umbilical cord was not vascularised, that the thyroid secretion did not affect it, and thus it remained of a mucous type. He applied the same reasoning to explain the condition of the connective tissue in the villi and in the vitreous humour. He summed up as follows: 1. There is anatomical and clinical, but not as yet experimental, evidence that the thyroid is functionally active in the human embryo. 2. *It begins to develop in fœtuses of four millimetres*—that is, about the third week. 3. It probably causes the development of connective tissue to pass from the myxomatous to a higher stage. Thus (*a*) the cord without vessels and presumably without thyroidisation remains myxomatous; (*b*) the adult vitreous under the same conditions remains allied to myxœdematous tissue; and (*c*) tissues like the villi are also more or less myxomatous according to their age and length of exposure to vascularisation. 4. *The free covering of the somatopleure is also probably* affected by the thyroid. 5. The hydatid mole may be regarded as acute myxœdema of the chorion. 6. Thyroid extract should be administered after hydatid mole abortion. In the hydatid mole we have a mass of tissue of a myxomatous type with, in almost every case, no fœtus. He believed, therefore, from the evidence which he had brought forward that this view of the myxomatous nature of the chorion was a highly probable one. Dr. Berry Hart's paper was illustrated by numerous microscopical *specimens.*—Dr. Milne Murray, Professor Simpson, and Dr. Ballantyne took part in the discussion on the paper.

Dr. Hart then gave a demonstration on the Early Changes at the Caudal End of the Primitive Gut in Human Embryos and its bearing on a case of persistent end-gut in an infant and an extroversion of the bladder, illustrated by several models and diagrams.

Professor Simpson showed Specimens removed from a patient who had been *sent to the Maternity Hospital from* the country. On admission there was found crepitation in the left groin; the vagina and cervix were severely torn, and the vulva was swollen. There was a narrow brim and as the fœtus was alive it was decided to perform Cæsarean section. This was done and the uterus was amputated above the ligature by Porro's method. The child, which was alive, died soon after evidently from fracture of the frontal bone due to forceps action. The mother died in a few days from general peritonitis.

Dr. J. W. Ballantyne showed an Abdominal Teratoma which had been removed by operation from an infant two months old. It was situated in the lesser cavity of the peritoneum, being attached by numerous adhesions to the surrounding parts. It contained skin, fat, pieces of intestine, &c.

Bradford Medico-Chirurgical Society.—A meeting of this society was held on Dec. 19th, the President, Mr. W. J. Horrocks, jun, being in the chair.—Dr. J. Kerr showed a case of Extensive Wound of the Eyeball extending through the Ciliary Region. There had been sympathetic irritation of the opposite eye but this had subsided, leaving good vision. The injured eye had not been removed but the prolapsed iris was snipped off and the lens washed out immediately after the accident —Dr. F. W. Eurich showed a series of Microscopic Sections illustrating the Commoner Diseases of the Breast.—Dr. T. W. Hime showed a specimen of the Bacillus of Bubonic Plague.—Dr. C. F. M. Althorp showed a patient who had been treated by laparotomy when suffering from Tuberculous Peritonitis. The patient was in good health —Mr. P. E. Miall read a paper on Contagion in Modern Times. (The paper was a continuation of one previously communicated to the society on the ancient ideas of contagion.) In the Middle Ages many diseases were considered to be contagious, but some of them were also traced to other causes. Epidemics, for instance, to poisoned air, which idea did not tend to promote ventilation; to putrefaction from internal causes, what they now sometimes called auto infection; to the influence of stars, planets, eclipses, earthquakes, and volcanoes; and to famine or too great plenty, and to supernatural beings. Sometimes there was a strange mixture of natural and supernatural causes. There was little attempt to define the influence of the various agencies. *Diseases were equally indefinite, but Rhazes in* his description of small-pox and measles had introduced the specific element which ultimately altered the whole aspect of the matter. Leprosy was a prominent example of contagious disease, but it diminished in importance after the epidemic of syphilis at the end of the fifteenth century. No doubt the two had often been confounded. The great plague of 1348, since known as the Black Death, drew much attention to the subject of contagion. Many fevers that we *should now call typhus* and consider to be contagious were then looked upon as caused by chills or other causes. Small-pox was by no means thought to be infectious at all times and places and even plague was doubtful to some authorities. What appeared to them an extreme reluctance to admit contagion was sometimes shown, some preferring to attribute a large mortality to fear alone In this matter there had always been sceptics, their minds continually asking "How?" and "Why?" and not being satisfied with *mere contact as* a cause in the absence of some far-reaching theory to explain the *modus operandi*.—Dr. Basil Hall read a paper on Tuberculous Disease of the Great Trochanter and read reports of three cases.

Liverpool Medical Institution.—At the annual meeting held on Jan. 11th the following list of office-bearers and committees was adopted:—President: Mr. Edgar A. Browne. Vice-Presidents: Dr. A. Bernard, Dr. T. B. Grimsdale, Dr. T. R. Bradshaw, and Mr. W. Thelwall Thomas. Honorary treasurer: Mr. H. Briggs. Honorary general secretary: Dr. J. M. Hunt Honorary secretary to ordinary meetings. Dr. John E. Gemmell. Honorary librarian: Dr. W. Permewan. Council: Dr. W. Alexander, Mr. R. A. Bickersteth, Mr. T. M. Dawson, Dr. A. Burns Gemmel, Dr. J. J. O'Hagan, Dr. A. M. Paterson, Dr. W. Macfie Campbell, Dr. James Armstrong, Mr. Owen Bowen, Mr. Andrew Stewart, Mr. W. T. Clegg, and Dr. J. C. M. Given. Auditors: Dr. A Burns Gemmel and Mr. Charles G. Lee. Pathological and Microscopical Committee: Dr. J. H. Abram, Dr. F. H. Barendt, Mr. R. A. Bickersteth, Dr. R. J. M. Buchanan, Dr. A. W. Campbell, Mr. F. C. Larkin, Dr. C. J. Macalister, Mr. G. P. Newbolt, Mr. Frank T. Paul, and Dr. C. S Sherrington. Journal Committee: The Honorary Secretaries to ordinary meetings and pathological section, Dr. F. H. Barendt, Dr. T. B. Grimsdale, Mr. F. C. Larkin, Mr. Charles G. Lee, Dr. C J. Macalister, Mr. G. P. Newbolt, and Dr. W. Permewan.

Bristol Medico-Chirurgical Society.—The fourth meeting of this society was held in the Medical Library of University College, Bristol, on Jan. 10th, Mr. W. H. Harsant, the President, being in the chair.—Dr. G. Parker showed a specimen of Aneurysm of the Aorta.—Dr. Shingleton Smith, Dr. P. W. Williams, Dr. T. Fisher, chell Clarke, and Mr. J. L. Firth discussed the —Dr. T. Fisher showed the following specimens: (1) e from a case of Idiopathic Intestinal Hæmorrhage; cases of Congenital Dilata ion of the Colon; (3) ion in a Strangulated Portion of Small Intestine; larged Spleen and Cirrhotic Liver; (5) Cirrhosis Liver; and (6) Fibroid Dis se of the Heart due hilis —Dr. Stack and Dr. M hell Clarke discussed ecimens.—The President sho ed a Large Fibroid Uterus recently removed by Abdominal Section.— E. Aust Lawrence read a pape on Cases of Vascular le of the Female Urethra.—Dr. W. C. Swayne, . H. C Newnham, Mr. Ewen Dr. Stack, and the nt spoke on the subject.—D W. C. Swayne read a on Notes of a Case of Syn hysiotomy.—Mr. Paul Dr. Aust Lawrence, and Dr. J G. Swayne made some s on the operation.

RDIFF MEDICAL SOCIETY.—At the monthly g of this society, held on Jan th, Sir John Williams, delivered an address on Som Points connected with duction of Premature Labour. e meeting was a large between 50 and 60 gentlemen rom Cardiff and the bourhood being present. The ldress was of great st and of an extremely pra cal character. The er dealt with various points n ssitating the induc f labour, more particularly albu nuria present before oming on during pregnancy, il rating his remarks erence to various cases that had n under his care.— e of thanks to Sir John William as proposed by Dr. Vachell, seconded by Mr. W. W eigh, and carried acclamation.—In the evening me s of the society riends, numbering 35, dined toge r at the Angel , Dr. P. Rhys Griffiths, President, b in the chair.— the toast of "The Queen," the h h of Sir John ams was proposed by Mr. Ebenezer Da s of Swansea, om Sir John Williams was a pupil in early days.— ohn Williams suitably replied.—Vario other toasts ved and a most enjoyable evening was s .

Reviews and Notices of Books.

ir fur Dermatologie und Syphilis.* Band Hefte 1, 2, nd 3. October, November, and De er, 1899. Vienna: W. Braumuller.

IE original articles in the October num are:—1. iloderma Hæmorrhagicum Adultorum, coloured ological plate, by Dr. Piccardi, working in ni's Poli k in Turin. The hæmorrhage is produced b wander of blood corpuscles through the degenerated el walls by rupture of the capillaries. 2. W. Wechs n con utes an article on the Eruptions produced by pyrin. An interesting article by Felix Pinkus on Skin nges in Lymphatic Leukæmia and Pseudo mia, one photographic and four coloured h ical es, which is to be concluded in a future er. On the Bacteria found in Pemphigus Vegetans, her h the Differential Diagnosis between Diphthe nd udo-diphtheria. 5 A Further Communication he ology of Ecthyma Gangrænosum, by F. Hitchm d rl Kreibich, with clinical and histological plates. is affection known in England as the multiple gang f ldren and the ecthyma térébrante of French . their first communication in 1897 they, as Ehle viously done, found the bacillus pyocyaneus in the l d here they confirm their previous view that it thogenetic organism. Paul Witte's concluding artic the Pathogenesis of Gonorrhœal Epididymytis. Altoge is an exceptionally good number.

Heft 2 (November, 1899) of the same volume treats Endothelioma of the Skin, by E. Spiegler, a valuable co ibution, with two excellent coloured and four uncoloured lates of the interesting tumours which occupy the whole calp like a cap, of which the first recorded case was by ncell in the Transactions of the Royal Medical and Chirurgical Society for 1842, reproduced in Plate XC. of Hutchinson's smaller Atlas, and others in Plates CXIX. and CXX. 2. The conclusion of Pinkus's paper on Leukæmia of the Skin. His conclusions are important and interesting but too long for quotation beyond saying that he admits the close connexion of the lymphodermia perniciosa type of mycosis fungoides with leukæmia cutis, but would separate it from the true mycosis fungoides. 3. Natanson writes on the Structure of Cutaneous Horns *apropos* of one on the Eyebrow. 4. Kreibich in writing on the Histology of Pemphigus of the Skin and Mucous Membranes states that pemphigus arises on previously inflamed skin. The paper is not concluded. 5. Almkvist advocates largin (one of the new silver albumin compounds) for gonorrhœal ophthalmia. 6. Uhma treats of a rapid colouring method for gonococci in fresh unfixed preparations.

In Heft 3 (December, 1899) of the same volume the first article is by Himmel on the good effect of the Roentgen Rays on Lupus and their Action on the Skin and its Appendages with a Histological Plate. Rona records two cases of Epidermolysis Bullosa followed by Atrophy of the Skin and Arrest of Nail Growth. F. Pinkus relates a case of Alopecia Congenita or, as he calls it, Hypotrichosis. Juliusberg describes a case from the Breslau Klinik of a psoriasiform-lichenoid eruption—a condition allied to, if not identical with, the parakeratosis variegata of Unna. Kreibich concludes his long paper on the Histology of the Skin and Mucous Membrane begun in Heft 2. Finally, there is a short article by Orbaek on Lichen Atrophicus (of Hallopeau) and Vitiligo. He relates a case of the former and gives the bibliographical history.

All the numbers have the usual *précis* of current dermatological work and literature and reports of societies and show that in spite of rivals the journal holds its own as the leading German periodical on dermatology and syphilis.

The Western Rajputana States: a Medico-Topographical and General Account of Marwa, Sirohi, Jaisalmir. By Lieutenant-Colonel ARCHIBALD ADAMS, I.M.S., M.D., M.Ch R.U.I., F.R.C.S.Irel., Administrative Medical Officer in Rajputana. With Illustrations. Junior Army and Navy Stores, Limited, York House, Regent-street, London, S.W. 1899.

THIS large and handsome volume of some 450 pages relating to a picturesque and interesting country is copiously illustrated with plates and furnished with many tables. It owes its publication to the fact of its author having been officially directed to write a medico-topographical account of the Western Rajputana States. He has, and very successfully, endeavoured to adapt his official report and increase its interest for general readers by introducing into it a brief history of the rulers of the country and a reference to some of the customs and modes of thought of a people amongst whom, he tells us, he has worked for 18 years. Particular attention, the author states in a brief preface, has been given to the fauna and flora of the country and to the legends and superstitions of the people.

A considerable portion of the volume is taken up with a geographical and topographical account of Marwa, or as it is often called, after its capital, Jodhpore, Sirohi, and Jaisalmir, which together comprise the Western Rajputana States. In order to indicate the care with which Lieutenant-Colonel Adams, I.M.S., has gone about his work we may say hat the plan which he has followed is to give a brief general scription of the country, its physical aspects, products— eral and otherwise—population, religions, agriculture, stries, exports and imports, climate, and medical y. This is, in turn, succeeded by a short history three States respectively, together with a description capitals and principal points of interest and the can spend under these conditions are fewer than those which he needs for sleep, and even then they are often interrupted. The importance of sleep to men whose work requires observation, thought, and memory is paramount. Exceptional intellects there are and have been which can work at a high pitch and almost continually with the briefest intervals for sleep during every 24 hours. Such cases, however, must always remain exceptional, and their example cannot be imitated by the ordinary man with success, nor, indeed, without disaster. A John Hunter may retire to his dissections, his books, and his writing after a long and busy day spent in the active practice and teaching of surgery and after three or four hours' sleep rise fresh and vigorous for another day as full of work. Here and there a man of genius may spend his day doing as much work as two ordinary mortals and fill half the night with enough to occupy two more, but very few are the minds capable of this incessant labour. And in no profession is the labour more exacting than in that of medicine, in which, added to the mere mental exertion, there is so often a sense of responsibility which weighs even more heavily. For all civilised men—at any rate, for all those who live in busy towns—the question of sleep grows with the press and hurry of modern life more and more important. For no class of men is it more so than for practitioners of medicine. And the pathology which new conditions of life is ever creating tends more and more towards conditions where the absence of sleep may play a prominent causative part. We improve our sanitation and our general hygiene, and we abolish the plagues of our forefathers, but we work our nervous systems more in a day than they did in a week, and we fall victims to insomnia and the whole train of nervous disorders in which worry, overwork, and want of sleep occur as etiological factors. Sleep all men must have who use their brains much, and especially all men whose work is associated with extra worries such as are so often inseparable from medical practice.

The hours usually devoted to repose are for medical men inevitably curtailed and interrupted. These hours must be supplemented, then, by others not usually given to rest. Medical men must learn to use their chances, or rather must learn to regard as chances for sleep moments which they do not now look upon in this light. They must avail themselves of the brief opportunities which their mode of life usually affords in plenty. If a man could sleep through the intervals during which he is in a train, for example, or in his carriage from visit to visit he would make up the deficiencies of his short and broken nights. All that is needed is practice. The conditions which men demand for sleep are not truly essential. Convenience directed us to work in the light and sleep in the dark and custom has confirmed her directions, adding to night perfect quiet and bodily comfort. But men can learn to sleep without these easy introductions. Boiler-makers grow used to taking their rest beneath the clang of their comrades' rivet-hammers, and the general practitioner can learn to take his amidst the stream of traffic of a busy town. Sleep is no exception to the faculties that can be acquired by practice; and just as the great general learned to drop asleep on horseback when his waking energies were not required, so, too, the busy medical man must learn to keep his health and vigour by using those brief intervals, which he now regards as inevitably wasted, for snatches of that mental repose which is so often denied him at its expected time.

Annotations.

"Ne quid nimis."

THE INVITATION TO THE INTERNATIONAL CONGRESS ON MEDICAL ETHICS.

THE English circular of invitation to the International Congress of Medical Deontology or Medical Ethics has now been issued and some 2000 copies have been sent, mainly to the secretaries of such medical organisations as deal with economical and ethical questions. The secretaries have been requested to distribute the same among the members of their respective societies. If any society has been omitted the secretary or any other member has only to write at once to THE LANCET office stating how many circulars he desires to receive. But as individual medical men and others who have special reasons for being interested in economical and ethical questions affecting the medical profession and who sympathise with the objects of the congress are also invited to become members of the congress, the honorary secretary of the British Committee will be pleased to send them personally a circular of invitation if they will apply by letter, addressed 423, Strand, London, W.C. The congress, as already announced on several occasions, will meet on Monday, July 23rd, at the Palace of Congresses and of Social Economy now in course of construction on the Exhibition grounds. The subsequent meetings will be held at the Paris École de Médecine. The circular now issued gives the rules of the congress and the list of the subjects for discussion, and anyone desiring to read a paper on any of these questions must submit the manuscript of his paper to the Organising Commission before April 1st. Such papers if written in English should be accompanied with a summary in French and it is absolutely obligatory that all resolutions should be translated into French. Papers and speeches may be either in French, German, English, or Italian; but as among educated classes French is more widely understood than any other language and constitutes at present the best international link we possess, it would be very much to the advantage of English speakers if they brought with them a summary of what they intend to say written in French. This would also greatly facilitate the publication of the report of the proceedings. Further, we would urge that it would be an act of courtesy and would greatly facilitate the organisation of the congress if those who intend becoming members would at once notify the fact and send their subscription to the treasurer, M. P. Masson, 120, Boulevard St Germain, Paris. As already stated, the subscription or entrance fee is 12s. for full members and 8s. for participating members—i e., medical students and the wives or families of the full members. The latter cannot vote or take part in the discussion. The payment of fees can be done at once; for, even if the intending member finds at the last moment that he is unable to be in Paris at the date fixed for the congress, he will in any case have helped to secure the success of this work of organisation. By subscribing he will have given another proof of the support the movement is receiving, and in the course of time he will get the printed reports of the proceedings, which in themselves may be a sufficient compensation for the small outlay he will have made. It has been said that the British Committee of Patronage is not representative of the profession. We would observ that there has been no attempt to make this committe representative of the profession as a whole Such an attemp would be altogether opposed to the spirit and object of the congress For it is not a scientific medical congress The object, on the contrary, has been to form a committee representing the efforts made to organise the profession and able to speak on behalf of that small minority who have especially devoted themselves to the study of its economical interests The medical profession as a whole is not organised and does not pursue studies of this description Therefore, if the British members of the congress were a faithful representation of the entire profession only a minority of the members would understand the object of the congress and be capable of taking practical part in its work Viewed in this light it seems to us that the British Committee comprises precisely the sort of elements required for its purpose Nearly all its members are delegated by active and prosperous organisations engaged in solving economical problems The presence of eminent authorities on medicine or surgery as such is not needed at this congress No scientific papers will be read What is wanted is men who have experience in the vexed questions usually discussed under the heading of the "Battle of the Clubs" or "Hospital Abuse," men who have practical knowledge of the difficulties of grouping medical practitioners together and of forming strong unions capable of fighting in defence of their economical interests Most of the members of the British Committee of Patronage have been actively engaged in such endeavours They have won laurels in the struggle Nor is this the case only with regard to the British section, as is shown by the presence of Dr Vandam and Dr Caylits, the president and secretary respectively of the Brussels Medical Union among the supporters of the movement All who have read our account of the fight these gentlemen organised against the Belgian Mutualists will readily admit that they may have much to teach other workers on the same lines Other countries—and notably France itself—will be represented also by leaders and organisers, men who have fought over every inch of ground in the law courts and in Parliaments against those economic forces that tend to degrade and lower the standard of the medical profession Such men as these should ensure the success of the congress—they have the practical experience which will enable them to indicate what is the right course of action

WHEN ADULTERATION IS GOOD

OUR remarks on the alleged adulteration of golden syrup with maize glucose published in our issue of Oct 14th, 1899 (p 1034), have prompted a specialist on the subject to forward us a recently printed (January, 1900) pamphlet containing, he avers, the whole truth about the question Oddly enough he shows by a number of analyses that adulterated syrup is, when regarded as a food, purer than unadulterated In fact, he says it would be more reasonable to regard golden syrup as the adulterant instead of maize glucose and Mr H W Wiley, a recognised authority on the subject, states that syrups of commerce are glucose adulterated with so called cane syrups—that is, with the drippings and refuse of sugar refineries Golden syrup would seem therefore to need a new definition The term was at one time certainly applied to the by product of loaf sugar manufacture, but loaf sugar exists no longer Before 1860 on the introduction of centrifugal machinery and the change that it caused in the nature of syrup, golden syrup became a generic term like "syrup" but of narrower application and lost any significance it may have had in regard either to composition or method of manufacture From that time golden syrup as known to the trade has been prepared in various ways from various substances This declaration throws an entirely new light on the nature and origin of modern "golden syrup" Still we fancy that the public would rather know that they were buying natural syrup from the cane than a sugar derived from the acid digestion of maize The preparation of maize glucose is, however, conducted with great care and there is no reason for doubting the wholesomeness of the product In regard to future action under the Sale of Food and Drugs Act the old difficulty arising from the want of a definition will be encountered Definitions as to certain foods are, it seems to us, essential in the clauses of the Act before certain cases of adulteration can be satisfactorily established We have pointed this out again and again as a defect in the provisions of the Food and Drugs Act In any case the purchaser has a right to get exactly the article in nature, in substance, and in quality that he demands Substitutes may be even better than the original article, but that does not justify deception Fraud is nothing if not impertinent and a somewhat astounding example of this occurred last week A grocer had purchased a cask of brandy which he *thought* was Hennessy's brandy, so he purchased some labels closely resembling that used by this well known firm and attached them to the bottles A person who asked for a bottle of Hennessy's three star brandy was supplied with a sample of the defendant's bottling The magistrate pointed out that the defendant was liable to be sent to prison with hard labour for four months without the option of a fine, but he decided to fine him £10, with £10 10s costs No steps apparently were taken against the printer who had supplied labels closely resembling those used for a well known article, the vendors of which, however, have an effective remedy in their hands in the provisions of the laws of the land

GUARDIANS OF THE POOR AND THE VACCINATION ACT.

THE minimum fee of 5s or 5s 6d for a vaccination where two or more visits have to be paid and an aseptic operation performed is no better pay than a practitioner gets who visits for 1s per visit and 2s 6d for medicine, yet with all this we find boards of guardians who appraise the services of their public vaccinator at a less fee and pass resolutions to ask the Local Government Board to reduce it The real fact is that the anti vaccinationist never dreamt that the public were intelligent enough to accept vaccination provided that it was offered to them on terms that they could accept It is gratifying, therefore, to find that the new Act of 1898 has been more generally useful than was at first expected But we have a report before us of the last meeting of the Wigan Board of Guardians which unanimously passed the following resolution "That in the opinion of this board the maximum charge fixed by the Local Government Board by the Vaccination Order, 1898 for vaccination is too high and requires revision, and that a copy of the resolution be sent to all unions in England and Wales and also to the Poor law Association with a request that the Executive Council take steps to remedy this defect" That such a resolution should be passed by a public body that has never yet paid or proposed to pay the "maximum" fees to its vaccination officers, so far as we know, is beyond comprehension The statement was made by the mover of the resolution that "the charges, as fixed by the Local Government Board, undoubtedly constituted *an outrage* on the liberality of the community" The italics are ours He further said that in 1893 the charge in Wigan was £30, in 1899 it had risen to £192, an increase of £162 but he failed to state that in 1893 vaccination was in abeyance, owing to the guardians neglecting to order their vaccination officer to prosecute the delinquents and that of those vaccinated in 1899 a great many were children who should have been vaccinated in 1897 and 1898. Furthermore he failed to state that the emolument from this "extra" which goes to the district medical officer, as he happens to be the public vaccinator, was very much below the average. One guardian remarked that "vaccination ought to be at a much less price than they are now paying for it." Probably when a new appointment is made this board will ask medical men to tender at a contract price, and will then be willing to publish the prices of the successful contractor. A borough with a population of over 62,000 is not paying a large sum in disbursing £212 in return for two years' vaccinations.

THE COMMON FORMS OF MENINGITIS.

DR CHARLES L. DANA of New York publishes an interesting and opportune paper on this subject in the *Journal of Nervous and Mental Disease* for December, 1899. Few subjects are more perplexing to a student than the different types of meningitis. The classification, never very simple, has undergone constant changes during the last decade. In one of the earliest and most conscientiously made classifications of meningitis, that by Huguenin (published in Ziemssen's "Cyclopædia" nearly 25 years ago), 14 different forms of cerebral meningitis were described. In Grasset's masterly work published about the same time the forms described were acute, chronic, and tuberculous meningitis. The progress made in the past two decades has been shown on the one hand by a gradual simplification of the classification, and on the other by clinical and pathological studies which have added richly to the store of knowledge and obliged us to add two or three new names to the list. Thus, in the recent treatises of Gowers, Oppenheim, and Mills from 10 to 12 types of meningitis are recognised. The various types of the new and the old added together make a total of about "20 different forms, without using the term 'meningismus,' or including acute cerebral œdema or acute and chronic hydrocephalus." The forms of meningitis as seen in ordinary practice are shown by an analysis of 137 cases collected by Dr. Dana from the records of Bellevue Hospital, New York, during the past 15 years. In 46 cases the records of necropsies were also available. The forms of meningitis in the 137 cases referred to include the following:—Purulent or fibrino purulent lepto-meningitis 52 cases, cerebro spinal meningitis 15 cases, serous meningitis of traumatic, alcoholic, or infectious origin 15 cases, tuberculous meningitis 14 cases, internal pachymeningitis (hæmorrhagic and syphilitic) 12 cases, chronic lepto-meningitis three cases, external pachymeningitis from mastoid disease two cases, and unclassified forms 19 cases. Apart from these there were five cases of spinal meningitis. Leaving out the spinal cases there were, therefore, only five kinds of meningitis recognised in ordinary hospital practice It will be seen that the purulent, tuberculous, cerebro-spinal (epidemic and sporadic), and serous are the principal forms, while pachymeningitis is practically only a chronic syphilitic manifestation. "Acute syphilitic meningitis," says Dana, "is certainly most rare, if it ever exists, at least, using the word *acute* in the same way we apply it to other forms" And again, posterior basic meningitis—a phase which only denotes its topographical distribution—is probably a syphilitic or tuberculous disease or a serous meningitis. These hospital figures in Dana's experience seem to coincide in the main with those of ordinary and general practice. Acute spinal meningitis is a very rare disease. Dana confesses that he has never seen a primary case and can find no record of one. It is well to abandon the distinction between cerebral and spinal meningitis in ordinary clinical work, for if pus is found on the cerebral membranes it is almost invariably present in the spinal canal also. Similarly tubercles are often found in the spinal canal if there is a cerebral tuberculous meningitis. Pachymeningitis is a disorder which has received an extraordinarily rich vocabulary of qualifying terms, and the distinction into external and internal types is an academic one. Extra dural abscess would be the correct term for acute suppurations involving the outer surface of the dura. Intra-nasal, aural, and mastoid inflammations are really the morbid conditions in such cases and they call for surgical treatment. A non-surgical pachymeningitis is mostly an internal pachymeningitis. This form of disease is commonly syphilitic and not infrequently hæmorrhagic. The hæmorrhagic form is associated with disease of the blood and blood-vessels and is found practically only in scorbutic children, in some forms of insanity, and in chronic alcoholism. Leptomeningitis both clinically and pathologically occurs in one of three forms, the epidemic cerebro-spinal, the fibrino-purulent, and the tuberculous The first is well known, and in doubtful cases the employment of lumbar puncture enables us to settle the diagnosis if we find the diplococcus intracellularis or the micrococcus lanceolatus. Most epidemics seem to be associated with the former and a few with the latter organism, but there is no way of distinguishing between the two forms except by culture Purulent or fibrino-purulent meningitis is usually a pyogenic infection due to the streptococcus pyogenes or to the pneumococcus of Fraenkel, but may sometimes be due to almost any other pyogenic organism. Clinically it is not possible to distinguish these from one another and all have a high mortality. While tuberculous meningitis is one of the best known and most readily recognisable, the same cannot be said of serous meningitis. Our knowledge of this affection is far from complete. To this class of brain affections should be added the so-called cases of meningismus described by Quincke (1891) and later by Boenninghaus (1897), of which about 40 have been recorded. Some of these have been traceable to the effects of alcoholism with its resultant cerebral irritation, congestion, and œdema, or been assigned to conditions rising from narcotic poisons, cerebral trauma (traumatic serous meningitis), or cerebral exhaustion and starvation. Acute cerebral œdema, usually following severe blows on the head, is associated with symptoms like those of true meningitis, lasting two or three days and then generally disappearing with rapidity. The acute serous meningitis of alcoholism and allied toxic conditions called "wet brain" closely simulates meningitis and lasts about 10 days. A mild delirium, with a temperature of 101° or 102° F. and some muscular twitchings may be observed. The skin is hyperæsthetic and the irritability of its vascular mechanism is shown by the *tache cérébrale* which can be readily evoked. There is some rigidity of the neck with contraction of the pupils, while the tongue is coated and the bowels are constipated. Eventually the patient dies or turns towards convalescence at the close of the second week. The serous meningitis of Quincke and Boenninghaus is an acute hydrocephalus occurring most often in children or in young adults. Sometimes it runs a short course ending in recovery, and sometimes it is rapidly fatal. A few cases are marked by partial remissions and subsequently by gradually developing hydrocephalus. It affects the sexes in equal proportion and pyrexia is present in about one-third of the number of cases. The cause is some form of infective fever in about half the cases. Traumatism, otitis media, and sepsis are occasional factors and bacteriological tests so far have been negative.

FLOATING HOSPITALS FOR WEST AFRICA.

IN a lecture given at the Livingstone Exhibition, held at St. Martin's Town Hall on Jan. 5th, Miss Mary Kingsley, in urging the claims of the Colonial Nursing Association, said that what was wanted on the West Coast of Africa was a hospital cruiser with a staff of nurses and medical men together with the establishment of branch hospitals in the shore settlements. The amount of good that medical science and nursing could do in a country like that of the West Coast of Africa was great, and some such scheme should be devised both for sympathetic and Imperial reasons. There were certain disadvantages attaching to hospital ships, but even a hospital hulk in Miss Kingsley's view was superior to coast sanatoria. There is much to be said for Miss Kingsley's plea and we trust that the Colonial Nursing Association will not allow the matter to drop.

"CHRONIC RECURRING MEMBRANOUS PHARYNGITIS."

IN the *Journal of the American Medical Association* of Dec. 2nd, 1899, Dr. J. O. McReynolds has described a case of this very rare disease. Sir Morell Mackenzie seems to have previously described it under the name of chronic diphtheria, but in consequence of its pathological and clinical differences from diphtheria, the above designation, as Dr. McReynolds suggests, is the best until a more accurate knowledge of the subject is attained. A girl, aged 19 years, in fair health, was under his observation for 14 months. When uninfluenced by treatment the membrane recurred twice or three times a week, persisting on each occasion for one or two days, and then becoming spontaneously exfoliated, leaving the throat apparently healthy. If forcibly and prematurely removed a raw surface covered by glairy material was left, which easily bled on manipulation. The area affected varied, the soft palate was always covered, and the entire pharynx was sometimes involved. Repeated examinations never revealed the diphtheria bacillus, although several years previously the patient had an attack of genuine diphtheria. Streptococci and staphylococci were found in large numbers, but there was no evidence as to their causal relation. The patient was able to follow her vocation with only slight interruptions and the constitutional symptoms were mild. The daily ingestion of raw onions or the local application of nitrate of silver prevented the formation of the membrane for a period of two weeks. After trying a multitude of remedies the writer was convinced that nothing would produce a permanent cure but that the disease would in time spontaneously subside.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

THIS institution enters this month upon its second year, and we understand that the number of subscribers and members has steadily increased, that the practical classes have been filled, and that the consultations have been well attended During the coming three months special clinical lectures are to be given on alternate Wednesdays, at 5 P.M., by the President, Sir William H Broadbent, Bart, Dr. G H. Savage, Professor McCall Anderson, Dr. Patrick Manson, Dr. Saundby, and Mr Jonathan Hutchinson. A museum is in course of erection, the builders having undertaken to finish it by March, and it is hoped that when completed this will be an additional source of attraction and interest to the subscribers and members. A new departure has been made as regards the college journal the *Polyclinic*. The first number of the second volume has just been issued. The journal for the future is to be published monthly instead of quarterly, and will furnish a complete record of the clinical work of the college It is to be edited by Mr Jonathan Hutchinson. The laboratories, class rooms, the Roentgen-ray and dark rooms, have been equipped in the most thorough manner, and the medical superintendent is at all times glad to welcome visitors to the college and to afford them an opportunity of becoming personally acquainted with the advantages and facilities which it offers for post-graduate work. One of the departments of work in which the new Medical Graduates' College and Polyclinic proposes to engage is the investigation of special subjects by the agency of permanent sub committees. We are informed that the Committee on Tuberculosis, of which Dr. Heron has been appointed chairman, will meet for a second time on Wednesday next, Jan. 24th, and will proceed according to arrangement to discuss various questions in connexion with the external manifestations of tuberculosis, more especially those coming under the name of lupus. This meeting will be open to all members of the college. Various questions and statements have been drawn up with a view to elicit facts and opinions as to the clinical history of these maladies and their relation to other forms of tuberculosis. Copies of these questions may be obtained on application to the medical superintendent at 22, Chenies-street. The hour of meeting is a quarter past five. The Committee on Climate and Geographical Pathology has elected Sir William Kynsey as its chairman and Dr. A. P. Hillier as secretary, and holds its first open meeting at 5.15 P.M. on Wednesday, Feb. 7th. The region to which it first gives attention is South Africa. It is desired to collect information respecting the diseases and the climate of different regions and districts. Those possessing information on this subject are requested to communicate with Dr. A. P. Hillier and the gift of books and pamphlets will be thankfully received. The committee is a standing one and will no doubt resume the same subject on future occasions as material may accumulate.

PRECAUTIONS AGAINST THE IMPORTATION OF PLAGUE.

THE Local Government Board for Scotland, in a circular letter dated Jan. 15th, 1900, again calls the attention of local sanitary authorities to the presence of plague in Portugal and the necessity for carrying out "with especial care" the measures in force in these islands for preventing the importation of infection. Their notice is specially directed to a General Order issued by the Commissioners of Customs on Oct. 31st of last year. The object of that Order was "to make certain that in carrying out the regulations of the board the medical officer of health shall receive the greatest possible assistance from officers of Customs," and it is pointed out that, on one occasion at least, such assistance was actually declined by an Inspector of Customs. The mechanism adopted for joint action by the medical officer of health and Customs officials for dealing with arrivals from infected ports is briefly as follows. The officers of Customs look to the medical officer of health to inform them from time to time of any particular ports or countries the vessels arriving from which he would desire to visit. In this connexion it is pointed out in the letter of the Board that "the earliest information which would usually be available to this end is that which would be obtained by a regular examination of the news telegraphed from abroad for the purposes of the daily press" On the other hand, the officers of Customs will, in their turn, give the medical officer of health any information which they may possess respecting the arrival or impending arrival of any ships from the ports or countries in question. The term "medical officer of health," it may be noted, includes any duly qualified medical practitioner appointed or employed by a local authority to act in the execution of the orders relating to plague. Attention is also drawn to the possibility of the infection of plague being carried by some of the lower animals, and especially by "rats, mice, and, by natural sequence, cats," and the necessity for inquiring into the evidences of disease in these animals and taking measures for destroying them if occasion should arise. That rats can and do suffer from plague and are an importar to admit of doubt. The susceptibility of mice appears to be very much less marked, and these animals would seem to be far less active agents in the spread of plague than rats. There is, however, evidence that they can aid in spreading the disease and it is believed that they did so to some extent in Formosa, in Jeddah, in Alexandria, and perhaps elsewhere. Cats, the third group of animals mentioned, appear to be even less susceptible than mice. Scattered examples of what have been believed to be attacks of plague in cats have been published from Poona, Worlee, Jawalapur, and elsewhere in India, and from Hong-Kong, Jeddah, Mongolia, Hoihow, Mauritius, and Oporto; but it is perhaps open to question whether in any instance there has been scientific proof that the animals have in truth suffered from the plague.

YELLOW FEVER IN CUBA.

DR. D. L LAINÉ discusses in the November number of the *Revista de Medicina y Cirugia* (Havana) whether it is possible to stamp out yellow fever. On the whole he is hopeful, but he points out that though the great diminution in the number of cases which has been observed since the American sanitary authorities have isolated the cases in hospitals seems to point to the probability of thorough hygienic measures carried on for some years being crowned with success, the pathogenesis of yellow fever is still so enveloped in mystery and previous periods of diminished virulence have led to such illusory hopes that it will be wise not to count too much on the total suppression of the disease.

ST. GEORGE'S HOSPITAL AND THE PRINCE OF WALES'S HOSPITAL FUND.

Mr. Timothy Holmes and Mr. C. L. Todd, the treasurer and secretary respectively of St. George's Hospital, write in the *Times* of Jan. 9th concerning a matter which they naturally have near at heart—namely, the financial position of the hospital. They refer to the fact that the pecuniary position of the hospital is considered by the authorities of the Prince of Wales's Hospital Fund to be such that the institution is not to be assisted from that Fund. Mr. Holmes and his colleagues point out that this is not the case. There is an increase, it is true, in the dividends accruing from funded property. These dividends from 1873 to 1883 averaged about £4000. In 1898 they had risen to £13,662. But there has been a great falling off in the income from subscriptions and donations. "The average of subscriptions and donations from 1873 to 1883 was over £10,600 and in the next decade over £9200. It is now below £8000. ...... And there can be no doubt that the cause of the limited subscription is the general belief that the hospital has immense realised property and is in no want —a belief which, the Governors fear, the report of the Prince of Wales's Hospital Fund will tend to confirm." The writers of the letter conclude:—

> "It must be far from the mind of the managers of the Fund to injure a hospital of which the reigning Sovereign is always president and of which His Royal Highness the Prince of Wales is a gracious and liberal supporter. Yet there can be no question that individual hospitals lose subscriptions in consequence of their friends preferring to give to the Fund and some of our former subscribers have given this as their reason for ceasing to contribute. To the other hospitals this is more than recouped by the sums allotted from the Fund. But to St. George's which receives nothing the loss is uncompensated. The Governors therefore feel it their duty to do all in their power to urge on the public the need for increased support, and trust that they may have your powerful aid in that effort."

There were not wanting those who on the inception of the Prince of Wales's Hospital Fund feared that it would have a depressing effect upon the Hospital Sunday Fund. These fears have not been realised, but it would seem that, secondarily at any rate, the existence of the Fund has lessened the amount of subscriptions to certain hospitals while doing a splendid work for them. It is never safe to assume that any institution can do without the offerings of the charitable because of the existence of a fund the benefits of which may be available. We therefore support the plea of St George's Hospital for increased subscriptions and at the same time hope that the disbursers of the Prince of Wales's Hospital Fund will appreciate the sound logic of Mr. Holmes and Mr. Todd and at the next distribution will place St. George's Hospital on the same footing as similar institutions.

PRONUNCIATION OF THE WORD "ANGINA."

THE November number of the *St. George's Hospital Gazette* contains a short article by Dr. John W. Ogle to the effect that the second syllable of angina is short (angĭna) and not long as commonly pronounced. Dr. Ogle derived his information in 1879 from the Archbishop of Canterbury (then Bishop of Truro), to whose notice the question had in that year been brought by Professor H. A. J. Munro. The pronunciation of Latin vowels, whether long or short, is usually determined by their position in a line of poetry. Angina occurs twice in hexameter lines, but the early editors of the printed editions having made up their minds that the second syllable was long, altered the reading of the MSS. to suit their preconceived views. In Serenus Samonicus, "De Medicina Præcepta," v. 282, the original reading of the MS. was—

> "Angina tum vero mixtum sale poscit acetum"

One printed edition, however, altered this into—

> "Verum angina sibi mixtum sale poscit acetum,"

and another variant was—

> "Ast angina,' &c.

A line of Lucilius (quoted by Nonius) reads in the MSS.—

> ". ... quos una angina sustulit hora,"

but has been altered by the editors into—

> ".. *angina una quos sustulit hora.*"

HEROIN IN RESPIRATORY AFFECTIONS.

DR HENRY D FULTON,[1] from an experience with this drug extending over five years, is able to give an account of its therapeutic value The diseases treated were simple bronchitis, bronchitis with measles, the bronchitis of influenza, chronic catarrhal bronchitis, phthisis, and pneumonia. In December, 1898, when the epidemic of *la grippe* was at its worst in Pittsburg, Pa., the effects of heroin as a cough-relieving agent were prompt and definite, the degree of comfort afforded to the patient being in marked contrast to that derived from the usual remedies. "In those cases in which the patient is harassed by almost incessant cough, or by severe paroxysms occurring in the night, so greatly interfering with rest ...... and leading to an exhausted condition the following day, its good effects were especially noticeable." In *la grippe* the range of its influence is limited apparently to allaying the cough, as it does not otherwise influence the course or duration of the disease. In phthisis its use is followed by most satisfactory results in securing freedom from cough and therefore promoting rest at night. In one case of phthisis with laryngeal disease and a peculiarly distressing cough the effects were most gratifying. In three other cases of phthisis it proved useful. The administration of the drug was begun early in the afternoon (in the case of laryngeal phthisis) and continued every three hours till nine o'clock in the evening, the dose being $\frac{1}{12}$th of a grain. In a large series of cases of acute and chronic bronchitis it also proved valuable "In the acute bronchitis of children," says the author, "its employment is followed by prompt amelioration of cough and it apparently moderates the severity of the attack In chronic bronchial catarrh it seems to have a positive curative value." In measles when the bronchial irritation is a prominent symptom, nothing else was found so serviceable as heroin in suitable doses (from $\frac{1}{32}$nd to $\frac{1}{18}$th of a grain per dose) to tranquillise the persistent cough A solution of heroin for hypodermic injection, prepared by the addition of a small amount of acetic acid, was found equally as efficacious as morphia and less objectionable in certain cases of spasmodic asthma Maximum doses of heroin produce gastric disturbance similar to that following the administration of morphine, but in a lesser degree, and its desired effects can usually, in Dr Fulton's opinion, be obtained by smaller doses without causing any derangement of the digestive functions

---

[1] New York Medical Journal, Dec. 30th, 1899.

INFLUENZA IN DOVER IMPORTANT ACTION OF THE TOWN COUNCIL

AT a recent meeting of the Managing Committee of the Town Council of Dover the medical officer of health, Dr Robinson, in an interesting report alluded to the prevalence of influenza among the inhabitants He characterised the disease at the present time as a veritable plague demanding some attempt to check its ravages He very properly pointed out, as we tried to do last week, that the chief factor in the distribution of the disease is the infectious person of those who suffer from it On two previous occasions the Town Council of Dover have issued notices warning the public of the infectious nature of the disease The later of the two was a quotation from the pronouncements of the Local Government Board and included the following advice with regard to precautions that should be taken —(1) The sick should be separated from the healthy; (2) the sputa should be received into a vessel containing disinfectants, (3) unnecessary assemblages of persons should be avoided, and (4) buildings and rooms in which people congregate should be well ventilated Dr Robinson advised the closure of the public schools for three weeks and his advice was adopted

PRESERVATIVES IN FOOD A QUESTION OF PROCEDURE

NOW that the subject of preservatives in food is being very definitely investigated by a Government Committee with a view to formulating a precise scheme of legislation it is surely vexatious on the part of vestry authorities to persevere in instituting proceedings based on the assumption that boric acid and other antiseptics are injurious to health How is it possible for a magistrate to express a positive opinion that a certain preservative is injurious to health when admittedly the question is trying the utmost abilities of all leading experts to arrive at a pronouncement on this most important point? We must not be represented as saying that the addition of preservatives to food in an indiscriminate way should be tolerated, but it is our opinion that until knowledge is more exact upon the point of injury to health it is not reasonable to push a case for prosecution on this ground. The question of injury to health is *sub judice*, and until this is decided by the Committee on Food Preservatives now sitting it is premature to raise the issue in court. Yet several cases of the kind have been brought before the London courts under the Sale of Food and Drugs Act lately The procedure can do no good and is likely to defeat the well meant intentions of the prosecuting parties It is desirable, we think, that the vestries should wait until they receive from the Government Committee a pronouncement as to what is and what is not permissible in regard to the use of preservatives in food The Food and Drugs Act only warrants these authorities taking action on the ground that boric acid and other preservatives are injurious to health, and while there remains a doubt as to the fact legal action is unfortunate We may *once more state that the public* analyst is not qualified to speak on the question of injury to health, and the fact of his assuming that rôle on occasions only gives strength to the argument that such appointments should be held by medical men exclusively We trust that some patience will be maintained by those who seem particularly vigilant on this question until the law enables us to view the practice of adding preservatives in a clearer light all round, and especially from the points of view of injury to health No real good can be done by instituting proceedings on the lines which we have indicated On the contrary, time and money are wasted and not a little ridicule is bred

THE ANNUAL (1898) REPORT OF THE MEDICAL OFFICER OF HEALTH OF LONDON THE LONDON MEAT-SUPPLY

THE report of the medical officer of health of the Administrative County of London for 1898 has just been issued by the London County Council It deals with many subjects of the first medical interest, to the consideration of which we shall return in a future issue Meanwhile we briefly indicate some of the more important matters contained in the report Thus we find considered the question of diphtheria in elementary London schools, the influence of antitoxic serum on case mortality in the county, and the occurrence of plague glanders, and anthrax, of which last disease there were five cases admitted into Guy's Hospital, which all recovered after operation In Part II are considered, besides other subjects, those of overcrowding and the seasonal variation in age incidence and fatality of infectious disease In Part III we find discussed the regulation of houses let in lodgings and various subjects connected with food supplies such as unsound food, upon which hangs not loosely the question of the provision of public slaughter houses Only a small amount of meat was seized as unsound in London but this "is no doubt due to the fact that much of the meat which is consumed in London is not inspected at the time of slaughter." The conditions existing in London give ample opportunities for the admission into the metropolis and for its sale, of meat which cannot be sold in other parts of the country With respect to meat killed in London it is obvious that there can be no efficient inspection of meat at the time of slaughter while the killing is conducted in numerous private slaughter houses The report then goes on to refer to the report presented by the Public Health Committee of the Council This report is printed as Appendix II It details the objections raised by those interested in private slaughter houses so far back as 1873 when the subject was under the consideration of a Select Committee of the House of Commons Most of the objections have practically ceased to exist owing to changes in circumstances during the last 25 years After dealing with these objections the report goes on to point out that the crying need for public slaughter-houses rests upon the necessity for a strict system of meat inspection At the present time meat sold in Smithfield is inspected, while meat from the foreign cattle market at Deptford and from private slaughter houses in the Islington Market is not systematically inspected. Exclusive of the private slaughter houses in Deptford and Islington cattle markets, and of the six or eight such places in the city the number of private slaughter houses in London in 1897 was 467. The report suggests that six public slaughter houses be provided—three on the north and three on the south side of the Thames.

to admit of doubt The susceptibility of mice appears to be very much less marked, and these animals would seem to be far less active agents in the spread of plague than rats. There is, however, evidence that they can aid in spreading the disease and it is believed that they did so to some extent in Formosa, in Jeddah, in Alexandria, and perhaps elsewhere. Cats, the third group of animals mentioned, appear to be even less susceptible than mice. Scattered examples of what have been believed to be attacks of plague in cats have been published from Poona, Worlee, Jawalapur, and elsewhere in India, and from Hong-Kong, Jeddah, Mongolia, Hoihow, Mauritius, and Oporto; but it is perhaps open to question whether in any instance there has been scientific proof that the animals have in truth suffered from the plague.

YELLOW FEVER IN CUBA.

DR. D. L LAINE discusses in the November number of the *Revista de Medicina y Cirugia* (Havana) whether it is possible to stamp out yellow fever. On the whole he is hopeful, but he points out that though the great diminution in the number of cases which has been observed since the American sanitary authorities have isolated the cases in hospitals seems to point to the probability of thorough hygienic measures carried on for some years being crowned with success, the pathogenesis of yellow fever is still so enveloped in mystery and previous periods of diminished virulence have led to such illusory hopes that it will be wise not to count too much on the total suppression of the disease.

ST. GEORGE'S HOSPITAL AND THE PRINCE OF WALES'S HOSPITAL FUND.

Mr. Timothy Holmes and Mr. C. L. Todd, the treasurer and secretary respectively of St. George's Hospital, write in the *Times* of Jan. 9th concerning a matter which they naturally have near at heart—namely, the financial position of the hospital. They refer to the fact that the pecuniary position of the hospital is considered by the authorities of the Prince of Wales's Hospital Fund to be such that the institution is not to be assisted from that Fund. Mr. Holmes and his colleagues point out that this is not the case. There is an increase, it is true, in the dividends accruing from funded property. These dividends from 1873 to 1883 averaged about £4000. In 1898 they had risen to £13,662. But there has been a great falling off in the income from subscriptions and donations. "The average of subscriptions and donations from 1873 to 1883 was over £10,600 and in the next decade over £9200. It is now below £8000. ... .. And there can be no doubt that the cause of the limited subscription is the general belief that the hospital has immense realised property and is in no want —a belief which, the Governors fear, the report of the Prince of Wales's Hospital Fund will tend to confirm." The writers of the letter conclude :—

"It must be far from the mind of the managers of the Fund to injure a hospital of which the reigning Sovereign is always president and of which His Royal Highness the Prince of Wales is a gracious and liberal supporter. Yet there can be no question that individual hospitals lose subscriptions in consequence of their friends preferring to give to the Fund and some of our former subscribers have given this as their reason for ceasing to contribute. To the other hospitals this is more than recouped by the sums allotted from the Fund. But to St. George's which receives nothing the loss is uncompensated. The Governors therefore feel it their duty to do all in their power to urge on the public the need for increased support, and trust that they may have your powerful aid in that effort."

There were not wanting those who on the inception of the Prince of Wales's Hospital Fund feared that it would have a depressing effect upon the Hospital Sunday Fund. These fears have not been realised, but it would seem that, secondarily at any rate, the existence of the Fund has lessened the amount of subscriptions to certain hospitals while doing a splendid work for them. It is never safe to assume that any institution can do without the offerings of the charitable because of the existence of a fund the benefits of which may be available. We therefore support the plea of St George's Hospital for increased subscriptions and at the same time hope that the disbursers of the Prince of Wales's Hospital Fund will appreciate the sound logic of Mr. Holmes and Mr. Todd and at the next distribution will place St. George's Hospital on the same footing as similar institutions.

PRONUNCIATION OF THE WORD "ANGINA."

THE November number of the *St. George's Hospital Gazette* contains a short article by Dr. John W. Ogle to the effect that the second syllable of angina is short (angina) and not long as commonly pronounced. Dr. Ogle derived his information in 1879 from the Archbishop of Canterbury (then Bishop of Truro), to whose notice the question had in that year been brought by Professor H. A. J. Munro. The pronunciation of Latin vowels, whether long or short, is usually determined by their position in a line of poetry. Angina occurs twice in hexameter lines, but the early editors of the printed editions having made up their minds that the second syllable was long, altered the reading of the MSS to suit their preconceived views. In Serenus Samonicus, "De Medicina Præcepta," v. 282, the original reading of the MS. was—

> "Angina tum vero mixtum sale poscit acetum"

One printed edition, however, altered this into—

> "Verum angina sibi mixtum sale poscit acetum,"

and another variant was—

> "Ast angina,' &c.

A line of Lucilius (quoted by Nonius) reads in the MSS.—

> ". .. quos una angina sustulit hora,"

but has been altered by the editors into—

> ". . angina una quos sustulit hora"

HEROIN IN RESPIRATORY AFFECTIONS.

DR HENRY D FULTON,[1] from an experience with this drug extending over five years, is able to give an account of its therapeutic value. The diseases treated were simple bronchitis, bronchitis with measles, the bronchitis of influenza, chronic catarrhal bronchitis, phthisis, and pneumonia. In December, 1898, when the epidemic of *la grippe* was at its worst in Pittsburg, Pa., the effects of heroin as a cough-relieving agent were prompt and definite, the degree of comfort afforded to the patient being in marked contrast to that derived from the usual remedies. "In those cases in which the patient is harassed by almost incessant cough, or by severe paroxysms occurring in the night, so greatly interfering with rest ...... and leading to an exhausted condition the following day, its good effects were especially noticeable." In *la grippe* the range of its influence is limited apparently to allaying the cough, as it does not otherwise influence the course or duration of the disease. In phthisis its use is followed by most satisfactory results in securing freedom from cough and therefore promoting rest at night. In one case of phthisis with laryngeal disease and a peculiarly distressing cough the effects were most gratifying. In three other cases of phthisis it proved useful. The administration of the drug was begun early in the afternoon (in the case of laryngeal phthisis) and continued every three hours till nine o'clock in the evening, the dose being $\frac{1}{12}$th of a grain. In a large series of cases of acute and chronic bronchitis it also proved valuable "In the acute bronchitis of children," says the author, "its employment is followed by prompt amelioration of cough and it apparently moderates the severity of the attack In chronic bronchial catarrh it seems to have a positive curative value" In measles, when the bronchial irritation is a prominent symptom, nothing else was found so serviceable as heroin in suitable doses (from $\frac{1}{32}$nd to $\frac{1}{12}$th of a grain per dose) to tranquillise the persistent cough A solution of heroin for hypodermic injection, prepared by the addition of a small amount of acetic acid, was found equally as efficacious as morphia and less objectionable in certain cases of spasmodic asthma Maximum doses of heroin produce gastric disturbance similar to that following the administration of morphine, but in a lesser degree, and its desired effects can usually, in Dr. Fulton's opinion, be obtained by smaller doses without causing any derangement of the digestive functions

---

[1] New York Medical Journal, Dec. 30th, 1899.

INFLUENZA IN DOVER IMPORTANT ACTION OF THE TOWN COUNCIL.

AT a recent meeting of the Managing Committee of the Town Council of Dover the medical officer of health, Dr Robinson, in an interesting report alluded to the prevalence of influenza among the inhabitants He characterised the disease at the present time as a veritable plague demanding some attempt to check its ravages He very properly pointed out, as we tried to do last week, that the chief factor in the distribution of the disease is the infectious person of those who suffer from it. On two previous occasions the Town Council of Dover have issued notices warning the public of the infectious nature of the disease The later of the two was a quotation from the pronouncements of the Local Government Board and included the following advice with regard to precautions that should be taken —(1) The sick should be separated from the healthy; (2) the sputa should be received into a vessel containing disinfectants, (3) unnecessary assemblages of persons should be avoided, and (4) buildings and rooms in which people congregate should be well ventilated Dr. Robinson advised the closure of the public schools for three weeks and his advice was adopted

PRESERVATIVES IN FOOD A QUESTION OF PROCEDURE

NOW that the subject of preservatives in food is being very definitely investigated by a Government Committee with a view to formulating a precise scheme of legislation it is surely vexatious on the part of vestry authorities to persevere in instituting proceedings based on the assumption that boric acid and other antiseptics are injurious to health How is it possible for a magistrate to express a positive opinion that a certain preservative is injurious to health when admittedly the question is trying the utmost abilities of all leading experts to arrive at a pronouncement on this most important point? We must not be represented as saying that the addition of preservatives to food in an indiscriminate way should be tolerated, but it is our opinion that until knowledge is more exact upon the point of injury to health it is not reasonable to push a case for prosecution on this ground. The question of injury to health is *sub judice*, and until this is decided by the Committee on Food Preservatives now sitting it is premature to raise the issue in court Yet several cases of the kind have been brought before the London courts under the Sale of Food and Drugs Act lately The procedure can do no good and is likely to defeat the well meant intentions of the prosecuting parties It is desirable, we think, that the vestries should wait until they receive from the Government Committee a pronouncement as to what is and what is not permissible in regard to the use of preservatives in food The Food and Drugs Act only warrants these authorities taking action on the ground that boric acid and other preservatives are injurious to health, and while there remains a doubt as to the fact legal action is unfortunate We may once more state that the public analyst is not qualified to speak on the question of injury to health, and the fact of his assuming that role on occasions only gives strength to the argument that such appointments should be held by medical men exclusively We trust that some patience will be maintained by those who seem particularly vigilant on this question until the law enables us to view the practice of adding preservatives in a clearer light all round, and especially from the points of view of injury to health. No real good can be done by instituting proceedings on the lines which we have indicated On the contrary, time and money are wasted and not a little ridicule is bred

THE ANNUAL (1898) REPORT OF THE MEDICAL OFFICER OF HEALTH OF LONDON THE LONDON MEAT-SUPPLY

THE report of the medical officer of health of the Administrative County of London for 1898 has just been issued by the London County Council It deals with many subjects of the first medical interest, to the consideration of which we shall return in a future issue Meanwhile we briefly indicate some of the more important matters contained in the report Thus we find considered the question of diphtheria in elementary London schools, the influence of antitoxic serum on case mortality in the county, and the occurrence of plague, glanders, and anthrax, of which last disease there were five cases admitted into Guy's Hospital, which all recovered after operation In Part II are considered, besides other subjects, those of overcrowding and the seasonal variation in age incidence and fatality of infectious disease In Part III we find discussed the regulation of houses let in lodgings, and various subjects connected with food supplies, such as unsound food, upon which hangs not loosely the question of the provision of public slaughter houses Only a small amount of meat was seized as unsound in London, but this "is no doubt due to the fact that much of the meat which is consumed in London is not inspected at the time of slaughter." The conditions existing in London give ample opportunities for the admission into the metropolis, and for its sale, of meat which cannot be sold in other parts of the country With respect to meat killed in London it is obvious that there can be no efficient inspection of meat at the time of slaughter while the killing is conducted in numerous private slaughter houses The report then goes on to refer to the report presented by the Public Health Committee of the Council This report is printed as Appendix II It details the objections raised by those interested in private slaughter houses so far back as 1873 when the subject was under the consideration of a Select Committee of the House of Commons Most of the objections have practically ceased to exist owing to changes in circumstances during the last 25 years After dealing with these objections the report goes on to point out that the crying need for public slaughter houses rests upon the necessity for a strict system of meat inspection At the present time meat sold in Smithfield is inspected, while meat from the foreign cattle market at Deptford and from private slaughter houses in the Islington Market is not systematically inspected Exclusive of the private slaughter houses in Deptford and Islington cattle markets, and of the six or eight such places in the city, the number of private slaughter-houses in London in 1897 was 467 The report suggests that six public slaughter houses be provided—three on the north and three on the south side

These should be in railway communication with the principal cattle markets outside of London as well as with the metropolitan markets. A useful map is provided showing approximately the proposed sites for these establishments. Carcasses are to be examined in each slaughter-house by a competent veterinary surgeon, and each carcass is to be marked in some way that would be evidence of the inspection. We have upon previous occasions expressed our desire to see public slaughter-houses provided and their use after the lapse of a certain period of grace made compulsory. Their provision would enable animals to be killed in a roomy and airy place where proper care would be taken in cooling the meat which could be thoroughly inspected; and in addition cruelty would be reduced to a minimum. The public health work of the London County Council has been up to now progressive along such sensible lines that we may feel assured that they will continue to press for the abolition of the private slaughter-house.

THE man Hopwood, an insurance agent, to whose methods we called attention in our columns on more than one occasion some weeks ago, was committed to the sessions by the Birmingham stipendiary last week for attempting to obtain £100 from a medical man of Birmingham by false pretences.

SIR CHARLES BRUCE, the Governor of Mauritius, has telegraphed to the Colonial Office that for the week ending Jan. 11th there were seven fresh cases of bubonic plague, three of which were fatal; total deaths from plague, five.

THE WAR IN SOUTH AFRICA.

AT the moment of writing there is no official news from Sir Redvers Buller, but there are rumours in abundance about him and his forces. Still there is no reason to doubt that the relief expedition is on its way to Ladysmith and it is possible that we may soon hear some reliable news of the initial stages of the combined movement; but it may not be yet, for there is a good deal of marching to be done, and the transport of material, of stores, of reserve ammunition, and ambulance equipment through a difficult and practically uninhabited country is a formidable undertaking. We must meanwhile be content to possess our souls in patience. If Sir Redvers Buller succeeds the whole aspect of affairs will be changed. The responsibility of those charged with the movement is enormous, and they are unquestionably right in concealing their intentions in order to avoid any risk of jeopardising the integrity and fulfilment of their strategical schemes. National interests, after all, come before those of a national press, as we are glad to see all the better and more respectable class of journals in this country fully recognise and appreciate.

As medical journalists we have, of course, nothing whatever to do with politics, and we need scarcely add that we neither hold a brief for any political party nor are we concerned for the vindication of this or any other Government, except in so far as the war concerns everybody interested in the well-being of the country. Still, in fairness and justice to the Leader of the House of Commons, we feel constrained to say that we do not see why he should have been singled out for all the adverse criticism he has encountered, for his speeches were perfectly frank and straightforward. If he were ignorant and failed to foresee the course which events have since taken in South Africa he was notoriously not alone in this respect. We know, at any rate, that the Leader of the Opposition repeatedly stated that he saw no cause for war; that a little while ago most people were averse to taking any steps that might bring war about until all peaceful efforts had been made to avoid it; and that no one had, as a matter of fact, anticipated that it would be thrust upon us by the Boer ultimatum of October last, or that the Boers would invade Natal territory at two days' notice. Moreover, there is no denying that the relief of Ladysmith and Kimberley has been, and still remains, the strategical obstacle to our progress and the cause of the present deadlock, notwithstanding that the fighting at Ladysmith has in another way delayed the Boers in carrying out their design of massing a large force between Ladysmith and the seaboard to the south until it was too late for them to accomplish their purpose. What the country wants to know is—How it was that we have blundered so egregiously as to the strength and preparedness of the enemy? Why, if Ladysmith—however badly situated naturally—was regarded as the Aldershot of the Cape, it was not long ago put into a proper state of defence? And why more artillery and cavalry were not sent out earlier in the campaign instead of its being almost entirely left to British infantry to cope with the Boer forces, all of whom are mounted?

We do not know whether our readers happen to have perused the report of a lecture recently delivered at St. George's Hall, Langham-place, by Captain Holcroft, late of the Transvaal States Artillery, on "The Secret Arming and Secret Service of the Transvaal Republic"; if not it is well worth doing so, for it contains an amount of precise information not to be found elsewhere in the same compass. Captain Holcroft states that the present war follows upon preparations made on a vast scale and extended to such details even as the adoption of the English bugle calls, the reason for which President Kruger said would be found out one day. Now these things, if they were done, were not done in a corner. How is it, then, that they seem to have been officially unknown or ignored? What have successive Governments in this country been about in allowing this enormous growth of military power on the part of the Transvaal Government in the midst of an important part of this empire? The Boer forces in the field at the present time, according to an estimated calculation of the *Cape Times*, amount to 87,000 men, from which, however, their losses during the campaign have to be deducted, and as we have no means of estimating their resources in the way of reinforcements, it is clear that there is yet a good deal to be done on the part of this country. Although the progress of the war has so far been unsatisfactory and disappointing we nevertheless fail to see that the results have been so completely disastrous as some domestic and many foreign critics would have us believe, or that, after all, the Boer forces have as yet achieved any such material successes as will necessarily affect the final issue. That the war was a formidable undertaking which would at once require a much larger British force than many people imagined and that the Boers would probably be successful at the beginning is what we have prognosticated from the first But we shall soon have nearly 200,000 men in South Africa, and with command of the sea and an open seaboard and a comparatively unlimited supply of men and war material the end should, humanly speaking, be practically certain.

With all the adverse criticism which has, rightly or wrongly, been applied to those responsible for the conduct of the war it is most gratifying to be able to point to the way in which the Army Medical Service has played its part under so many difficult and trying circumstances. Sir William MacCormac has inspected the army hospitals at the Cape and in Natal and he speaks in the highest terms of the medical arrangements as leaving nothing to be desired and expresses surprise at the wonderful recoveries and the very small death-rate. In all the details of the necessary movements of sick and wounded no army has ever before been so well provided as is ours now in the field; and this remark might indeed be also extended to the provision made for the army as a whole. In a soldier's letter to a contemporary, wherein the scale and excellence of the supplies were favourably commented upon, it was stated that the exceptional experience of this war had shown the desirability of having a limited supply of wire cutting pliers issued to the troops to cut through the barbed wire surrounding the Boer entrenchments so as to avoid delay from these obstructions whilst under fire. The writer was employed in the Army Telegraph Department and we only allude to the circumstance because it may be taken as evidence of how little had escaped attention.

We think the Director-General exercised a wise discretion in recommending that a staff of eminent civil surgeons should be sent out to the war, for, apart from any consideration of their exceptional skill, *there is no gainsaying* the force of their professional judgment as to the state of the war hospitals, the adequacy of the field medical arrangements, and the skill and care exercised by the medical officers. The public will be quite content to accept their view on such matters. It is to be regretted that there is not a larger number of regularly trained army medical officers available for field service, for nothing, perhaps, makes up for the absence of military training, but there is a large civil element to supplement their services at the general and field hospitals where they are doing excellent work. The Director-General has still a long list of civil surgeons at his disposal, for capital professional men are very keen to be employed. We learn from all sides that the surgical results of the war are exceptionally good. Partly owing to the more favourable nature of the wounds caused by the Mauser rifle bullet, partly to the invariable employment of antiseptic dressings, and the extreme care used to maintain surgical cleanliness, as well as in a large measure to the pure and aseptic atmosphere of the South African climate, the progress of the wounded is all that could be desired. The results of some of the wounds as given in Sir William Mac Cormac's further admirable notes, which we publish to day, are simply amazing.

There is no sign of decreasing enthusiasm in this country or the colonies to render all possible aid, and any number of troops, field hospitals, and medical men are forthcoming. The fact that this is so is a source of extreme satisfaction to all and, it is needless to say, of the highest and most gratifying import to the British Empire. It is hoped that the Yeomanry hospital will be ready for dispatch by the end of the month. Application has been made for upwards of 100 men of the St. John Ambulance Association. The war literature, even so far as it only relates to the contributions and gifts connected with the medical branch of the South African Campaign, has become so voluminous that it is impossible to make such a *précis* of it as shall afford any adequate notion of its extent or of all that is being done for the sick and wounded

The latest sick returns from Ladysmith give 75 cases, mostly of dysentery and enteric fever, among the garrison. This is nearly 1 per cent. of the force. Considering the circumstances and remembering that the siege has now lasted 10 weeks the list cannot be said to be a long one.

In connexion with the war we have received a little book entitled, "Self aid in War, with Practical Hints for the Cavalry Wounded in South Africa," by T. F. S. Caverhill, M B, F R.C.P. Edin, Surgeon-Major, the Lothian and Berwickshire Yeomanry Cavalry (Williams and Norgate, 14, Henrietta-street, Covent-garden, London). This is a little pocket-sized guide in two parts which gives just the hints it professes to give It is well illustrated, the advice given is clear, practical, and judicious, and the information is simple and elementary. The main points to be attended to are printed in more conspicuous type in order to prevent them from being overlooked. It is well worthy of being read by officers and men of the Yeomanry and mounted infantry going out to South Africa and will prove useful as a very portable companion and guide for them in the field The first portion is specially designed for private soldiers and is a translation based on Dr. Diemer's Selbsthulfe The latter portion for regimental bearers is compiled by Surgeon-Major Caverhill from many sources. The price of the manual is 1s.

THE FLYING HOSPITAL.

In THE LANCET of Jan. 13th (p. 129) we mentioned the flying hospital which had been designed by Dr. Horace Manders. Dr. Manders has sent us the following account of the inception and details of the scheme. It will be noted that the modern flying hospital is altogether different from "Napper's Flying Hospital,"[1] which was a hospital train.

"For 16 years (1860 to 1876) the Royal Wilts Yeomanry possessed eight cars carrying riflemen, two to each squadron, with which they manœuvred It was found that they could very well keep up with the mounted men and that ditches and small hedges offered no impediment. In the autumn manœuvres of 1872 these cars were frequently used as escort to the horse artillery attached to the cavalry division of the Northern Army, and wherever the guns went so did the cars. An account of these will be found in the *United Service Magazine* (August, 1890). These cars were originally intended as ambulances for the Crimea, taking the wounded from the front to Balaclava Harbour, but were never sent out as the war came to an end. When serving as a trooper in the regiment and watching the action of the cars during the manœuvres it occurred to me then of what extreme value such cars would be to cavalry if fitted up with splints, dressings, instruments, &c. Now that the nation are sending out a vast number of Imperial Yeomanry the idea that occurred to me years ago has been resuscitated and has taken active shape as the flying hospital, which consists of two cars, one hospital, the other ambulance, the design of which has been placed in the hands of Messrs. W. O. Windover and Co, 22, Long Acre, carriage builders, for execution.

"The hospital car is built after the fashion of an Irish car, but instead of a hollow centre contains a body 6 ft. long by 5 ft. wide, and 1 ft. 9 in. in depth. The footboard on either side falls over the wheel and is made so as to fold over the top of the body. This top opens longitudinally by flaps, flanged so as to keep out rain. Through this opening the well of the interior can be reached, as can also be done by letting down the back of the body. The car can contain four men on either side, with a non commissioned officer on a moveable seat in rear. The well is packed with a regulation operation case, sets of splints, dressings, and utensils, while a cylinder of drinkable water is carried outside along the front. At the sides, on the outside of the body, are carried a lever, two picks, and a shovel, with a bucket slung beneath The car is drawn by two horses attached to a pole, on that modification of the curricle principle adopted in the 'Cape cart,' which allows the greatest lightness, speed, mobility, facility in turning, and the like, combined with the greatest safety. It is almost impossible for this car to be overturned. The horses are driven by a postillion who rides the near horse. The car can live with cavalry and can go wherever horse artillery can go. It occupies but little space and is easily concealed. Its cost is 65 guineas, or, when fitted up with instruments complete, 100 guineas. The contents are: a folding operation table (Jordan Lloyd's), an army regulation operation case, sterilising apparatus for instruments, operation waterproof aprons, Eston tourniquets, Eston instruments, needles, &c, splints (arm, leg, thigh, and finger), dressings, sutures of wood wool, &c., roller and triangular bandages, chloroform and inhaler, subcutaneous injection syringe and tabloids, bottles of antiseptics, cocaine, &c, sponge cloths, compressed food, Maggi, bovril, &c, aluminium bowls, utensils, &c, and a Berkefeldt filter.

"The 'flying ambulance' is built on the same principle as the hospital car, but is slightly longer, being 6 ft. 6 in.; the width is the same. In the well, or body of the car, are two stretchers, side by side, of ashen poles and wire-woven body. The handles of the stretchers at each end fit on and can be securely fastened to the ends of a carriage spring, the centre of which is screwed into the floor of the body. The roof is open but spreads out over the wheels on either side, forming a skeleton platform, on which are screwed carriage springs for stretchers similar to those inside. The platform will accommodate three stretchers, yet give plenty of ventilation to those below, and ventilation is also provided by the louvred sides of the body. A sixth stretcher is carried and can be placed in emergency, transversely across the front, above the water cylinder. Seats are provided at the back for two attendants. The car carries a lever, a pick, and so on, and a few medical comforts An awning is also provided against rain or too great sunlight. The cost of the ambulance car is 65 guineas complete

"The flying hospital and flying ambulance cars are designed to act and work together in harmony. They will follow the fighting line in rear of the supports and in front of the reserves. The moment casualties begin to occur the hospital car is brought up to a sheltered spot as near as can be done with safety from fire, the table is set out, and instruments and dressings are prepared. The bearers unhitch the stretchers from the ambulance and bear them to the front to pick up the wounded and carry them to the place where the cars are standing. This spot becomes at once a collecting station and a dressing station. As the wounds are dressed those wounded in the lower extremities and body are placed in the 'flying ambulance' and taken to the nearest field hospital or bearer company, to the commander of which details are furnished as to the position of the hospital car and probable number of wounded; the ambulance then returns If the horses of the hospital car have not been too much fatigued beforehand the car itself can be used for the transport of those wounded in the upper extremities or head, who are retained in their seats by means of straps arranged for that purpose. The staff required will be: Two surgeons (mounted), one orderly (mounted), one non-commissioned officer (mounted), one non-commissioned officer on the hospital car, eight bearers on the hospital car, two bearers on the ambulance car, and two drivers, one for each car."

---

[1] THE LANCET, Oct. 23th, [illegible], p 1193.

(NOTES FROM SIR WILLIAM MAC CORMAC.)

(Continued from page 123.)

Frere, Dec. 14th, 1899.—This morning the camp here is practically no more. The striking of tents and moving off of the corps began at 1 P M. yesterday and continued until this morning, so that by 6 A.M. nothing remained of the 22,000 men of yesterday but a long snake-like train of bullock waggons conveying commissariat supplies winding as far as the eye could reach along the Chieveley road. We breakfasted at 6 A M., and before 6 30 we had taken the road in our ten-mule waggon *en route* for our hill of observation about three miles along the Chieveley road. The road was blocked with heavy waggons escorted by weary baggage guards, and the dust and heat were terrific. We gradually worked our way along until we managed to get clear of the rest and by a side road succeeded in reaching our hill about 7.30 A.M. We saw with ease the whole army yesterday at Frere, already re-encamped beyond Chieveley, and apparently about two or three miles from the Tugela. The long train of commissariat waggons reached the whole way along from Frere, by a winding road, to the new camping ground, and long after we could see the first waggons entering the new camp the seemingly endless succession was still issuing from Frere. A bearer company flying its Red Cross flags was seen, heading the procession. The reasons for the slow movement of an army in the field were vividly demonstrated to us as we watched this interesting movement. We could see nothing of the Boers across the river, but about 9 A.M. several of our guns opened fire at the range of hills between the river and Ladysmith and we watched the shells bursting far away without any response. Are the Boers in concealment or have they really retired as has been reported? We returned to camp about noon. The place now looks very dreary and deserted and consists of practically nothing but half an infantry battalion as a guard and our No. 4 Stationary Field Hospital on the lines of communication. The hospital train, under Major Brazier-Creagh, R.A.M C., has just moved on to Chieveley awaiting events. No. 4 Stationary Hospital received a warning this evening from the principal medical officer that the hospital must be ready to move at short notice so as to be as near as possible to the battle which was expected to take place on the morning of the 15th.

Dec. 15th.—The booming of big guns and the rapid reports of the quick-firing machine-guns commenced at daybreak. About 5 A.M. a message was received from the principal medical officer to entrain the hospital and proceed to Chieveley, there to await further orders. A fatigue party was at once applied for from the Royal Scots Fusiliers and the work of storing the impedimenta and striking the tents was commenced at once. 24 sick (including two officers) now in hospital were despatched to Pietermaritzburg, so as to leave us ready to receive the sick and wounded in our new quarters to-night, wherever those may be.

Dec. 16th.—We arrived at Chieveley station about 1 30 P.M. yesterday. The cannonading had ceased about 1 o'clock. We found the station occupied by a hospital train under Major Brazier-Creagh, R.A.M.C., and everyone available helping to provide comforts for the freight it carried. There were 119 wounded in the train. They had been taken on board direct from the field, the train having run into the actual scene of action; in fact, it was ordered back by the principal medical officer, two shells having fallen close to it. This train carried the first results of the battle, and it was a very distressing sight. The wounded filled the carriages just as they had come from the field; every wound had been dressed, and had been dressed extremely well, under fire A noticeable feature was the fact that very few of these dressings needed re-adjustment. Rifle splints, tourniquets, and other dressings had been adjusted carefully and deliberately, under circumstances of great difficulty and danger. There had been, we learned, a rush with the wounded to the train, which was rapidly filled and had then immediately steamed away, and when we saw it at Chieveley, four miles from the battle-field, the men were still under the excitement of the action. The wounded were cheerful and thankful for their treatment, many remarking that their chief anxiety was to get back soon enough to pay the Boers out. We saw the train start away for Estcourt (it was back again at Chieveley last night). On its arrival No. 4 Hospital was immediately unloaded and the erection of the tents began at once, before the weary officers and men of the Royal Army Medical Corps had had a chance of sleep. The Stationary Hospital was yesterday, therefore, evacuated of sick at Frere, the whole equipment packed and brought to Chieveley, the tents re erected, made ready for 100 wounded, and almost immediately they received about 50—all this being completed between 7 A.M. and midnight (strength, 4 officers and 37 men of the Royal Army Medical Corps).

To return to ourselves, having obtained the necessary information and permission we walked to the field hospitals of the 4th, 5th, and 6th Brigades, situated about three miles from Chieveley under the crest of a hillock about 400 yards outside the fire zone. The state of these hospitals at the time of our visit (4 30 P.M.) is almost beyond description. Captain Symons and myself visited the three operating tents one after another, where my opinion was continually requested by the medical officers in charge—Major Coggin, Major Heuston, Major Culling, Major Wilkinson, and Major Young—about various cases. Each of the three operating tents contained two operating tables and as fast as a patient was taken off the table another took his place. Awaiting their turn the wounded were lying outside in rows which were being continually augmented by the civilian bearers coming in from the field. As each wounded man reached the hospital he was served with a hot cup of bovril, large cans of which were boiling outside the tents. The way in which the wounded had been dressed upon the field and each man ticketed with the nature of his wound, his name, and regiment was excellent and was very useful for identification. This also saved much time at the field hospitals, because the seriously wounded could be at once discriminated from the more trivial cases. The latter went away at once to the tents and the former were re dressed and operated g we neveren necessary by the four officers of each of the completely itals and the three surgeons of each of the beatics would les. The praise of the regimental officers and have as yet get to the way in which the Royal Army Medicssarily affecl done their duty under heavy fire was unanimoundertakin tinted. An officer of the Devons, wounded, in ish force t told me that he managed to get to a hut near probablyof the river which was being used as a dressing station. This hut was continually under heavy fire, and he described the behaviour of the medical officers as magnificent.

The spectacle at the field hospitals was most painful. Ambulance waggon after waggon and stretcher squad after stretcher squad came in while I was there, pouring in the wounded, some of whom had died on the way and could unfortunately only be carried to the mortuary tents. The work performed in the operating tents was, in my opinion, of great efficiency, the operations being deliberately carried out with skill and dispatch under the very trying circumstances of intense heat, hurry, and excitement all round. The Royal Army Medical Corps officers of these hospitals had started their surgical work about 3 A M, and when I visited them in the evening they were still hard at it, having had no food meanwhile and no time for rest, and the work went on for hours afterwards. I gave advice in many cases where I was asked, and advised against operation in the case of a poor fellow with a fearful shell-wound of the hip. Altogether some 800 patients passed through the field hospitals during the day. The men showed the utmost pluck and endurance; there was not the smallest despondency, the predominant feeling being anxiety to return and fight again. This was very splendid of them after such a day as they had experienced and makes one feel very proud of their fine mettle.

The hospital trains rapidly took them away. Each train carries on an average 100 cases and is equipped with every possible requirement, besides iced soda, champagne, soup, and other comforts in abundance, so I am certain that all that human foresight could accomplish was done during the journeys for the mitigation of the sufferings of the wounded. The first train, which was for a time under fire, left the immediate vicinity of the battle field at 2 P.M. with 119 wounded; a second train was despatched at 8 A M. on the 16th; a third at 2 P M on the 16th, a fourth at daylight on the 17th, and a fifth at 8 A M on the 17th—a very quick succession All the field hospitals were empty at daybreak on the 17th and this was done, notwithstanding that they were obliged to move the hospitals in the midst of their work to escape from the zone of fire

Poor Captain Hughes R A M C (on General Buller's staff, an officer of the highest merit and promise), was killed by a bullet which severed the innominate artery, and Major Brannigan, R A M C, was seen by me shot through the foot Major Stuart Wortley, Rifle Brigade who officered the 2400 volunteer ambulance bearers did splendid service and I heard him report about 5 30 P M that the whole field was then clear of wounded, which was very rapid and good work When I saw that I could do no more personal work for these hospitals we returned to No 4 Stationary Hospital at Chieveley station and managed to get a shake down in the deserted and dismantled house of the station master During the night I assisted Major Mallins to perform a laparotomy on a man whose intestine had been pierced in two places with a very successful issue up to the date of writing (vide recorded cases) It is worthy of note that the operation was performed in a tent (equipped with everything needful) in a hospital which had been in full activity eight miles away on the morning of the same day The conveyance of the wounded by stretchers from the field hospitals and from the field to this hospital has been going on the whole evening, many being carried from five to seven miles with great comfort and at the same time more marquees are being pitched so that 200 beds may be shortly ready All the marquees are provided with iron beds, wire spring bottoms and hair mattresses, the gift of a Durban gentleman Two army nursing sisters (Miss Sammut and Miss Martin) are hard at work doing excellent service under difficulties One of the ambulance waggons which went too far under fire in the morning was blown up by a shell (accidentally, no doubt) Fortunately there were no patients in it and the drivers escaped unhurt

Dec 17th—Yesterday and the day before were indeed days of hard work A hospital train filled with wounded had arrived from the field hospital about 8 A M (16th) and discharged many of the more severely wounded into our stationary hospital A second hospital has now been added to ours under the command of Major Baird, R A M C, assisted by Captain Begbie The two operating tents are constantly busy I was consulted about many cases and assisted at several operations In the afternoon I performed an amputation of the right thigh for a fracture of the femur in which gangrene of the leg had supervened There were many abdominal and lung cases, but comparatively few of these required operation being either of a favourable character or the patient being too ill to allow of interference

An order having been given last evening for the brigades to retire on Frere, No 4 Hospital became of necessity crowded by the wounded of the field hospitals belonging to those brigades By 10 P M all the wounded had been found sleeping places but there were no more beds to spare The medical officers could now do no more till morning than see that the serious cases obtained morphia milk and needful comforts Everyone was exhausted and almost fell asleep at his duties This morning the brigades have left and we hear that the whole army is to retire on Frere Water is very scarce indeed There will probably be no further fighting for the present and as all the wounded will have left the front by midnight to-night the principal medical officer (Colonel Gallwey) has advised me to return to Pietermaritzburg Considering the great strain of the work and the number of the wounded after this hotly contested engagement (where both rifle and shell fire were something, it is said, never seen before) I would like to draw attention to these facts 1 The skill and care displayed in treating compound fractures and injuries requiring calm attention and time under heavy fire 2 The skilful and efficient way in which serious major operations were performed on the same day as the battle (under considerable pressure and disadvantages) by the medical officers of the field hospitals 3 800 wounded were cleared from the field by 6 P M, the action having finished at 2 P M 4 By midnight on the second day after the battle (to-night) the last wounded man will have left the hospitals at the front and will have been conveyed to Estcourt, Pietermaritzburg Durban, and the hospital ships 5 Light train loads have been taken away in the hospital trains in two days There can be no doubt in the minds of those who have watched the proceedings at the front that a trying emergency has been met under circumstances of extreme tension, with complete success, and I know that the army has had the greatest confidence in its medical corps and feels that all has been done for the wounded that could have been done I accordingly returned this morning in the hospital train (conveying 120 wounded) to Pietermaritzburg The heat has been intense We have had three very busy hard-working days and returned weary and sad for such grievous loss and suffering It was indeed a piteous spectacle of suffering and death but one could console oneself somewhat by the reflection that so much had been accomplished to mitigate the distress and the poor sufferers themselves were full of pluck and endurance I append short notes of the more interesting cases which have come under my notice amongst the wounded in the battle of Dec 15th at Chieveley and Colenso These are, however, of necessity extremely brief The pressure and tension under which everyone was working made the taking of any notes almost impracticable

HEAD INJURIES

CASE 1—The wound was over the right mastoid There was no wound of exit Bleeding occurred from the right ear There was paralysis of the right upper extremity The direction taken by the bullet is not known No interference is contemplated at present

CASE 2—The bullet entered near the left parietal eminence The exit wound with comminution and much elevation of bone was through the left frontal eminence Lieutenant Simson R A M C, trephined after consultation with me on account of increasing tendency to coma, twitching and facial paralysis The pulse and respiration were slow Several fragments and a large portion of the elevated fragments were removed thus allowing free drainage There was a considerable amount of clot which was removed There was great improvement of the paralysis an hour after operation

CASE 3—The entrance wound was in the temporo-parietal region There was no wound of exit There was complete aphasia but no other symptoms The treatment was expectant

CASE 4—The bullet entered two and a half inches behind the left mastoid process A probe was passed inwards through the opening of the skull as far as the temporo-sphenoidal lobe where the bullet was supposed to be lodged No symptoms were present The treatment was expectant

CASE 5—The entrance wound was over the right frontal eminence The exit was two inches above and half an inch to the right of the occipital protuberance There was a large depressed fracture in front Hemiplegia was present on the left side The right pupil was widely dilated There was no facial paralysis Some fragments of frontal bone were embedded in the brain and were removed A flap incision was made which connected both openings and a fissured fracture was found between the exit and the entrance wounds through which there was free bleeding from a branch of the middle meningeal artery The skull was trephined and bone was removed close to the anterior opening and bleeding was arrested by plugging The wound was dressed The temperature three days after injury was 100 4° F (in the evening)

WOUNDS OF THE LUNG

CASE 1—I saw with Major Mallins the case of a man with the entrance wound through the upper part of the left deltoid muscle The bullet emerged near the eighth rib on the right side four inches from the spine The bullet must have traversed both lungs and the vertebral column as there was complete paraplegia from the umbilicus downwards I advised, of course, against operation The man presented on his chest and both arms splendid examples of tattooing Poor fellow!

CASE 2—The bullet entered just at the acromion process of the right scapula, it must have traversed both lungs, as it emerged on the left side on a level with and two inches from the last dorsal spinous process He had slight hæmoptysis, but no other symptoms whatever, and is doing quite well

CASE 3—This man was lying down when shot The bullet first passed through his helmet, then entered at the superior internal angle of the left scapula, and emerged opposite the middle of the sixth rib on the same side There was slight hæmoptysis, which has passed off. He feels, he says, quite well and apparently is so.

CASE 4.—The entrance wound was through the middle of the right deltoid. The exit was opposite the tenth dorsal vertebra one inch to the right of the spine. There was much pain and dyspnœa but no hæmoptysis. His general condition was otherwise favourable. The treatment was expectant.

CASE 5.—The entrance wound was through the right infraspinous fossa below the centre of the spine. The exit was on the left side below the last rib in the mid-axillary line. No symptoms of any kind have shown themselves.

CASE 6.—The entrance wound was in the third intercostal space, on the left side, in the anterior axillary line. There was no exit wound. There was some dyspnœa which subsided. is doing well.

CASE 7 —The entrance wound was in the third intercostal ace, three inches from the right margin of the sternum. ne bullet emerged two inches below the inferior angle of ie right scapula. The man ran 500 yards after the injury. here was slight hæmoptysis, but no other symptoms. He s doing quite well.

CASE 8 —The entrance wound was just beneath the right coracoid process, but the bullet was cut out from beneath the skin in the opposite lumbar region, where a large hæmatoma was present He is getting on quite well. No other external injury can be found and it is supposed the hæmatoma and bruising may possibly be the effect of a shell explosion. There were no chest symptoms.

CASE 9.—The entrance wound was beneath the anterior fold of the right axilla. The exit was at a precisely corresponding point on the left side. He had hurried respiration, but the pulse and temperature were normal. There was no hæmoptysis. He is apparently doing well.

CASE 10.—The bullet entered at the tenth rib, four inches from the spine on the right side. The rib was fractured at the point of entrance. There was no exit. There were no symptoms with the exception of a little pain and cough on movement, accompanied by some hæmoptysis.

WOUNDS OF THE ABDOMEN.

CASE 1.—I was sent for last night after my return by Major Kirkpatrick (senior medical officer of No. 4 Stationary Hospital) to see a case of abdominal injury. A bullet had entered on the left side, behind, about two inches vertically above the posterior-superior spine of the ilium. There was no exit wound. The poor fellow had been wounded some hours before and was now lying with a tense abdominal wall and suffering much pain. I advised exploration. There was evident incipient peritonitis, but nothing to indicate in which direction the bullet had travelled. Major Mallins performed the operation and I assisted him. He made a median incision below the umbilicus. After opening the abdomen a slight fæcal odour was perceived. The pelvis was full of fluid blood and on handling the intestine gas bubbled through the blood. After careful search two wounds were found about one and a half inches apart in the ileum. These were closed by Lembert's sutures applied in the long axis of the bowel. No other lesion could be discovered. Saline washing out afterwards and closure of the external wound were performed This morning the condition of the man was favourable. The operation was done in a tent with a very poor candle light and under all the difficulties incidental to the situation. Major Mallins performed the operation with much care and in quite an admirable manner In the first operation in this hospital, I hope the man may recover, but nothing could be seen of the bullet, and it may have caused further injury.

(After doing well for two days collapse set in and death followed.)

CASE 2.—The entrance wound was just below and external to the anterior superior spine of the ilium on the left side. The exit wound was at a corresponding point on the right side. Apparently it was an intestinal injury. The man had peritonitis and his condition precluded any operation. There was no blood in the urine when drawn off.

CASE 3 —The entrance wound was below the ninth right costal cartilage. The exit wound was near the first lumbar spine close to the spinal column on the same side. There were no symptoms.

CASE 4.—The bullet entered opposite the last dorsal vertebra, a short distance from the spine on the left side, and emerged at the anterior superior spine of the ilium on the right side. There were no symptoms.

CASE 5.—The bullet entered one inch from the spine on the right side at the level of the tenth dorsal vertebra. There was no exit wound. He walked about 20 yards to a ditch. Paralysis of the left lower limb followed in the night and great pain down the back of the thigh. The pain was now gone and paralysis only remained in the foot. The treatment was expectant.

CASE 6.—The bullet entered at the margin of the right rectus muscle on a level with the ninth rib. The exit was close to the spine, immediately above the posterior superior spine of the ilium on the right side. Peritonitis had set in and the man's condition was already hopeless. No operative interference was justifiable.

CASE 7.—The entrance wound was one inch above the right posterior-superior spine of the ilium. The exit was in the semilunar line at the level of the umbilicus on the left side. There were no symptoms. The treatment was expectant.

CASE 8.—The bullet entered just to the right of the last dorsal vertebra There was no exit wound. There was paresis of the lower limbs The abdomen was rigid. Peritonitis was present. No operative interference was warranted.

CASE 9 —This was the case of a young officer. The entrance wound was one inch above and one inch to the inner side of the left anterior-superior iliac spine. The exit wound was at the sacro-iliac articulation. There were wounds of the rectum and of the sigmoid flexure, compound fracture of the forearm, and shell injury to the knee, joint probably unopened. He was too ill for operation and died at midnight, Dec 16th–17th.

CASE 10.—The entrance wound was over the eighth rib in the mid-axillary line on the right side. The bullet was cut out at a point one inch to the right of the first lumbar spine. Both wounds have healed. There were cough and slight hæmoptysis. There were very severe hæmaturia and blood in the stools which still exist to a certain extent. The last urine was much clearer. The temperature three days after injury was 101° F (evening). There was also a flesh wound through the supinator muscles of the right forearm, high up. Two days later there was a steady improvement.

WOUNDS OF THE LOWER EXTREMITIES.

CASE 1.—The entrance wound was at the middle of the thigh anteriorly. There was no exit wound. The femur was fractured. Splints were applied.

CASE 2.—This was a large shell-wound of the right hip. A mass of flesh of the size of a cocoanut was gouged out between the tip of the trochanter and iliac crest, which was extensively fractured The anterior portion of the ilium was also comminuted. I found the femur intact, but the upper surface of the hip-joint was laid bare, and the capsule was apparently intact I removed a large piece of the ilium and left another fragment which was attached. The wound was stuffed. The surgeon in charge was contemplating amputation at the hip joint, which I dissuaded him from as it did not appear to me to be indicated I saw this man in the base hospital on Dec. 19th, doing quite well, and the hip joint apparently intact. His temperature was normal.

CASE 3 —A poor fellow received a gunshot wound on the outer side of the middle of the thigh. This caused a comminuted fracture of the femur, and when I saw him to day there was a dark patch of gangrene on the outer side of the leg. There was no exit wound. I advised amputation close to the seat of fracture. The limb was much swollen and infiltrated and the artery was obliterated. At the invitation of Major Mallins I amputated the limb, and on examination the lower third of the femur was found to be very extensively shattered and the femoral artery was torn across just as it passed through the opening in the adductor magnus, probably by a sharp fragment of bone which was found projecting at this spot This was the first amputation performed in the hospital, and I preserve the specimen as a good example of its kind for presentation to the Royal College of Surgeons of England by its President. Two days later the man was doing quite well.

CASE 4 —A man arrived this evening shot through the foot. The bullet had traversed the instep from above downwards and forwards, and was firmly impacted in the sole of his boot. It had just gone through the sole, which was very thick, starting a nail and just showing the nose of the bullet outside, while inside the boot the bullet projected a quarter of an inch above the sole.

bullet entered two and a half inches below the left tibial tubercle on the inner side. The exit wound was at the back of the calf at the same level, passing through the tibia. 24 hours later there was no pain—the man could stand on his limb if he tried and there was certainly no complete fracture. He lay eight hours on the battle-field.

CASE 6.—A bullet entered the middle of the thigh anteriorly and emerged at the upper part of the popliteal space in the median line. A gangrenous patch had formed on the dorsum of the foot and over the external malleolus. The popliteal artery had no doubt been damaged. The patient is in perfectly good condition, with a normal temperature, and says that he feels nothing the matter with him. The general circulation in the limb is re-established. I advised waiting for a clearer definition of the limits of the gangrene. There is just a chance that a Syme's amputation might be performed, but it will be more probably necessary to amputate below the knee-joint.

Those wounds which I saw but a few hours after they were inflicted were all quite small at both the entrance and exit apertures. There was no hæmorrhage and nearly all had become sealed up spontaneously. The rapid manner in which they heal, or close up, rather, under a scab, is quite extraordinary. I have not seen any suppuration and external hæmorrhage is quite exceptional. What causes me never-ending surprise is the number of wounds traversing the lung, and in many instances both lungs, without causing greater inconvenience than temporary and insignificant hæmoptysis, and often not even that. Another feature is the number of abdominal wounds in which no serious consequences have taken place, wounds in which from the direction taken by the ball (which may be assumed to be a straight course from the entrance wound to the exit wound) it is impossible to conceive that the visceral contents have escaped perforation, and in which, nevertheless, no serious consequences arise. It may be that the opening in the intestine is so small that it closes up, as the external wounds certainly do, without allowing extravasation to occur. In three instances in which I saw wounds of the intestine of this sort after laparotomy it appeared to be quite conceivable that this could actually happen and that it does happen. Either mortal damage is inflicted, in very many instances, when no operation is feasible, or the injury is recovered from without inconvenience to the sufferer. The most extraordinary head wounds with damage to the brain seem also in many instances to entail no mortal results.

Pietermaritzburg, Dec. 20th, 1899.—The notes of the cases ollowing were taken at Pietermaritzburg on Dec. 20th. They re of cases wounded at the battle of Colenso on Dec. 15th.

HEAD INJURIES.

CASE 1.—The entrance wound was in the middle line of e nape of the neck, opposite the third cervical spine. The xit wound was on the left cheek, one inch external to the a of the nose and on the same level. The superior maxilla as fractured and the upper molar teeth on that side were slodged.

Second wound in the same case.—The entrance wound was o inches above and 1¼ inches behind the tip of the left ochanter major. The exit was one inch below the fold of e right buttock and one inch behind the femur. There re no symptoms.

CASE 2.—The entrance wound was in the right coronal ure, one and a half inches from the median line. e bullet passed through the left side of the palate opposite second molar tooth and was cut out of the neck on a el with the hyoid bone in a line with the angle of the r. The wounds healed. No symptoms were present and ound the man walking about against orders. The sight he right eye is impaired, definition is absent but vision is lost. He said that he felt perfectly well and did not see y he should be kept in bed.

ASE 3.—The entrance wound was one inch in front of the t parietal eminence. The exit wound was at the erior curved line of the occipital bone on the right side and a half inches from the middle line. There were ptoms of cerebral irritation present. The skull was ined at the entrance wound and small pieces of bone picked out and some brain substance was removed. hing was done at the exit wound. The symptoms were ved by the operation. The pulse was slow (50 per te). There was no headache. He also had walked against orders, saying that he felt so well and had so little the matter with him. The grasp of the left hand was not so strong as the right.

CASE 4.—The bullet entered through the right side of the lower lip about three-quarters of an inch from the free border and became lodged in the lower jaw at the situation of the second premolar tooth on the same side. The bullet is still there and a radiograph taken indicates the situation. There is nothing of special interest about this, for all cases of bullets lodged in doubtful situations are radiographed.

CASE 5.—The bullet entered opposite the midpoint of the sagittal suture and one inch to the right of the median line. The exit was apparently through the lambdoidal suture two inches to the right of the median line and two inches above the superior curved line. There was some vomiting at first, but this soon disappeared. The bullet was found on examination to be tightly wedged in the exit wound, having only in part emerged from the skull, the point projecting through the skull. It was removed with some small portions of bone. The entrance wound was left alone. Five days after injury the temperature was normal; both wounds had healed, and the patient was doing well.

CASE 6.—The entrance wound was a little internal, and one inch anterior, to the left parietal eminence. Another wound, probably the exit wound, was one and a half inches above the left zygoma and half an inch anterior to the pinna of the ear. It may be a second wound but probably is not; there is no other. Five days after injury the pupils were very dilated, but equal; there was facial paralysis on the right side; the right arm was paralysed, but the paralysis was diminishing; the right leg was also slightly paralysed, but was now recovered. No operation has been performed up to date, as the patient seemed to be improving. The pulse was 54. He cannot speak properly, but his intelligence appears to be normal. His general condition is not quite satisfactory, however.

CASE 7.—The entrance wound was one inch anterior to the right parietal eminence and one inch nearer the middle line. The exit was slightly to the left and just above the occipital protuberance. On admission the patient was drowsy. His pulse was 56. There were occasional attempts at getting out of bed. There was no paralysis, but he was very irritable. An incision was made four days after the battle over the entrance wound. A depressed fracture was found about one inch in length with fissuring extending towards the exit wound. He was trephined at the entrance wound. One day after operation he could speak; his pulse is now about 70 and there is no paralysis.

CASE 8.—Before admission to the hospital at Pietermaritzburg this patient had already been trephined. The left pulse could hardly be felt but the right one was very strong. A piece of bone had been removed over the left parietal eminence where the entrance wound was situated. The exit wound was situated at the junction of the parietal and occipital bones near the apex of the lambdoid sutures and a little to the left. There was paralysis of the right arm. The pupils were dilated but equal. He is now perfectly intelligent (five days after the injury) but can remember nothing before the operation. There is no facial paralysis, but he cannot whistle quite distinctly. There is no leg paralysis.

WOUNDS OF THE ABDOMEN.

CASE 1.—The entrance wound was two and a half inches to the left of the spine of the eleventh dorsal vertebra. The exit wound was just to the left of the middle line of the abdomen and three and a half inches below the ensiform cartilage. The wounds healed. There were no symptoms.

CASE 2.—The bullet entered the left buttock at the level of the great trochanter and two inches behind it. The exit wound was two inches vertically above the tip of the right trochanter. Blood was passed in the urine for three or four days, but this has entirely ceased. There is no blood in the stools and no other symptoms. The patient is doing qui well.

CASE 3.—The entrance wound was at the posterio superior spine of the right ilium. The exit was throug the eighth intercostal space in the posterior axillary lin on the same side. There were no symptoms. The wound closed. The patient is convalescent.

CASE 4.—The entrance wound was two [illegible]
half an inch internal to the right nip [illegible] ve and
was just to the right of the median [illegible] d
inches below the ensiform
there

Second wound.—A bullet passed through the right instep from above, downwards, and inwards. These wounds are also closed.

CASE 5.—This patient presented three wounds. The first was about two inches above the lower angle of the left scapula and half an inch external to it. The second was at the lower fold of the right buttock three and a half inches from the anus. The third was half an inch anterior to the anus in the middle line of the perineum. He complained of soreness down the left side of the body and dyspnœa. Constipation was present but this has been remedied by enemata There is no blood in the stools. There is pain on micturition, but no blood in the urine. The wounds have healed with the exception of the perineal one, up which a probe can be passed for one and a quarter inches. There is no hæmoptysis. Abdominal pain is doubtful; there is no tenderness. No urgent symptoms are present. The man seems to be recovering. No bullet has been localised.

CASE 6—The bullet entered one inch above and one and a half inches to the right of the umbilicus. There was no exit wound. The patient complained of slight pain running round the right side but there were no other symptoms whatever. The wound healed. The patient feels well. He will be radiographed to search for the bullet.

CASE 7.—In this patient there was a jagged wound over the left fifth rib in the anterior axillary line. He stated that half his brace buckle was carried away. There was no exit wound. There was at first hæmoptysis, but this has disappeared. There are at present dyspnœa and cough, and much pain on coughing. He suffers great pain at night and requires morphia. He will be radiographed. The wound is probably not penetrating.

WILLIAM MACCORMAC.

(FROM OUR WAR CORRESPONDENT.)

I have already drawn attention to the large number of wounded soldiers sent down to Wynberg, completely filling No. 1 and No. 2 General Hospitals, say to the extent of 1200 or more cases, taxing the resources of the establishments to their uttermost. Hence it became necessary to increase the number of general hospitals in the district. A third one has been brought into requisition. No. 3 General Hospital has been established at a very pretty place called Rondebosch, some three or four miles nearer to Cape Town. The camp, composed of tents, has been pitched on a grassy piece of land to the right of the Diocesan College, and has been laid out and equipped in a most satisfactory as well as expeditious manner. It should provide cot accommodation for another 500 cases. Lieutenant-Colonel Wood is principal medical officer and Major Keogh acts as secretary and registrar. After quitting the train at Rondebosch station by the Sandown road a walk of about 15 minutes brings one to the camping ground, on which are noticed the white tents to the right hand. The lines of hospital marquees cover a considerable extent of ground, which *locale* has been admirably chosen for the purpose owing to the comparatively level surface of the ground. At the bottom of this open space there runs a broad hard road, while a similar vehicular way is preserved in front of the hospital separating the tent of the officers and staff from the marquees below them. Large consignments of stores are observed lying about in various directions all covered with tarpaulins. These will soon be stowed away in appropriate quarters as soon as the tents or huts are ready to receive them. One of the canvas erections has been selected for dispensary purposes and within its walls may be observed any amount of medicines, drugs, disinfectants, surgical appliances, and antiseptic requisites. The quartermaster's store merits a share of attention, for within it are innumerable cases containing goods, as well as luxuries, the gifts of Lady Buller, who seems to have put her sympathy into practice by contributing a considerable share of the comforts to be found in No. 3 General Hospital. When one observes in an adjoining store the quantity of linen, hardware, crockery, &c., which is piled tier upon tier, it becomes plain to the most obtuse that little has been forgotten in equipment, and No. 3 may be well bracketed, as far as excellence of arrangement is concerned, with the two Wynberg hospitals.

At one quarter of the canvas town are two fairly-sized marquees set aside for the use of the nursing sisters, who entered upon their duties about the middle of the present month. I am given to understand that their staff is quite inadequate and incomplete, owing to six of their number having been sent round to the Natal side. No doubt these will return to Rondebosch when the wounded cases come down and their services are required. Behind the stores is located the operating-room, a canvas erection of course; as it is somewhat small for the purposes intended it will possibly be superseded before long by a larger and more substantially built structure. Instruments, operating table, and every other requisite appertaining to a minor theatre being fully in evidence conclusively prove how thorough have been the exertions of those who have had the fitting out in hand.

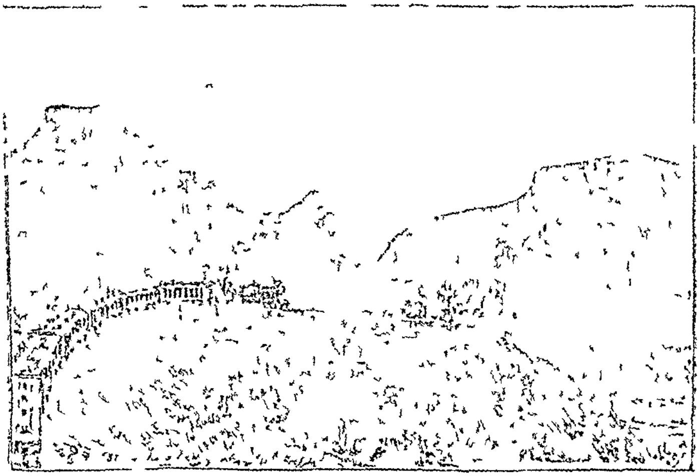
At any period in any campaign infectious diseases, more or less acute, must be looked for and have to be provided against. Hence the necessity of erecting an infectious ward which has been located away and apart from the other tents. The hospital marquees contain the usual number of cots. They are well ventilated and provided with tables, mess receptacles, and other conveniences necessary to a sick room. The ground is covered with tarpaulin, which can be easily cleaned or even removed at will. The soil on which the hospital tents are erected is a light sandy loam. Here great difficulty has been experienced in getting the tent pegs to hold, and no doubt, as at No. 2 Hospital, long iron pegs will have to be substituted for the shorter wooden ones.

Nothing gives a poor sufferer more comfort than a cheerful look-out. He has it at Rondebosch, at any rate, for a more charming and picturesque view could scarcely be imagined. The wounded can lie in their verandah chairs and look upon Table Mountain with its flattened top and enjoy one of the loveliest bits of mountain scenery it is possible to imagine. The temperature during the day is high, the thermometer registering as much as 86° F. in the shade; but there is no moisture to render it oppressive or unhealthy, and as the heat declines with the sinking of the sun the evenings and nights are delightfully pleasant and cool.

A trip to the front must now be referred to. Having duly received my permission to accompany the hospital train I proceeded to the old military hospital at Woodstock, one and a half miles from Cape Town railway station. This was originally intended for the reception of some 80 or 90 patients, but in consequence of the increased demand made by cases arriving from the shipping in the bay and medical cases coming from other quarters, the accommodation has been so much enlarged that upwards of 300 cases are at present treated within its walls. Colonel Supple, R.A.M.C., received me most kindly. To him and his assistants, as well as to Professor Stevenson and Major Conner, R.A.M.C., the hospital train owes the very efficient and highly successful manner in which it has so far been worked. There has been no delay, no breakdown, and everything up to the present has run smoothly, proving that in this special department at any rate the right men have been selected for the right places.

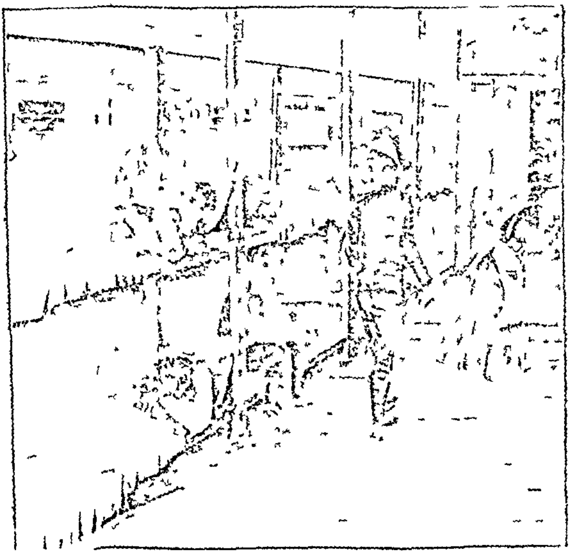
Our train was timed to leave Woodstock about six and within a few minutes of that hour we had quitted. On board the train were the following:—Major Russell, R.A.M.C., in charge; Civil Surgeon Gilbert, second in command; myself, Sister Rose Innes and Sister De Montmorency, two civil cooks, an engine driver and staff, together with several orderlies, men of the Royal Army Medical Corps; the conductor or guard being a Mr. Southgate, an employé of the Cape Town railway staff. Evening was fast closing in by the time we reached D'Urban Road Junction, so that there was little opportunity of noticing the character of the surrounding country through which we travelled, but an appreciable ascent was noticed. Between 9 and 10 P.M. we reached Wellington and took aboard a fresh supply of water. Our arrival had evidently been anticipated, for several ladies and gentlemen were on the platform laden with fruit, flowers, and eggs which were handed to the Sisters for consumption by the sick and others on the train. Such spontaneous and profuse liberality on the part of the inhabitants needs only to be chronicled to be the more highly appreciated by friends and relatives in the mother country. As we ascended the course of the Hex river and were nearing the table land of De Doorns, some 1566 feet (see Fig. 1) above sea-level, the scenery was exquisite, a clear bright moon illuminating the flat-top ridges and intervening valleys for miles around. At this altitude the air was quite

FIG. 1



Stony character of ground traversed by hospital train while bringing down wounded to Wynberg

FIG. 2



chilly, so much so that at midnight I was glad enough to turn in. Although the lines of rails are laid on a stony bed the oscillation was not by any means excessive, the vibration being reduced to a minimum by the use of first-class waggons and a combination system of springs.

The next morning proved to be a regular scorcher. An unclouded sky with an intensely bright sun, and not a breath of air to ruffle the delicate leaves of the mimosa trees which grow in profusion by the wayside, prepared us for a regular "brickfielder" which as the day wore on gradually made itself painfully felt. The hot air blew in scorching blasts upon our faces and hands, and it was with no inconsiderable pleasure that we saw dark, thunder-looking clouds gather on all sides, threatening rain, and the inrush of a cooler column of air. But in spite of the gathering gloom not a drop of rain fell, nor did any sensible reduction of the oppressive temperature take place. De Aar Junction was reached about 6 30 P.M., where there is a large camp. The Queensland contingent, which has been encamped here some days, moved northward this afternoon. From an officer I learnt that all the men were very fit and anxious to get into touch with the enemy. De Aar is 4180 feet above sea-level; but the water is said to be somewhat indifferent, and to its use some minor enteric local ailments are (very probably incorrectly) attributed. About midnight our train was once more *en route* for the Orange River, which station was reached about 6 A.M. the following morning. We had now reached a spot within measurable distance of our foe, for at 12 miles off the place where these notes were jotted down our patrol was fired on by the Boer scouts and one or two English officers and some men were shot. A very large force, therefore, is concentrated at this township. All water is drawn from the Orange river which runs as a light-coloured muddy stream to the northward of the railway station. The fluid is fairly good, and although discoloured by earthy matter is quite fit after boiling for drinking purposes. The train on the passage up did the journey at the rate of about 26 or 27 miles an hour, including all stoppages. At all the stations up and down presents of milk, flowers, eggs, and fruit were made by kindly-disposed sympathisers.

The general daily routine observed on board the hospital train (Fig. 2) was as follows: Rise at 5 30 A M; at 6, clean wards and utensils; at 7, breakfast; at 8, clean and scrub wards; at 11, parade in both wards, after which the medical officer inspected all parts of the train, the various orderlies being at their respective posts, after which patients' wounds were dressed and attended to. We took down 96 wounded in the train. At 1 P M, nner; at 3 the wards were again cleaned up; at 4 ie medical officer in charge again inspected all ompartments, at 5, tea. Three orderlies attended in ach ward, being two hours on and four hours off duty. During loading and unloading of wounded each attendant is told off to a definite post. There is a civilian cook and assistant cook supplied to every train No stimulants as a ration are supplied. An extra allowance ranging from 4*d* to 8*d* daily in addition to the usual pay is sanctioned to every attendant.

Visiting the Orange River Camp on Sunday I learnt that on the day when we felt the heat so oppressive on our way up the thermometer in single-fly tents there had registered the temperature as *115° F. in the shade*, whilst in the double-fly tents it stood only some nine degrees lower. — Of the 96 cases received from the Orange River Camp the greater part were of a very serious character, principally gunshot wounds. There was one serious case of dysentery which terminated fatally a day or two after arrival at Wynberg.

Mr. Makins was a passenger with us on our return trip from the front to Cape Town. He has performed two operations for perforated colon successfully, but all the cases of perforated smaller intestine have succumbed after the operations were concluded

All the advanced field hospitals have been cleared of their wounded and sick Should an advance in force be decided on a clean slate must be exhibited by the principal medical officer accompanying that advance. Nothing would hamper any general more than having to carry his wounded and sick about with him. Casualties are expected and must be, of course, provided for, and already provision has been made both in the hospitals at the base and at the front for the reception of some 3000 more wounded and sick should the resources of these hospitals be unfortunately called into requisition. I enclose a sketch of the interior of the hospital trai [illegible] arranged, also another of the train rounding [illegible] when descending the Hex mountain.

I have to thank Major Russell, Civil Surgeon Gilbert, and Sister Rose Innes and Sister De Montmorency for especial courtesy and attention all the way up and down my long trip of 1200 miles.

Wynberg, Dec. 25th, 1899.

(FROM OUR SPECIAL CORRESPONDENT AT THE BASE.)

I mentioned in my letter of last week that the course taken by some of the bullets was little less than marvellous and I think the following case will bear out what I said. A man was shot at the Modder river engagement. The bullet entered a little above and to the right of the occipital protuberance, causing a "gutter fracture", and driving finely comminuted fragments of the inner table into the dura mater and occipital lobe, lacerating and contusing the cerebellum much; it then passed through the deep muscles of the neck and the space enclosed by the first rib, chipped fragments from the second and third dorsal vertebræ, driving them into the lung; then it grooved the eighth and ninth ribs, smashed the tenth and eleventh ribs, found an exi under the twelfth rib, passed through the deep muscles, an was discovered resting on the crest of the ilium. Th man lived for some days after coming to the hospit and he bore the journey down here well. Anoth interesting case was one in which the bullet entered a li above the posterior angle of the right scapula and emer through the left malar bone. The patient was little worse for his injury and the case opens up an interes problem for the anatomist as to what important struc escaped injury in its course. The man was in a [illegible] position when he was shot.

The last batch of wounded from Colenso is composed of not very serious cases and the patients are progressing favourably Several cases of sunstroke have been coming down from the front, and all are agreed that the felt wideawake used by several of the colonial corps is not an adequate protection from the sun during this season of the year, and the sooner the Wolseley or Indian helmet is made *de rigeur* the better. The wounded officers in hospital number to day 64, exclusive of convalescents sent to the sanatorium at Claremont. Up to date they are all progressing favourably and we have been able to send several back to the front. A large consignment of wounded officers and men have left for England in the *Pavonia*, mostly cases that will require extended treatment at Netley.

The instances where large arteries have been wounded and traumatic and diffuse aneurysms have resulted have been on the increase. During the past week several have been operated upon and it still remains a moot question whether ligature of the artery above the aneurysm or cutting down directly on it and turning out the clots and securing the bleeding points gives the best result; both procedures have been tried and I am inclined to favour the latter when possible. Fractures of the femur from bullet-wounds still occupy a great deal of our attention and their progress as a rule is very slow, but I am glad to say that the results as a whole are good and that the amount of shortening has been slight. One or two of these cases in which the patients had remained for some time on the field before being brought in have been received in a septic state and have done badly. Very few abdominal cases have been sent down, but those that have are on the high road to convalescence, in particular one in which the bladder was also wounded, in which the patient has done well and has been sent to Netley. There is again a lull in the proceedings, no fighting except a few skirmishes having taken place since the Colenso battle. No. 4 General Hospital is to be established at De Aar and is to leave Cape Town in a few days.

Everyone was much distressed at the news of the death of poor Hughes, R A M.O., and his loss will be especially felt by General Buller on whose staff he was. It was only a few weeks ago that he was going round the wards here and taking the greatest interest in the various cases. I am glad to say that Lieutenant Douglas, R.A.M C., who was wounded at Magersfontein is nearly well. He had a very narrow escape I hear that he has been specially mentioned for his bravery under fire

I cannot help thinking that in future campaigns where the modern arms of precision are used it will be necessary to augment considerably the capacity of the present general hospitals both for officers and men The fact that accommodation in a general hospital as regards officers is limited to 25 cases points *to a total inadequacy to the requirements* I consider that an officers hospital of at least 100 beds should be a *sine quâ non*

The hospital ships are working well, but up to date we have not been able to record the arrival of the *Princess of Wales* Her advent will be welcomed, as we have several cases fit for the voyage but which cannot be sent by an ordinary transport

Wynberg Dec 27th 1899

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on Jan 11th, the Senior Vice President, Mr. H G HOWSE, being in the chair

Mr William Anderson, Mr Herbert W Page, and Mr Bernard Pitts made declarations in the terms of the oath prescribed by the Charter of 1800 and were admitted members of the Court of Examiners

The SENIOR VICE PRESIDENT reported that Mr Watson Cheyne had accepted an appointment as a consulting surgeon to the British forces in South Africa and had left England for the seat of war The Council expressed their cordial approval of Mr Watson Cheyne s patriotic action and granted him leave of absence for more than four consecutive meetings of the Council, according to the by laws

The SECRETARY reported the death on Dec 30th, 1899 at the age of 85 years of Sir James Paget, Bart, D C L, LL D, F R S, past President of the College, and stated that the College was represented by the Vice President and several members of Council and officials at the funeral service in Westminster Abbey

The following vote of condolence was carried —

> The Council hereby express their deep regret at the death of Sir James Paget Bart, D C L LL D F R S and their very sincere sympathy with his family in their loss The Council gratefully remember the many services rendered to the Royal College of Surgeons by Sir James Paget during his long association with it and they desire to record their appreciation not only of his eminence as a surgeon his ability as a teacher and his grace and eloquence as a speaker but also of his admirable personal character which won for him the warm regard of all who knew him The Council believe that no member of the surgical profession more fully enjoyed the confidence and esteem of his colleagues, they are assured that his loss will long be felt, and that his name will ever be placed in the foremost rank of those who have done good in their time and brought honour to their profession

The Council, on the recommendation of the Committee for General Purposes, directed the following reply should be sent to the mover and seconder of the fourth motion carried at the annual meeting of Fellows and Members in November —

> That as the date of the annual meeting of Fellows and Members is announced in the College Calendar and regularly advertised in the principal medical journals and as it is made known that any Member of the College may on application receive a copy of the annual report the Council are of opinion that sufficient notice is given of the meeting and that it is not necessary or desirable to further notify the date of the meeting or send a copy of the report through the post as suggested in Resolution No IV passed on Nov 16th, 1899

The Council decided to recognise for one year Cooke s School of Anatomy, Physiology, and Operative Surgery for the performance of the extra six months' dissections required for the Primary Fellowship Examination

The Council proceeded to consider a report from the Discipline Committee on the resolution carried at the annual meeting of Fellows and Members in November asking for a pronouncement of the Council that the acting as medical officer for a medical aid association was contrary to the declaration made by Fellows and Members on their admission The following motion was carried,

> The Council strongly disapprove of Fellows or Members of the College associating themselves with medical aid institutions which systematically canvass and advertise for the purpose of procuring patients.

This resolution was directed to be sent to the mover and seconder of the motion referred to

On the recommendation of the Discipline Committee it was resolved to send the following letter to the General Medical Council

> The Council of the Royal College of Surgeons of England have to inform the General Medical Council that their attention has from time to time been called to the conduct of certain persons whose names are entered on the Dentists Register with the description "In practice before July 22nd 1878.
>
> The persons in question adopt such titles and descriptions as R D S, L S C Eng, 'R D S Eng, L D S I, 'Registered by the Royal College of Surgeons thereby causing it to be inferred that they are connected with this College or the Scotch or the Irish College of Surgeons and thus infringing the privileges of the Licentiates in Dental Surgery of these Colleges
>
> The Council are of opinion that such conduct should be considered disgraceful conduct in a professional respect and that the persons in question should be deemed to have rendered themselves liable to removal from the Dentists Register under Section 13 of the Dentists Act, 1878
>
> The Council desire to call the attention of the General Medical Council to an advertisement wherein a dentist who is on the Register because he was in practice before July 22nd 1878, is described as R D S E. (Registered by the Royal College of Surgeons) Surgeon Dentist.
>
> The Council have to state that this gentleman is not a Licentiate in Dental Surgery of the Royal College of Surgeons of England, and they beg to request that the General Medical Council will cause inquiry to be made as to whether he is a Licentiate in Dental Surgery of the Royal College of Surgeons of Edinburgh and if it should be found that he is not, that the General Council will then call upon him to cease using a description implying that he is a Licentiate in Dental Surgery of one of those two colleges
>
> The Council further trust that the General Medical Council will take steps to make it known that the use of such misleading descriptions by persons registered under the Dentists Act will in future be regarded as 'disgraceful conduct in a professional respect and will render those using them liable to have their names erased from the Dentists Register under Section 13 of the Dentists Act 1878.

Mr William Anderson was elected a Member of the Board of Examiners in Dental Surgery

A letter was read from Mr J N C Davies Colley, resigning, owing to ill health, his membership of the Court of Examiners The resignation was accepted and the Council expressed their sympathy with him in his illness

The SENIOR VICE PRESIDENT said that the vacancies on the Court of Examiners and on the Board of Examiners in Dental Surgery thus occasioned would be filled up at the Ordinary Council on Feb 8th

The VICE PRESIDENTS announced that they had appointed Mr N C Macnamara Hunterian orator for 1901

The SECRETARY placed before the Council the new supplemental Charter under the Great Seal dated Dec 22nd, 1899

A letter was read from Mr Thomas Bryant reporting the proceedings of the General Medical Council at their late session, and the thanks of the Council were given to Mr Bryant for his services as the representative of the College on the General Medical Council

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN 33 of the largest English towns 7128 births and 6474 deaths were registered during the week ending Jan 13th The annual rate of mortality in these towns, which had increased from 18 9 to 30 9 per 1000 in the six preceding weeks, declined again last week to 29 1 In London the rate was 33 3 per 1000, while it averaged 26 3 in the 32 provincial towns The lowest death rates in these towns were 15 6 in Burnley, 16 1 in Cardiff, 17 5 in Huddersfield, and 17 7 in Oldham, the highest rates were 34 6 in Liverpool, 37 4 in Croydon, 43 6 in Norwich, and 44 9 in Nottingham The 6474 deaths in these towns included 453 which were referred to the principal zymotic diseases, against 578, 623 and 506 in the three preceding weeks; of these 142 resulted from measles, 105 from whooping cough, 89 from diphtheria 56 from "fever" (principally enteric), 31 from diarrhœa, 27 from scarlet fever, and three from small pox No fatal case of any of these diseases occurred last week either in Derby or in Huddersfield, in the other towns they caused the lowest death rates in Brighton, Birkenhead and Burnley, and the highest rates in Wolverhampton, Salford, Preston, Blackburn and Sheffield The greatest mortality from measles occurred in Salford, Preston, Sheffield, Hull, and Sunderland; *from scarlet fever in* Blackburn, from whooping cough in Portsmouth, Wolverhampton, Leeds, and Newcastle, and from "fever" in Wolverhampton The 89 deaths from diphtheria included 49 in London seven in Sheffield, four in Leeds, and three in Portsmouth, in Bristol, in Swansea, in Leicester, and in Blackburn Three fatal cases of small pox were registered last week in Hull, but not one in any other of the 33 large towns There were 18 small pox patients under treatment in the Metropolitan Asylums

Hospitals on Saturday last, Jan. 13th, against five, seven, and eight in the three preceding weeks; 10 new cases were admitted during the week, against five, two, and one in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2560, against numbers decreasing from 3578 to 2730 on the eight preceding Saturdays; 180 new cases were admitted during the week, against 209, 161, and 186 in the three preceding weeks. Influenza was certified as the primary cause of 340 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had increased from 324 to 1221 in the eight preceding weeks, declined again to 994 last week, but were 260 above the corrected average. The causes of 79, or 1·2 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Cardiff, Leeds, and in 11 other smaller towns; the largest proportions of uncertified deaths were registered in Leicester, Liverpool, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 27·2 and 25·6 per 1000 in the two preceding weeks, further declined to 23·1 during the week ending Jan. 13th, and was 6·0 per 1000 below the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 20·5 in Dundee and 20·6 in Greenock to 24·5 in Leith and 34·6 in Paisley. The 711 deaths in these towns included 20 which were referred to measles, 16 to diarrhœa, 14 to whooping-cough, six to "fever," five to diphtheria, and four to scarlet fever. In all 65 deaths resulted from these principal zymotic diseases, against 85 and 64 in the two preceding weeks. These 65 deaths were equal to an annual rate of 2·1 per 1000, which was slightly above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of measles, which had decreased from 37 to 27 in the three preceding weeks, further [illegible] to 20 last week, and included 12 in Glasgow, four [illegible] Dundee, two in Paisley, and two in Greenock. The [illegible] from diarrhœa, which had been 17 in each of the two [illegible] weeks, declined last week to 16, of which seven [illegible] in Glasgow and three in Aberdeen. The fatal [illegible] of whooping-cough, which had been 17 and nine in the two preceding weeks, rose again to 14 last week, and included eight in Glasgow and two in Paisley. The deaths referred to different forms of "fever," which had been 10, six, and two in the three preceding weeks, rose again last week to six, of which four were registered in Glasgow. The fatal cases of diphtheria, which had been seven and three in the two preceding weeks, rose again to five last week, and included three in Glasgow, where three of the four deaths from scarlet fever were also recorded. The deaths referred to diseases of the respiratory organs in these towns, which had been 253 and 236 in the two preceding weeks, further declined to 203 last week, but were 47 above the number in the corresponding period of last year. The causes of 36, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 41·8 and 50·3 per 1000 in the two preceding weeks, declined again to 49·4 during the week ending Jan. 13th. During the past four weeks the death-rate in the city has averaged 46·0 per 1000, the rate during the same period being 33·9 in London and 22·2 in Edinburgh. The 331 deaths registered in Dublin during the week under notice were 6 below the number recorded in the preceding week, and included 31 which were referred to the principal zymotic diseases, against numbers decreasing from 72 to 18 in the eight preceding weeks. Of these 18 resulted from measles, five from "fever," three from diphtheria, three from diarrhœa, one from scarlet fever, and one from whooping-cough. These 31 deaths was equal to an annual rate of 4·6 per 1000, the zymotic death-rate during the same period being 2·0 in London and 0·7 in Edinburgh. The fatal cases of measles, which had declined from 24 to 10 in the three preceding weeks, rose again last week to 18. The deaths referred to different forms of "fever," which had been three, two, and five in the three preceding weeks, were again five last week. The three fatal cases of diphtheria were in excess of the average number in recent weeks. The deaths from diarrhœa, which had been five, one, and two in the three preceding weeks, rose again to three last week. The mortality from whooping-cough corresponded [illegible] preceding week. The 331 deaths in Dublin last week included 34 of infants under one year, and 108 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline from the numbers recorded in the preceding week. Six inquest cases and five deaths from violence were registered, and 110, or nearly a third, of the deaths occurred in public institutions. The causes of 13, or nearly 4 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING DECEMBER, 1899.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during December in each of the 43 sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 8·8 per 1000 of the population, estimated at 4,546,752 persons in the middle of the year. In the three preceding months the rates had been 11·2, 14·4, and 12·6 respectively. The rates were considerably below the average in Kensington, St. George Hanover-square, Westminster, Hampstead, St. Giles, and City of London; while they showed the largest excess in Fulham, Rotherhithe, Camberwell, Greenwich, Lewisham, and Plumstead sanitary areas. Six cases of small-pox were notified in London during December, two in Hackney, two in Limehouse, one in Shoreditch, and one in Whitechapel; eight small-pox patients were admitted into the Metropolitan Asylums Hospitals, and seven remained under treatment at the end of the month. The prevalence of scarlet fever showed a further decline from that recorded in recent months; among the various sanitary areas this disease showed the highest proportional prevalence in Fulham, Strand, Holborn, Greenwich, Lewisham, and Plumstead. The Metropolitan Asylums Hospitals contained 2797 scarlet fever patients at the end of December, against 2836, 3406, and 3343 at the end of the three preceding months; the weekly admissions averaged 197, against 342, 426, and 304 in the three preceding months. The prevalence of diphtheria showed a slight decrease from that recorded in the preceding month; this disease was proportionally most prevalent in St. Martin-in-the-Fields, Shoreditch, St. Saviour Southwark, Newington, Camberwell, and Plumstead sanitary areas. There were 1679 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of December, against 1479, 1687, and 1718 at the end of the three preceding months; the weekly admissions averaged 184, against 210, 258, and 227 in the three preceding months. The prevalence of enteric fever in London showed a very considerable decline from that recorded in the preceding month; among the various sanitary areas this disease showed the highest proportional prevalence in St. James Westminster, Shoreditch, Bethnal Green, Limehouse, Poplar, and Newington. The Metropolitan Asylums Hospitals contained 406 enteric fever patients at the end of December, against 252, 341, and 460 at the end of the three preceding months; the weekly admissions averaged 52, against 41, 58, and 76 in the three preceding months. Erysipelas was proportionally most prevalent in Fulham, St. Pancras, St. Giles, St. Martin-in-the-Fields, Bethnal Green, and Rotherhithe sanitary areas. The 24 cases of puerperal fever included two each in Kensington, Hammersmith, Hampstead, Islington, Hackney, Bethnal Green, Poplar, and Battersea sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the public institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the four weeks ending Dec. 30th the deaths of 9520 persons belonging to London were registered, equal to an annual rate of 27·3 per 1000, against 18·7, 18·5, and 17·6 in the three preceding months; this high death-rate was principally due to the prevalence of influenza. The lowest death-rates last month in the various sanitary areas were 15·6 in Hampstead, 17·4 in Stoke Newington, 20·7 in Lee, 21·0 in Hackney, and 21·5 in St. Martin-in-the-Fields; the highest rates were 34·7 in St. George Southwark, 34·8 in

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING DECEMBER, 1899.

(*Specially compiled for* THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1899.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small pox.	Scarlet fever.	Diphtheria *	Typhus fever.	Enteric fever.	Other continued fevers	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living	Small pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,546,752	6	1054	1105	2	443	1	24	423	—	3063	8·8	1	238	47	207	115	—	87	—	49	744	2·1	9520	27·3	187
West Districts.																										
Paddington	128,794	—	30	15	—	5	—	—	9	—	59	6·0	—	1	1	4	3	—	1	—	—	10	1·0	233	23·6	213
Kensington	172,899	—	23	20	—	9	1	2	16	—	71	5·4	—	6	1	3	—	—	2	—	1	13	1·0	333	25·1	231
Hammersmith	108,785	—	28	25	—	13	—	2	6	—	74	6·9	—	2	1	2	—	—	6	—	2	13	1·6	203	24·3	218
Fulham	130,720	—	48	43	—	18	—	—	22	—	131	13·1	—	28	5	6	2	—	1	—	2	44	4·4	297	29·6	223
Chelsea	96,721	—	20	13	—	6	—	—	8	—	47	6·3	—	7	1	1	1	—	3	—	3	16	2·2	210	28·3	229
St. George Hanover-square	80,876	—	15	8	—	3	—	—	7	—	33	6·3	—	3	2	3	6	—	—	—	1	15	2·4	146	23·5	154
Westminster	52,117	—	5	6	—	4	—	—	4	—	19	4·8	—	2	—	1	1	—	1	—	—	5	1·3	160	40·0	270
St. James Westminster	21,827	—	1	4	—	3	—	—	2	—	10	6·0	—	1	1	—	—	—	—	—	1	3	1·8	37	22·1	160
North Districts.																										
Marylebone	140,139	—	22	17	—	11	—	1	13	—	64	6·0	—	7	4	4	1	—	3	—	—	19	1·8	296	27·5	132
Hampstead	80,252	—	15	11	—	4	—	2	3	—	35	5·7	—	1	1	1	1	—	—	—	—	4	0·6	96	15·6	115
St. Pancras	244,548	—	34	55	—	23	—	1	36	—	154	8·2	—	6	1	9	5	—	4	—	5	30	1·6	572	30·5	225
Islington	348,065	—	76	45	—	36	—	2	22	—	181	6·8	—	11	3	18	9	—	9	—	1	51	1·9	753	27·6	189
Stoke Newington	35,187	—	9	4	—	2	—	—	2	—	17	6·3	—	—	1	2	—	—	—	—	—	3	1·1	47	17·4	133
Hackney	222,571	2	55	60	—	26	—	2	27	—	172	10·1	—	4	3	8	12	—	4	—	3	34	2·0	359	21·0	143
Central Districts.																										
St. Giles	37,196	—	4	2	—	4	—	—	6	—	16	5·6	—	2	—	1	—	—	1	—	—	4	1·4	77	27·0	211
St. Martin-in-the-Fields	12,142	—	—	4	—	1	—	—	2	—	7	7·5	—	1	—	—	—	—	—	—	—	1	1·1	20	21·5	500
Strand	23,016	—	8	3	—	—	—	—	2	—	13	7·4	—	1	—	1	—	—	—	—	1	3	1·7	61	34·5	281
Holborn	29,021	—	12	7	—	3	—	—	—	—	22	3·7	—	2	—	—	—	—	2	—	—	4	1·8	72	31·7	227
Clerkenwell	66,068	—	8	11	—	9	—	—	7	—	35	6·9	—	1	1	3	6	—	2	—	—	13	2·6	164	32·4	283
St. Luke	40,863	—	8	10	—	3	—	—	3	—	24	7·7	—	1	1	—	1	—	—	—	—	3	1·0	98	31·3	44
City of London	27,0[illegible]8	—	7	3	—	2	—	—	—	—	12	5·6	—	1	—	—	1	—	—	—	1	3	1·4	64	29·8	69
East Districts.																										
Shoreditch	121,071	1	13	43	—	17	—	—	16	—	89	7·6	—	3	4	8	4	—	2	—	1	22	2·4	282	30·4	152
Bethnal Green	129,038	—	20	19	—	24	—	2	22	—	87	8·8	—	6	—	6	12	—	5	—	1	30	3·0	302	30·5	220
Whitechapel	81,391	1	20	15	2	7	—	—	7	—	50	8·9	1	9	—	1	1	—	1	—	—	13	2·1	169	27·1	176
St. George-in-the-East	48,500	—	4	1	—	5	—	—	4	—	14	3·8	—	6	—	—	—	—	1	—	1	8	2·1	119	31·9	250
Limehouse	58,807	2	13	12	—	11	—	—	2	—	40	8·9	—	—	—	2	2	—	3	—	1	8	1·8	157	34·8	246
Mile End Old Town	113,161	—	17	36	—	14	—	—	9	—	76	8·8	—	4	1	6	4	—	—	—	—	15	1·7	233	26·8	130
Poplar	170,608	—	32	34	—	32	—	2	19	—	119	9·1	—	9	1	8	15	—	6	—	2	39	3·0	308	30·4	194
South Districts.																										
St. Saviour Southwark	24,207	—	5	8	—	—	—	—	2	—	15	8·1	—	2	—	1	—	—	—	—	—	3	1·6	53	28·5	148
St. George Southwark	60,636	—	12	26	—	4	—	—	4	—	46	9·9	—	4	1	4	1	—	—	—	2	12	2·6	161	34·7	176
Newington	124,106	—	27	53	—	18	—	1	13	—	112	11·3	—	11	3	5	—	—	5	—	4	28	2·9	329	34·5	213
St. Olave Southwark	11,036	—	2	4	—	1	—	—	—	—	7	8·2	—	—	1	2	—	—	1	—	—	4	4·7	34	40·0	267
Bermondsey	85,835	—	19	33	—	4	—	—	6	—	62	9·4	—	3	—	13	—	—	—	—	1	17	2·6	229	34·8	197
Rotherhithe	41,050	—	7	13	—	5	—	—	8	—	33	12·1	—	3	1	10	—	—	2	—	1	17	5·4	100	31·8	265
Lambeth	308,103	—	82	90	—	25	—	1	16	—	214	9·1	—	13	2	12	9	—	7	—	4	47	2·0	650	27·5	202
Battersea	174,093	—	33	30	—	21	—	2	17	—	103	8·0	—	38	2	8	4	—	4	—	1	57	4·4	363	27·0	204
Wandsworth	209,655	—	64	46	—	18	—	1	17	—	146	8·5	—	14	1	4	4	—	5	—	1	29	1·8	359	22·3	226
Camberwell	264,817	—	72	150	—	13	—	1	23	—	259	12·7	—	12	1	28	—	—	2	—	2	45	2·2	600	24·6	131
Greenwich	182,513	—	73	68	—	19	—	—	26	—	176	12·8	—	9	—	10	6	—	1	—	1	27	1·9	339	24·2	168
Lewisham (excluding Penge)	91,027	—	62	30	—	5	—	1	8	—	106	15·2	—	—	2	6	1	—	2	—	1	12	1·7	174	24·9	170
Woolwich	41,542	—	8	4	—	3	—	1	3	—	19	6·0	—	2	—	4	3	—	1	—	3	13	4·1	119	37·3	160
Lee	40,219	—	12	5	—	—	—	—	3	—	20	6·5	—	1	—	—	—	—	—	—	1	2	0·6	64	20·7	222
Plumstead	64,031	—	34	27	—	5	—	—	5	—	71	14·5	—	1	—	4	—	—	—	—	—	5	1·0	103	21·0	73
Port of London	—	—	—	—	—	2	—	—	1	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 21 cases of membranous croup.

Including deaths from membranous croup.

Limehouse and in Bermondsey, 37·3 in Woolwich, and 40 0 in Westminster and in St. Olave Southwark. During the four weeks of December 744 deaths were referred to the principal zymotic diseases in London; of these, 1 resulted from small-pox, 238 from measles, 47 from scarlet fever, 207 from diphtheria, 115 from whooping-cough, 87 from enteric fever, 49 from diarrhœa, and not one either from typhus or from any ill-defined form of continued fever. These 744 deaths were equal to an annual rate of 2·1 per 1000, against 3 4, 1·8, and 1·9 in the three preceding months. The lowest death-rates from these diseases last month were recorded in Paddington, Kensington, Hampstead, St Luke, Lee, and Plumstead; and the highest rates in Fulham, Bethnal Green, St. Olave Southwark, Rotherhithe, Battersea, and Woolwich sanitary areas. The fatal case of small-pox belonged to Whitechapel sanitary area. The 238 deaths referred to measles were slightly below the average number in the corresponding periods of the 10 preceding years; this disease was proportionally most fatal in Fulham, St. Martin in-the-Fields, Whitechapel, St. George-in-the-East, Newington, and Battersea sanitary areas. The 47 fatal cases of scarlet-fever showed a marked decline from the corrected average number; the proportional fatality of this disease was highest in Fulham, St. James Westminster, Marylebone, Stoke Newington, Shoreditch, and St. Olave Southwark sanitary areas. The 207 deaths from diphtheria were four below the average number in the corresponding periods of the 10 preceding years; among the various sanitary areas this disease was proportionally most fatal in St George Southwark, St. Olave Southwark, Bermondsey, Rotherhithe, Camberwell, and Woolwich. The 115 fatal cases of whooping-cough were considerably below the corrected average number; this disease showed the highest proportional fatality in St. George Hanover-square, Hackney, Clerkenwell, Bethnal Green, Poplar, and Woolwich sanitary areas. The 87 deaths from enteric fever were largely in excess of the average number in the corresponding periods of the ten preceding years; this disease showed the highest proportional fatality in Hammersmith, Holborn, Limehouse, Newington, St. Olave Southwark, and Rotherhithe sanitary areas. The 49 fatal cases of diarrhœa were slightly below the average; among the various sanitary areas this disease was proportionately most fatal in St. James Westminster, Strand, St. George Southwark, and Woolwich In conclusion, it may be stated that the aggregate mortality from these principal zymotic diseases in London during December was nearly 12 per cent. below the average.

Infant mortality in London last month, measured by the proportion of deaths of children under one year of age to births registered, was equal to 187 per 1000. The lowest rates of infant mortality were recorded in Hampstead, St Luke, City of London, Mile End Old Town, Camberwell, and Plumstead; and the highest rates in Westminster, St. Martin-in the-Fields, Strand, Clerkenwell, St. Olave Southwark, and Rotherhithe sanitary areas.

Influenza was certified as the primary cause of 342 deaths in London last month, the corrected average number in the corresponding periods of the 10 preceding years being 100. Of these 342 deaths, 193, or more than one-half, were registered during the last week of the month. Among the various sanitary areas the greatest proportional mortality from influenza was registered in Paddington, St. George Hanover-square, Marylebone, Islington, St. Martin-in-the-Fields, and Lee. In addition to the 342 deaths directly attributed to influenza 3334 were referred to diseases of the respiratory organs during the four weeks ending Dec. 30th last, showing an excess of 1412 over the corrected average number.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

The following appointments are notified:—Surgeons: H. M. Hart-Smith to the *Europa* for duty on voyage to Malta and afterwards to the *Ramillies*; C. Shepherd to the *Nile*; P. H. Boyden to the *Woodlark*; and J. A. L. Campbell to the *Vernon*.

ROYAL ARMY MEDICAL CORPS.

Captain P. H Whiston is appointed to the Medical Staff in the Home District. Lieutenant Colonel J. A Gormley has left for South Africa. Major J. M. Irwin is posted to the 8th Hussars and Captain R. C. Lewis to M Battery R H.A., for duty. Captain G. A. T. Bray has joined the Brigade Division Staff (43rd, 86th, and 87th Batteries). R.F.A, for service in South Africa. Lieutenant-Colonel W. W. Kenny has joined at Woolwich.

Major Arthur E. J. Croly is seconded for service on the Staff. Major Henry Martin, from the Seconded List, to be Major, vice A. E. J. Croly, seconded. Major Fausset M. Baker is placed on temporary half-pay on account of ill-health.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant-Colonel William Harford Glover Phelps having attained the limit of age, is removed from the List of Officers of the Army Medical Reserve. Surgeon-Lieutenant-Colonel G. P. Bate having resigned his commission in the Militia ceases to belong to the Army Medical Reserve of Officers. Surgeon-Major Walter Culver James, Honourable Artillery Company of London, late Army Medical Reserve of Officers, is re-appointed with the rank of Surgeon-Major.

INDIA AND THE INDIAN MEDICAL SERVICES

Majors to be Lieutenant-Colonels: *Bombay Establishment:* George William Patrick Dennys, John William Unthank Macnamara, Joseph Sykes, and John Francis Tuohy. *Madras Establishment:* James Cort Marsden, Francis Casement Reeves, and John Leopold Poynder. *Bombay Establishment:* Charles Fancourt Willis. The Queen has approved of the retirement from the service of Lieutenant-Colonel Frederick Charles Barker, Bombay Establishment.

VOLUNTEER CORPS.

Artillery: The Tynemouth (Western Division, Royal Garrison Artillery): Surgeon-Lieutenant J. Cromie to be Surgeon-Captain. *Royal Engineers:* 1st Lanarkshire: John Hammond Teacher to be Surgeon-Lieutenant. *Rifle:* 1st Volunteer Battalion the Duke of Cornwall's Light Infantry: Harry Roberts to be Surgeon-Lieutenant. 1st Volunteer Battalion the South Staffordshire Regiment: Surgeon-Lieutenant H. S. Hughes resigns his commission: Thomas Thompson to be Surgeon-Lieutenant. 6th Volunteer Battalion the Gordon Highlanders: Surgeon-Lieutenant A. Grant resigns his commission. 19th Middlesex: John Gallie Fraser to be Surgeon-Lieutenant.

VOLUNTEER INFANTRY BRIGADE.

The Clyde: Surgeon-Lieutenant-Colonel P. F. Robertson, 1st Dumbartonshire Volunteer Rifle Corps, to be Brigade-Surgeon-Lieutenant-Colonel on appointment as Senior Medical Officer to the Brigade.

VOLUNTEER MEDICAL STAFF CORPS.

The London Companies: First Class Staff Sergeant Edmund William Herrington to be Surgeon-Lieutenant

TRANSVAAL WAR NOTES.

There is a movement on foot to use some of the islands off the north-west coast of Africa for the wounded to relieve the overcrowded and overtaxed depôts in South Africa. In Madeira large numbers could be accommodated by placing them not only in the environs of Funchal but in mountain villas as far as 2000 feet above the sea level. The climate of Madeira would be specially likely to benefit not only the wounded, but cases of dysentery, loss of blood, and, of course, pulmonary affections. The hotel-keepers have already made definite offers of entertainment. The Canary Islands, too, might be used in this connexion and we understand that Messrs. Elder, Dempster, and Co have offered to place a number of beds in their hotel at Las Palmas, free of expense, at the disposal of the authorities. Mr. Carlo Spaini, proprietor of the Grand Hotel Brunate, Como, has offered a reduction of 40 per cent. on the usual charges to all officers of the British army on their return from the seat of war who desire to reside at his hotel. The proprietors of the Grand Hotel, Arenzano, have also offered to place six rooms at their hotel free of all cost at the disposal of British officers wounded in the Transvaal.

Major C. R. Woods, R.A.M.C, is reported to have been wounded in the engagement at Ladysmith on Jan. 6th.

The Imperial Yeomanry Hospital Fund is receiving support from all parts of the country. Lieutenant-Colonel A. T. Sloggett is to act as military medical superintendent, and we understand that Dr. J. W. Washbourn, Mr. Raymond Johnson, and Mr. Newland Pedley will go out as medical officers. We understand that the National Fire Brigades Union has offered to provide an ambulance detachment of

28 men for the Imperial Yeomanry. This offer has been accepted. Towards the £50,000 necessary for carrying out the scheme £30,000 have been subscribed.

Surgeon Captain E. W. St. V. Ryan of the City Imperial Volunteers sails to day (Saturday) in the *Gaul*.

Dr. J. B. Coleman, F R C.P Irel., has been appointed to the staff of Lord Iveagh's Irish hospital. Fifteen orderlies for the hospital will be selected from the Royal Irish Constabulary.

Messrs. Offord and Sons have presented an ambulance containing several novel features to the Imperial Yeomanry for South Africa.

Messrs. Maw, Son, and Thompson's Roentgen ray operator, Mr. H C. W. Meredith, will go to the front with the City of London Imperial Volunteers.

The *Pavonia* arrived at Southampton on Jan 17th with sick and wounded, under the charge of Staff Surgeon Whelan, from South Africa Every possible arrangement was made for their comfort.

Major Maurice O'Connor Drury, R A.M.C, has been appointed to the charge of the Langman Hospital.

DEATHS IN THE SERVICES.

Inspector-General Edward Townsend Mortimer (retired), at Cromwell Houses, Southsea, in his sixty-sixth year. He joined the medical service of the Navy in March, 1856, and served as Assistant Surgeon during the China War from 1857 to 1862, being specially mentioned in despatches for his services at the capture of Canton. He was also present at the capture of the Peiho Forts and at the attack on the same in 1859, on which occasion he was thanked by the Commander-in-Chief for his services to the wounded, and promoted to Staff Surgeon (medal with three clasps) for his services in the Daphne during the Abyssinian War; he also received a medal and was promoted in 1876 to be Fleet Surgeon for the part he took at the capture on the East Coast of Africa of 18 slavers. As Medical Officer in charge of the Embassy he accompanied Rear-Admiral Gore Jones, C.B., on a Diplomatic Mission to the Queen of Madagascar, and as Deputy Inspector-General in charge of the Royal Naval Hospital, Hong-Kong, he received the thanks of the Government of that colony for acting as chairman of a Commission to inquire into the prevalence of fever there.

Mr. Robert Collum, M.D. Glasg., M R C P. Lond., M.R C.S. Eng., at his residence, Sutherland House, Surbiton, in his eighty-fourth year. He was formerly in the service of the Honourable East India Company and was Staff-Surgeon to Sir Charles Napier throughout the conquest of Scinde. Dr Collum rendered valuable services during the war and was mentioned in despatches of the battle of Meanee.

Correspondence.

"Audi alteram partem."

"THE MURMURS OF MITRAL STENOSIS."

To the Editors of THE LANCET.

SIRS,—It is a matter of pain and grief to me that Dr. Samways of Mentone considers that I have misrepresented his views in my article on Mitral Stenosis in the fifth volume of Professor Allbutt's "System of Medicine." I have no concern with the controversy between Dr. Samways and Dr. E. M. Brockbank. These two excellent observers must fight the battle out, *but I have a great concern in the portion of the* letter of Dr. Samways to THE LANCET of Jan. 6th, 1900, page 64, which virtually brings against me the serious charge that in my article in Professor Allbutt's "*System* of Medicine" I am guilty of misrepresentation.

In order to be clear let me quote the exact words which Dr. Samways employs. "He" (Dr. Brockbank) "states or, rather mis states, my theory thus: 'Samways believes that the abnormally powerful contraction of the auricle *prevents* regurgitation in compensated mitral stenosis and, further, that the auricle may even be strong enough to force blood into the ventricle after contraction of the latter has begun.' This extract *from* Allbutt's '*System of Medicine*' is unfortunate. I have never written anything about an 'abnormally powerful' contraction of the auricle and cannot help wishing that *Dr. Brockbank had looked up my original paper* and not argued from a digest which misrepresents me." Such is the serious charge of misrepresentation which *confronts me. Now for my defence.* I have *before me* what I take to be the original paper of Dr. Samways. It is a thesis thus dedicated: "A mon Président de Thèse Mons le Professeur Potain." It is entitled, "Le Rôle de l'Oreillette Gauche notamment dans le Rétrécissement Mitral, par D. W. Samways, Docteur en Médecine de la Faculté de Paris, M.D., M A., B.Ch. de Cambridge, D.Sc. de Londres, M R.C S, L R.C P. d'Angleterre, autrefois 'Fellow of St. John's College, Cambridge.'" The booklet is published in Paris by Steinheil, 1896.

The first chapter opens with these words: "Dans ce chapitre j'essaierai *de démontrer* que *dans le cas de rétrécissement* mitral pur, la compensation est maintenue, dans le plus grand nombre de cas, par l'hypertrophie de l'oreillette gauche associée à une prolongation de la systole auriculaire qui se continue durant une partie ou la totalité du temps pendant lequel le ventricule expulse son contenu." In Chapter II. in the first sentence are these words: "Dans le cas de rétrécissement mitral, si la contraction de l'oreillette hypertrophiée et non dilatré *empiète* sur celle du ventricule elle peut empêcher aveo succès la regurgitation venant du ventricule." I think that there is no necessity that I *should quote further*—the "*conclusions*" (page 71) repeat these views with certain additions. The immediate inferences that I formed were that, in the opinion of Dr. Samways, a compensated mitral stenosis was attended by (*a*) hyperthrophy of the muscle of the left auricle and (*b*) a prolongation of the (normal) auricular systole. It seemed to me that the inference was not only legitimate but necessary that there was in the cases mentioned an *abnormally powerful contraction of the left auricle.* It is to be remembered that this digest of what I took to be Dr. Samways's views was under the heading, "The Working of the Heart in Mitral Stenosis." It had nothing whatever to do with the morbid anatomy of the disease. This I had discussed in previous paragraphs, and I had given a summary of the observations of Dr. Samways on this part of the subject.

The *appearance* of the muscle *in hypertrophy* therefore was not under consideration, but its functions were. Surely there was no other course open to me but to describe the muscular contraction of the hypertropied muscle as "abnormally powerful." Hypertrophy of muscle cannot be normal *and the action of such hypertrophied muscle* must be abnormally powerful. Of course, by hypertrophy I mean strictly a condition in which the muscular elements have been *nourished more* than *normally* and have *consequently* increased in bulk. So also the protraction of the contraction noted by Dr. Samways can be nothing but abnormal and must indicate a muscular power in excess of the normal. If Dr. Samways contends that in compensated mitral stenosis the hypertrophy of the left auricle, the existence of which he admits, and the prolongation of its muscular contraction, which he also admits, do *not* indicate an abnormally powerful *contraction of* the auricle, then I must confess that I do not understand the meaning of his language, whether French or English, and I wonder whether there are any other competent observers who would or could understand it. The abnormally *powerful contraction* of the *left auricle* in cases of compensated mitral stenosis is proved by the clinical researches of many observers. I said in my article, which has been stigmatised as a misrepresenting digest by Dr. Samways, "He" (Dr. Samways) "shows from mechanical and experimental data that the *force* of the auricle, seeing that its active contraction is continued until the aortic valves are opened and a free outflow is permitted into the aorta, is adequate to prevent any reflux during the ventricular systole. It seems to me very probable that this view is correct. It affords a good explanation of the post-mortem appearances when a contracted mitral orifice, evidently of slow pathogenesis, is accompanied by a very small left ventricle. If mitral regurgitation had occurred in such a case the ventricular cavity would in all probability have become *dilated*." Be it well remembered that I was then considering the left auricle in the morbid condition of mitral stenosis. I had nothing in this relation to do with the normal action of the auricle in a state of health. The researches of Potain which had shown that the systole of the auricle overlapped the systole of the ventricle under physiological conditions—a conclusion which overrode our previous knowledge derived from the experimental evidence of Marey and Chauveau—I had previously called attention to.

In the study of the morbid anatomy of mitral stenosis I have found it very noteworthy that in some cases, especially when death has taken place in late childhood or early adolescence, there has been a great contrast in the size and appearance of the two ventricles. The left has been comparatively very small, whilst the right has been greatly hypertrophied and dilated. I have again and again in my clinical teaching shown the value of the recognition of this circumstance for the diagnosis of mitral stenosis. When there is little or no evidence of hypertrophy and dilatation of the *left* ventricle, but a consensus of physical signs showing disproportionate enlargement and abnormal force of the *right* ventricle, the existence of the condition of mitral stenosis is in high degree probable. The form of the obstructive lesion most frequently observed in these cases is that known as the "funnel mitral," though the "button-hole" transformation has been noted. It is a general consensus amongst observers that mitral stenosis is not a congenital malformation, but the result of a very slow and gradual morbid change. Seeing that the disease in the early stages, when the obstruction is comparatively slight, must involve the auriculo-ventricular aperture, it seems almost impossible that there should not be regurgitation. But if there had been regurgitation there would in all probability have ensued dilatation of the cavity of the ventricle, for mitral regurgitation in any notable degree is followed by enlargement of the ventricular cavity. As this cavity is observed to be small it is a fair inference that regurgitation has been prevented by some change making for compensation. An increased power of the normal muscle of the auricle, acting in the way which I understood Dr. Samways to suggest, would as I thought adequately explain the absence of dilatation of the left ventricle. Dr. Samways seems from the evidence of his letter in your columns to have a special objection to my use of the term "abnormally." He says "there is nothing 'abnormal' about the fact that the auricle under certain conditions of size should be able to exert a greater pressure on its contents than the ventricle can." He then enters into questions of physics, which, however germane to the question of the action of the auricle under physiological conditions, do not apply to its adaptation to conditions of disease. I suppose even Dr. Samways will admit that mitral stenosis is an abnormal state. The compensation which is maintained for weeks and months and years in this morbid condition is not effected without a disturbance of the normal conditions. The extra force necessary for the sufficient extrusion of blood through the narrowed mitral orifice must be afforded by some increase of power in the expulsive machinery behind the obstruction. Dr. Samways himself stated that this power came in the majority of cases because of the (abnormal?) increase of the muscle of the auricle or of the (abnormal?) protraction of its contraction. I have nothing further to say except to express the hope that those who have devoted much labour and much thought to the elucidation of the problems of mitral stenosis will not join with Dr. Samways in accusing me of misrepresentation. I think I have a right to complain in strong terms of protest of the language which he has employed against me.

I am, Sirs, yours faithfully,
A. ERNEST SANSOM, M.D., F.R.C.P. Lond.
London, Jan. 10th, 1900.

To the Editors of THE LANCET.

SIRS,—I am sorry to have misrepresented in my book on "The Murmurs of Mitral Disease" Dr. Samways' views on the power of the left auricle in mitral stenosis to prevent the regurgitation of blood after ventricular systole has commenced, by stating that in his theory the auricle contracts with abnormal force. After studying his theory I quoted Dr. Sansom's *résumé* of it, thinking that this put it impartially and concisely. If the auricle has only its normal force with which to overcome the action of the ventricle Dr. Samways' theory seems still less convincing. I also quoted Dr. Woods, who worked at the same subject from a similar point of view, as saying that he thought Dr. Samways' conclusions were absurd. The latter observer objects to this quotation as well, as being hard both on Dr. Woods and himself. He states in his letter to you that Dr. Woods considered his theory absurd because "there are no valves between the auricle and pulmonary veins, and he presumed that if the intra-auricular pressure tended to considerably increase, the leak towards those veins would prevent the rise of blood-pressure in the auricle which otherwise for physical and mathematical reasons must be produced." This objection is invalid, Dr. Samways urges, because there practically are valves in such a situation. Dr. Woods certainly gave this as his second reason for disputing the theory in question, but he also gave a third, and what seemed to be an important reason, which Dr. Samways does not refer to: "The mean radius of curvature of the contracted auricle is nothing like small enough to enable it to raise the pressure of its contents to anything approaching that of the ventricle when the relative thicknesses of the walls are taken into account." Whilst wishing to be perfectly fair to these gentlemen, whose opinions I respect even if I do not altogether agree with them, I am unable to see how I have been hard on them in my reference to their work.

Dr. Samways likens his views of the relative power of a contracting left auricle and ventricle in mitral stenosis to that of the two pistons of a Bramah press and asks, "Is it abnormal that the smaller piston of a Bramah press should be able to force up the larger?" To this question as put the obvious answer is: Yes, it is impossible for the smaller piston to force up the larger unless it be plunged with sufficient force to overcome the resistance of the larger piston. So in the same way it is impossible for an auricle to hold up the ventricle and prevent the regurgitation of blood, which I believe creates a crescendo murmur, unless the auricle contract with sufficient force to do this. That an auricle possesses such power at any time, especially in mitral stenosis when it is so often abnormally thin, has not been proved, nor is it probable that it does possess such power.

My theory of the causation of a crescendo murmur in mitral stenosis requires, as Dr. Samways says, that the jaws of the diseased valve should be stiff and close more slowly than in health. But it does not follow that the murmur should always be present when the valves are stiff, for I explain how the valves may be too rigid, especially towards the end of a case of mitral stenosis, for the failing ventricular contractions to close them at all, and how an ordinary systolic murmur of regurgitation is then heard (p. 16). And I also explain how a crescendo murmur may alternate with a systolic murmur in consecutive beats of a heart owing to the varying force of ventricular systole being able at one beat to close the rigid valve and at another feebler beat unable to do so. And although I believe that the stiffened mitral valve is a prime cause in the development of a crescendo murmur in mitral stenosis, I show how such a murmur may arise with a dilated valve when its curtains are of normal structure and mobility. As I go fully into these points in my book I will not take up your valuable space by repeating my arguments here, but respectfully refer Dr. Samways to them as being the best I am able to give in support of my theory that a crescendo murmur, whether it occurs at the mitral or aortic valve, in stenosis or dilatation, is always regurgitant in rhythm and caused by blood rushing through the valve which is abnormally late in closing.

I am, Sirs, yours faithfully,
E. M. BROCKBANK.
Manchester, Jan. 13th, 1900.

To the Editors of THE LANCET.

SIRS,—Dr. Brockbank has argued ably in support of the theory that the characteristic murmur of mitral stenosis is systolic in time, and it does not seem to me that the reasoning of Dr. Samways lends very strong support to the more generally accepted view. One case which I have seen, however, appears to prove that a murmur possessing the main features of the so-called presystolic murmur may occur before the systole of the auricle. Over a strongly beating but intermittent heart a loud presystolic murmur of sharply undulating, almost rattling, character was audible. When the intermission took place the murmur occurred in the early part of the pause and there was silence before the first sound of the next cardiac systole. In this case the murmur obviously occurred during the diastole of the ventricle.

Dr. Brockbank makes use of the different areas over which the diastolic and presystolic murmurs are audible to support the systolic theory. Since the presystolic murmur is best heard where the mitral systolic murmur is also best heard he suggests with some reason that both the so called presystolic and systolic murmurs owe their existence to regurgitation through the mitral orifice It seems to me to be a mistake, however, to consider that the diastolic murmurs are directly connected with stenosis of the mitral valve They appear to be merely varieties of that dull sound so frequently heard in the diastolic period of the cardiac beat in various morbid conditions of the heart that has been called not inappropriately "the third sound' Until the method of production of this "third sound" is clearly understood it seems to me that reference to the diastolic sounds of mitral stenosis will complicate rather than elucidate the question under discussion

I am, Sirs, yours faithfully,
Jan 12th 1900 THEODORE FISHER

OPERATIONS FOR ACUTE APPENDICITIS,

To the Editors of THE LANCET

SIRS,—I am glad to find that so careful and experienced a surgeon as Mr Keetley, in his letter in your last issue with reference to the points raised by Mr Moullin and myself, is substantially in accord with me with regard to the nature of the operation that should be performed for most cases of acute appendicitis With most of what Mr Keetley says I entirely agree He evidently recognises that it is not desirable to open the peritoneal cavity and the abscess without regard to the limiting adhesions This is the essential point which I ventured to urge in my letter in THE LANCET of Dec 30th, 1899 (p 1857) Although Mr Keetley claims that his method of operation may safely be adopted, even on the first day of an attack, he says later that he has no experience of any operation performed within the first 36 hours He does not tell us at what stage he does usually operate He objects to a rule of waiting until the fifth day So should I, and I have carefully refrained from laying down any such hard and fast rule, although I do think that the necessity for operation seldom arises before that period Each case must be judged on its own merits and the operation should, I think, be performed as soon as the surgeon believes that he can reach the abscess without opening the surrounding healthy (and absorbing) peritoneum Mr Keetley, with gentle sarcasm, seems to imply that I advocate letting the abscess alone indefinitely, but that is certainly not my practice The earliest period at which I have been able to open the abscess through the adherent peritoneum has been the third day, but *in most cases* the operation can, I believe, not be performed with safety at this period I see no objection to opening the non adherent peritoneum for purposes of gentle exploration if it be thought necessary I sometimes do this but I never open the abscess through the same incision I confess I do not see wherein the operation that Mr Keetley recommends differs essentially from that recommended and practised by myself and many other surgeons Mr Keetley probably goes a little more deeply into the iliac fossa than I should and probably operates somewhat earlier When he speaks of carrying his dissection "towards the pelvic brim' he certainly goes further than I should I should have thought that the manipulation necessary for such a deep dissection would have involved no little risk of rupturing the unopened intraperitoneal abscess (abscesses connected with the appendix are, of course, almost always intra peritoneal) The presence of a mass of inflamed tissues in the iliac fossa would not in my opinion, render such a deep dissection particularly easy Mr Keetley seems to think that his operation is peculiar in that thereby he goes to meet the pus instead of waiting for the pus to come to him. But if he will refer to my previous letter he will see that I speak of opening the adherent *peritoneum* I do not advocate waiting until the pus has come through the peritoneum Mr Keetley does not touch upon the interesting question which cases should be operated upon without regard to the adhesions That there are such cases no one I suppose would deny although for my own part I believe them to be rare It is not my intention however, to raise this question now

Mr Keetley expresses his belief that "more cases operated on from the fifth to the tenth day are fatal than any others But this I venture to think depends entirely upon what operation is done Fowler's[1] statistics of 49 cases operated upon from the fourth to the seventh day inclusive show 21 deaths, these were all cases of operation without regard to adhesions and would confirm Mr Keetley in his belief But the statistics from St Bartholomew's Hospital, which I quoted in my previous letter, of operations performed in some such manner as that advocated by Mr Keetley or by myself, tell strongly in the opposite direction But Mr Keetley apparently does not believe in statistics For my own part, I think they may be of much value, provided that they are accurate, that they deal with consecutive cases, and that they embrace a sufficiently large number of such cases

I am, Sirs, yours faithfully,
Wimpole-street, Jan 16th, 1900 JAMES BERRY

"DEATHS UNDER CHLOROFORM"

To the Editors of THE LANCET

SIRS—The letter of Lieutenant Clayton Lane, I M S, in THE LANCET of Jan 13th, p 132 expresses opinions exactly similar to those which appeared in a letter of mine in THE LANCET of July 1st 1899 p 53 Since the publication of that letter various letters have appeared in praise of Krohne and Sesemann's inhaler, none of which have convinced me Nor has conviction been carried to my mind by the bundle of pamphlets sent me last July by Messrs Krohne and Sesemann claiming innumerable advantages for their inhaler In fact, if a medical man believed all the statements in these pamphlets it would be easy for him to convince himself that administration of chloroform by any other method must be very little short of criminal

I am Sirs yours faithfully,
Plymouth Jan 14th 1900 C HAMILTON WHITEFORD

"THE CONFERENCE AT NEWCASTLE AND THE MIDWIFERY QUESTION."

To the Editors of THE LANCET

SIRS—Your correspondent Mr Charles E S Flemming has been good enough to lay before me in THE LANCET of Jan 13th, p 133, some points which have arisen from my letter which appeared in your issue of Jan 6th, and I thank him It is only through the bringing up and examination of other aspects of any vexed question that a right and final finding can be crystallised I have pleasure in answering him by means of the rough sketch of a scheme which I trust will also serve to explain still other points that might crop up

Scheme for the Working of Medical Practitioner plus Obstetric Nurse in Place of Midwife

1 Both medical practitioner and obstetric nurse to be responsible according to following arrangement and also according to further regulations which need not be introduced in this sketch

2. Patients to pay medical practitioner a fee for visiting of 3s. 6d to 7s 6d (subject to carefully fixing under revised scheme) In case of poverty the fee to be paid by parish

3. Obstetric nurse to attend *virtually* as medical practitioner's assistant at the labour and afterwards

4 Obstetric nurse to continue in attendance on labour and afterwards unless difficulties or complications arise when she shall send for *medical practitioner (just as midwives are expected to do and as assist*ant would do) If no complication or difficulty the obstetric nurse reports case to medical practitioner after a certain number of days and he will visit case

5. Medical practitioner's fee *plus* obstetric nurse's fee should be about equal former midwife's fee *plus* cost of common help usually required in addition Therefore disbursement of patient about same as under midwife system for visits of obstetric nurse should render supplementary help of paid woman less needed

6 Medical practitioner's fee shall be one for every class of case normal or complicated, the large percentage of normality making it well worth his while especially as he has his obstetric nurse under supervision and control in scheme rendering carelessness unlikely

7 Medical practitioners of districts to be appointed annually; to be advertised for and elected by boards of guardians or councils or *committees*

8. All patients employing obstetric nurses must consent to visit of appointed medical practitioner at least once They would be permitted to have consultation after this visit on paying for it in the ordinary way

The above is only intended as a sketch of fundamental principles which are only at the moment necessary to consider and only such details are put in as permit the principles to be advanced or as support them The following regulations as affecting the obstetric nurse are also merely intended as an indication of principles

Regulations as affecting Obstetric Nurse

1 Obstetric nurse shall not penetrate vulva with fingers, except perhaps under rare circumstances if licensed in training

---

[1] Annals of Surgery 1894, p. 505

2. Obstetric nurse shall only assist labour by external means, whether by manipulations, or medicines or instruments, or appliances
3. Aseptic principles, as taught, shall be carried out by obstetric nurse both as regards parts of patient, externally, and parts of obstetric nurse herself (hands, dress, appliances)
4. Obstetric nurse to douche passages of patient only after direction of medical practitioner, with approved appliances or instruments that are subject to medical practitioner's inspection on his visit.

As an answer to the question regarding responsibility urged by your correspondent, he will observe in the above scheme that an obstetric nurse would be subject to such control and disciplinary influence under an appointed medical practitioner as would render her malpractice rare and liable to the penalty of loss of certificate, to say the least. Nor can the point concerning fragment of placenta be properly advanced in the face of the above scheme. Any substitute for a qualified medical practitioner may leave behind a fragment of placenta—much more the ordinary or even registered midwife.—I am, Sirs, yours faithfully,

London, Jan. 13th, 1900. HAYDN BROWN.

"PRESCRIBING ALCOHOL *versus* OUR OWN INTERESTS."

To the Editors of THE LANCET.

SIRS,—I shall be much obliged if you will grant me some space to reply to Dr. Coley's remarks upon my views In the course of a somewhat stormy controversial career I do not know that I have met with misrepresentations quite so complete as those with which he favours me in THE LANCET of Jan. 13th. He says: "According to him the way to secure sobriety for the human race some thousands of years hence is to let alcohol have its own way for the present and (with the aid of those beneficent eliminators of the unfit, poverty, and starvation, and tuberculosis, and crime) get rid of all who have 'an inborn capacity for delighting in it.'" May I ask Dr. Coley to quote, with due regard to the context, the passage in which I advocated views so atrocious and really so excessively silly? Giving my data, I made two statements of fact which I believe are incontrovertible—at any rate, they are incontroverted. The one that all free and civilised races are now temperate strictly in proportion to the extent they have been weeded out by alcohol; the other that in the future all such races will be temperate in like proportion unless certain measures (which I mentioned) were adopted. Having traced the past of an epidemic I endeavoured to forecast its future and to suggest a remedy. Dr. Coley thinks it right to inform a possibly horrified public that I advocate the spread of the disease. I am irresistibly reminded of the fat boy in "Pickwick" who was desirous of making the flesh creep.

He says, "Some of us may venture to doubt whether Weissmann's facts are sufficient to support his own theory." But, to quote the memorable words addressed by Sairey Gamp to Mrs. Prig, "Who deniges of it, Betsy?" I myself am of the opinion that Weissmann's doctrines are metaphysical nonsense and I cannot imagine why Dr. Coley will persist in attributing to me a belief in them. I hardly dare venture to suggest that he is perhaps belabouring the wrong philosopher; or to believe that this severe and confident critic has confused Galton's theory of the non-transmissibility of acquired characters with the fantastic superstructures for which alone Weissmann is responsible. If this surmise should unhappily prove correct—and really the more I think the more I believe it likely—Dr. Coley will find a deal of information, useful to the scientific critic, in the late Professor Romanes's book "Weissmannism."

May I suggest to him that the doubt he expresses is only an opinion and that mere opinions are not of the slightest value in science? If he will support his opinion with facts and arguments I on my part will cheerfully undertake to deal with them. For reasons I need not enter into this offer is not indicative of very great vanity. He concludes by saying, "But the inverted pyramid of inference which Dr. Reid has tried to balance upon Weissmann's dogma would topple over even if the foundation upon which he has rested it were firm as rock." But I have not tried to balance anything on Weissmann's dogma, whatever it may be. Moreover, my opinions were supported by facts and arguments. If instead of misrepresenting and then contradicting conclusions Dr. Coley will destroy the premises, I—well, I shall be infinitely surprised.

I am, Sirs, yours faithfully,
G. ARCHDALL REID.

Southsea, Jan. 15th, 1900

"DIPHTHERIA AND MILK-SUPPLY: A FILTHY HABIT."

To the Editors of THE LANCET.

SIRS,—I confirm Miss Williams's statement in THE LANCET of Jan. 13th as to the dirty and filthy habit of many milkers in the eastern counties who moisten their hands with saliva before seizing the teats in milking. It is quite possible that thus diphtheria bacilli might be introduced into the milk of a cow. On page 199 of Newman's "Bacteria" the suggestion is given of milk becoming contaminated with tubercle in like manner from a milker whilst suffering from tuberculosis.—I am, Sirs, yours faithfully,

WILLIAM H HEWLETT, M.D., D.P.H Aberd.

Wivenhoe, Essex, Jan. 15th, 1900.

"A CASE OF SUPRAPUBIC LITHOTOMY: REMOVAL OF TWO VESICAL CALCULI; RECOVERY."

To the Editors of THE LANCET.

SIRS,—Allow me to congratulate Mr. Vincent Jackson on his successful case of suprapubic lithotomy in a boy of eight years. At the same time I would like to ask why is it that such a case would hardly be remarked had it been treated by either litholapaxy or by lateral lithotomy? I only venture to ask you to permit me to occupy a small amount of your space in writing of this subject, because I have the advantage in forming an opinion of working neither in England nor India In treating successfully 30 cases of stone at varying ages between two years and 80 years—the calculi weighing from six grains to two ounces—I have employed every method and I heartily support Mr. Jackson in his plea for the right of the surgeon to select his operation. But I fear that Mr. Jackson's remark that "litholapaxy is a very easy operation while lateral lithotomy is not" may mislead. Mr. Reginald Harrison, whose keen clinical instinct always directs his knife and whose pen never wanders from the work that his knife has done, is not in favour of the suprapubic operation in children; and although in our art there is no finality it may yet be true that enough work has been done to show that while litholapaxy is seen at its best in children the suprapubic operation has proved itself of all methods in childhood the most dangerous.

I am, Sirs, yours faithfully,
W. A. MACKAY.

Rio Tinto Hospital, Huelva, Spain, January, 1900

"THE LESSON OF THE INFLUENZA EPIDEMIC."

To the Editors of THE LANCET.

SIRS,—There is one flaw in the counsels contained in the leading article on the above subject in THE LANCET of Jan. 13th and I fear it is a fatal one. If it be the duty of any person who has been attacked by influenza to seclude himself from contact with his fellows because he is infectious he is naturally entitled to ask to what extent he is to do so and for how long a time. How is his medical attendant to answer this question? If such a question be put in the case of small-pox or scarlet fever or enteric fever, and also, though not with precisely the same degree of certainty, in whooping-cough and measles, the attendant can reply until such or such symptoms or conditions have disappeared. The realisation of this result can, when it occurs, be recognised by the patient himself as well as it can by the medical attendant, except, perhaps, when the criterion of freedom from infection is a bacteriological one, as in the case of diphtheria, and it is upon the possibility of this recognition by the patient that his coöperation and that of his friends can be enlisted in maintaining the isolation which his medical attendant prescribes. But what is the criterion of freedom from infection in a person who has had influenza and to what extent and for how long is isolation to be prescribed? It is obvious that in such a case pure dogma, even if there were any base at all for it, is a dangerous aid on which to rest.

But there is another consideration which, apart from that just referred to, must make any attempt at isolation of influenza patients a counsel of perfection so far as the bulk of the public are concerned—it is the anomaly which the disease exhibits in its attacks. It is a fact with which, of course, the public are themselves familiar, that the disease will attack some members of a family and spare others, all of them being apparently equally liable to it and all of them in frequent contact with one another. A similar eccentricity in the case of the mild form of scarlet fever which has been so generally prevalent of late years creates the same difficulty in persuading the public of the need of isolating those who suffer from it. And it must always be so. Unless the public can recognise for themselves the criteria of infectibility it is not to be expected that they will have much respect for medical advice on the subject, or that medical men will expose themselves to be tripped up by the questions which are sure to be put to them if they counsel isolation.

I am, Sirs, yours faithfully,

Jan. 14th. A MEDICAL OFFICER OF HEALTH.

*** Our correspondent's letter points to certain obvious difficulties in the application of preventive measures to the spread of influenza. But he does not invalidate our contention that only by reasonable attempts at isolation can much good be done. The Clinical Society has reported that the disease may be conveyed by convalescents for 10 days For this period they should act as persons capable of conveying the disease. There are, of course, cases of doubtful diagnosis, but other cases are typical and the diagnosis in such is unmistakeable. That the infection of influenza is discriminating—that it takes effect on one and not another member of a family—is true But the same is true of all infections. While we admit that persons affected with influenza convey the disease, we must hold that for them to diffuse the poison they carry unnecessarily is to act improperly.—ED L.

PUBLIC HEALTH OF DUBLIN:

SCHOOLS IN THE SLUMS.

(FROM OUR SPECIAL SANITARY COMMISSIONER)

(Continued from Dec 30th, 1899, p 1869.)

As in the present instance children are the principal victims of the prevailing epidemic of measles, the condition of the schools and their surroundings are of especial interest. Taking one of the most central districts some account has been given of the great Roman Catholic school and of the Protestant Children's Home in Townsend street. With regard to the suburbs I have been shown a letter written by one of the former representatives in the House of Commons of the Irish Nationalist Party. This evidence does not come therefore from a bigoted Irish Protestant or from the "hateful Saxon," but from a patriotic Celt. The letter was written to one of the persons who helped me to collect information, and though not intended for publication is so typical and to the point that I cannot do better than reproduce some of the salient passages The writer says —

"I do think it was a very great act of charity to have THE LANCET making an inspection of some of the Dublin premises. He should be told that the sanitary accommodation of the schools would disgrace the interior of Africa. I have been at the Roman Catholic school at, ... (National school), and I can assure you that the grant should be withheld until proper sanitary arrangements were supplied' And this state of affairs prevails where churches are erected in the not remote neighbourhood costing £25,000, besides fabulous sums of money on their keep and the supply of vast palaces for 'holy poverty.' ...... I wish you could impress upon THE LANCET representative the *absolute necessity* that exists for the sanitary inspection of National schools. How are poor people to have a sanitary education if the practical lesson is not shown at school? In fact, why should the magistrates fine for want of cleanliness poor women who have not got the practical lesson when children at school, knowing, *as the magistrates* must do, that at the present moment the children are left derelict of appliances which distinguish the civilised from the savage peoples? If you only get this matter seen to you will have done the very greatest charity to the helpless poor and will certainly bring you and yours a blessing to all time.

This letter undoubtedly goes to the very root of the matter. What is the use of preaching the gospel of cleanliness, of saying that this and that should be done, if the great mass of the people have during their childhood received no object lessons while at school? It so happens that the majority of schools in Dublin are Roman Catholic schools; therefore, in criticising these schools it may appear as if an attack on the Roman Catholic party was intended. Even before I had time to say anything of a very pointed nature the Irish Roman Catholic press began to protest that it was wrong to ascribe the dirty habits of the Irish people to their religious convictions. Poverty, we were told, was the real cause, and this, of course, supplied a good pretext for political diatribes against the policy of England which had destroyed Irish industries and reduced the population to the verge of starvation. But industries flourish at Belfast; that town is a great centre of wealth and is also a great centre of Protestantism. Yet in the winter of 1897 and 1898 I likewise reported at length on the typhoid fever epidemics then prevailing in that town. Let those who accuse THE LANCET of seeking, under the cover of sanitary reform, to attack the Roman Catholic religion *read what was then published about Protestant Belfast* The trouble in Dublin is not so much the organic defects in the system of domestic drainage as the filthy habits of the people; and these habits are due in a great measure to the indifference or the technical incapacity of the teachers of the people. In this case they happen for the most part to be Roman Catholics. This I cannot *help*; I have *nothing* to do with their religious views and should doubtless have to make similar criticism in regard to Buddhist or Brahmin teachers if I had to deal with the prevalence of plague in India. There the poverty is even greater than in Ireland, and this is also the case in Turkey. Yet when visiting the cholera infected districts of Constantinople I had to render homage to the lessons of cleanliness taught by the Mahommedan religion, which insists that the faithful must wash first before they venture to pray. It is not for me in the columns of THE LANCET to discuss whether Mahommedanism is nearer to Divine truth than Christianity; but—and merely as a matter of fact—I must remark that a ritual which insists on ablutions before prayers is more useful to the cause of sanitation than a ritual which involves no such obligation In the Roman Catholic schools, though the children are taught to sing hymns and to pray, there are often no means provided for them to wash. The Irish may be poor, but if they nevertheless possess money to build big churches and schools they could also buy washing basins and a little soap. Enamelled basins that will not break are so cheap and soap is so cheap that there is no excuse whatever for not purchasing them. Yet the children coming from the schools—especially the industrial schools, where they have been boarders and therefore under the complete control of their teachers—are *often* covered with vermin and caked with dirt. This gross neglect can, should, and must be altered, and if nobody in Ireland will undertake the work then there ought to be inspectors from Whitehall to see that it is done. Every child on entering school should be examined and if not clean should at once be conducted to a properly appointed lavatory and made to wash. But in many cases such lavatories do not exist; and it is not too much to ask, in the face of the present appalling death rate, that all school grants should be withheld till such indispensable conveniences are provided and fully utilised.

Having visited two schools near the commercial centre of Dublin I next proceeded to visit two schools near the legal centre, the Law Courts, or the Four Courts as they are called, also selecting in this case both a Protestant and a Roman Catholic school. Little Strand-street leads to the "Sisters of the Faith St. Bride's Catholic Schools" The pavement of this street is very uneven and several of the houses have been abandoned. In one house, however, there were six families occupying five tenements and there was no closet at all on the premises; the inhabitants had to go to the backyard of the house next door. Here there were two water-closets, but the chains had been cut off from the flushing tanks, so that there was no flush except when provided by someone bringing a bucket of water to throw down. This was close to the walls of the school In the third house from the school the closet, the seat, and the floor and yard were covered with fæcal matter. Here there were many very poor tenants who paid from 1s. 8*d* to 2s 0*d*. rent weekly. The last and nearest house to the school was even more wretched and dirty. There were many old rags hanging out in the yard and some of the window panes were entirely broken away. On the other side of the school there was a large irregular-shaped yard. Piled up against the wall of the school there stood a great manure heap from which dark-brown liquid manure issued and formed stinking pools on the unpaved porous ground. The emanations from the polluted subsoil would be drawn into the school by the greater heat prevailing in the class rooms. In this yard there is also a stable, a fearful closet, and on one side a tenement house where wretched ragged people dwell. This touches the wall of the school. My request to visit the interior of the school was received with much trepidation and hesitation. Though I was accompanied by a municipal officer still it was thought that I must obtain special permission. However, I was able to ascertain that there was no lavatory for the boys and that the principal schoolroom was dark and ill-ventilated. Within some two or three yards of the windows was a high black wall. It had never occurred to the sisters in charge that by whitewashing this wall a better light would be reflected into the school, and that this would be more wholesome and cheaper than burning gas in the daytime. Here, again, was an instance of the absence of technical knowledge. But lest I should be once more accused of attacking Roman Catholics because of their religious convictions, let me say that I had here an opportunity of noting the politeness and courtesy of some of the school-children Indeed, whatever may be the defects of education in Roman Catholic schools, so far as my personal observation goes I have always found that they succeed better in teaching manners, in inculcating an appreciation of the courtesies that render life so much more pleasant and social intercourse so much more refined, than is the case in regard to Protestant schools.

It is doubtless necessary that schools should be built in populous districts so as to be close to the homes of the children, but this renders the erection of a healthy building very difficult. The amount of ground secured should be sufficient to allow an open space providing a good sweep of air and an ample provision of light all round the building. This is not the case in regard to St. Bride's Catholic Schools. On one side there is the black wall already described; on the other the very poor, narrow, wretched street, buildings on the third side, and the foul yard with the manure heap saturating the school walls on the fourth side. Nor are there any recreation grounds. The children arrive, some at 9 o'clock, but most of them at 10 o'clock, and they leave at 2 o'clock. Therefore, there is no break, no recreation or meal hour. This is too long and yet not long enough. From two to three hours at a time in a class-room is quite sufficient for young children; then there should be a break for a meal or for a healthy romp in the open air, and the pupils could work again for another two hours or so, thus attending their classes for at least five hours a day. To attempt to crowd the whole of the education given into one long sitting is not judicious either from the educational or from the sanitary point of view. This is done doubtless to avoid the difficulty of having to feed the children; but, on the other hand, the greatest advantage would be derived from the establishment on the French model of a *cantine scholaire*, where for a penny or so a wholesome bowl of soup could be provided. Such catering being on wholesale principles would cost much less than the meagre food purchased for them retail by their parents. Considering that the population of Dublin is, in the main, underfed, this question of school meals for the children of the poor is of the utmost importance. As it is, the children are not only ill-fed, but the air that they breathe is, in a measure, deprived of its strengthening qualities by bad ventilation, by the want of the purifying effects of direct sunlight, and by the foul emanations from the surrounding slums. No wonder that so many of these children should be struck down by the prevailing epidemics.

The large court overlooked from one side of the school gives on to a twisting narrow alley. This alley is paved with loose-fitting cobble stones which do not protect the subsoil from contamination. All along the alley there are manure, garbage, and dust heaps. Old shanties in ruinous condition abound on both sides of the alley. There is one very dark place where some poor people are employed to cut wood. Black mud oozes up on all sides and the earth is covered with decomposing organic matter. The other end of the alley abuts on to East Arran-street where there is a street market, and the costermongers get rid of their fish-heads and offal by throwing them into this comparatively unfrequented alley. Thus this refuse gravitates towards the school walls and helps to pollute the air the children have to breathe. Facing the alley that winds round the school, but on the opposite side of East Arran-street, is Water-alley. Here the houses are in a dilapidated condition, the windows for the most part are broken and the framework shattered. In the yards of these houses there are strange wooden shanties built up as rough stables for donkeys and other animals. Outside manure heaps accumulate and portions of the manure are scattered for a considerable distance around. Bare-footed children tread upon all this filth.

In Craig's-building, Charles-street, hard by, I penetrated into one of the houses. There was a twisting, narrow, dark passage with pools of filth on the stair landing. Below there was a very small yard. Here stood a closet under some bedroom windows. The pan was full and overflowing with fæcal matter, the drain was evidently blocked, and the foulest odours entered freely into the house. The other houses near at hand were all filthy and dilapidated. Pill-lane (which had such an awful reputation that its name has been altered to Chancery-street), Greek-street, Beresford-street, and Little Mary's-street all contain many houses unfit for human habitation; indeed, some portion of Greek-street has been condemned and already pulled down, but some of the condemned houses that still remain are inhabited. Here and there the manure from the backyards has been kicked, carried, and blown as far as the street. Yet some of these houses were in former years well tenanted. They have broad staircases and porched doors. The fact that these houses were originally built for single and well-to-do families renders them the more unsuitable for tenement dwellings. A little further on I reached Lurgan street, where there is a Protestant boys' school close to the barracks. There was a fusty, unpleasant, close smell when I entered this school which suggested insufficient ventilation. There was, however, a large yard behind where the children could play and breathe the outer air. Here at the farthest extremity from the building were trough closets made of tiles so that the boys must stand. This continental system has at least the advantage of being easier to wash out and with careless people it is more safe. There are some 200 children in this school and they likewise suffer from their surroundings. On one side they have the barracks, behind the large yard, and in front the street, but on the other side and very close is an objectionable tenement house. The second next house has been condemned and its inhabitants have left, consequently the neighbours throw their rubbish and refuse into the yard and ruins and there is no one to remove it. One of the closets gives off such foul odours that they reach the school and sometimes necessitate the closing of the school windows on that side. In the yard of the tenement house nearest to the school and within 15 feet of one of the school windows the closet is in a filthy and neglected condition; fæcal matter lies on the floor in front of the seat and other persons have defecated in the hall passage of the house itself. A considerable amount of linen is hung out to dry above this foul dirt. As for the play yard of the school itself, though clean, it is not suitably paved, for it has cobbles instead of asphalt, and there are chemical works at the back of the yard. Thus it will be seen that the surroundings of this Protestant school, like those of the Roman Catholic school, are altogether unfavourable and also tend to contaminate the air the children breathe.

Retracing my steps and going in the direction of Sackville-street I passed by Cambell-court. Here a number of scavengers in the employ of the corporation were sweeping out this court. Nevertheless, in broad daylight at 1 o'clock in the afternoon a man urinated against the wall at the entrance of the court, and this in the presence of the municipal employés. No one protested. The fact is that there are hardly any sanitary conveniences provided in the poor quarters of Dublin, and it will be a long time before the people are taught not to relieve themselves in the streets, courts, and alleys. In Taafe's-court there is a public stand-up tap or fountain. It is surrounded with fæcal matter. People come and empty slop pails into the gully under the water-tap On the other hand, those who come to fetch water tread in the dirt and are likely to soil the pails or pitchers in which they take the water they are about to drink. The cottages in this court have been condemned and are now uninhabited. Before these people left the court there was very much more filth round the tap, yet what I saw was bad enough. Then I reached a local Petticoat-lane, which is the second-hand clothes market, and in consequence of the insanitary conditions it is doubtless a prolific source of the spread of disease. In Sampson-lane there is a whole row of what by courtesy are called slaughter-houses, though they are utterly devoid of any sort of suitable arrangement. Cobble pavement prevails, the animals are slaughtered in mere shanties, blood and offal reaches the street, and no measure whatsoever is taken to prevent the contamination of the subsoil. There is a whole row of these slaughter-shanties, and immediately opposite, overlooking them and only separated from all the offal by the narrow street, there is a row of inhabited dwelling-houses. There is also a court facing the slaughter houses which is full of manure piled under a splendid metal plate put up by the corporation announcing that anyone who deposits refuse on this spot will be prosecuted. At the other end of this lane, which abounds in slaughter-shanties, there are a market and many butchers' shops. At last I reached Sackville street and I would certainly advise the tourist who is brought to this magnificent thoroughfare and told that Dublin is a fine town to turn aside and wander through the small streets between Sackville street, the Four Courts, and the barracks at the foot of Constitution-hill. For sordid misery, dilapidation, and dirt it would be difficult to find anything more depressing and degrading.

(To be continued.)

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Gift of a Botanical Laboratory to University College, Liverpool.

MR W. P. HARTLEY of Aintree has offered the sum of £12,000 to the governors of University College towards the erection of a new botanical laboratory and museum. The College is in great need of a suitable building for botanical purposes, as under present arrangements it is impossible to exhibit adequately the materials collected in the limited space at the disposal of the professor of botany. The botanical laboratories and museum are at present housed in the old building in Ashton street, and consist of a laboratory capable of accommodating 30 junior students, a smaller advanced laboratory, a professor's room, and two rooms which serve as a museum. The museum contains a teaching series of cryptogams and phanerogams and a large herbarium of British and foreign plants Mr. Hartley's munificent donation will enable the governors of University College to provide accommodation for the numerous requirements of the botanical department and will also promote the completion of the buildings necessary to form a quadrangle of noble proportions. The chair of botany, which is so worthily occupied by Professor Harvey Gibson, was founded in 1888, principally by the munificence of Dr. Holbrook Gaskell, who contributed the sum of £5000, to which he added a further sum of £1000 in 1894.

The Liverpool Hospitals and the Invalids from the Seat of War.

The committee of the Royal Infirmary at their last meeting, in answer to the appeal of the War Office which has been made to them in common with the managers of other hospitals, resolved in addition to the 12 beds previously offered, to make arrangements for the reception of 18 more invalided soldiers belonging to the Liverpool district free of all cost to the Government. To enable this to be done without prejudice to those for whom the charity was intended it was determined to convert the large entertainment room into a ward This course will entail little trouble and expense beyond the increased cost of staff and maintenance due to the larger number to be provided for The Royal Southern Hospital and the Northern Hospital will also provide some beds for a similar purpose; the latter have offered to provide eight beds at a charge of 2*s* a day The Stanley Hospital authorities have decided not to take any steps in the matter until they are in receipt of further information on the subject.

The Warrington Infectious Diseases Hospital.

The Warrington Town Council have passed a resolution decreeing that alterations involving an expenditure of £10 000 should be made in the Warrington Infectious Diseases Hospital.

Influenza in Liverpool.

The medical officer of health reports that the death-rate of the city is exceptionally high, owing apparently to the presence of influenza, although influenza did not appear in the statistics as the actual cause of death, except in a limited number of cases. Dr. Hope points out the valuable work which has been done by the female inspectors in improving the health of poor localities. In the matter of the management of infants very useful hints are given by them to ignorant parents.

The Proposed County Asylum for Inebriates.

A conference between representatives of the Lancashire County Council and the county boroughs will be held at the County Hall, Preston, on Jan. 29th to settle the terms of the Bill which is to be promoted next session for providing a county asylum for inebriates

The Microbe of "Pink-eye" in Horses.

Dr. H. E Annett, of the Liverpool School of Tropical Diseases, has been conducting investigations into the prevalence of "pink eye" in Liverpool horses and has found, he believes, in every case the same bacillus The disease had been making such serious ravages among horses in Liverpool that the Cart-owners' Association sought the assistance of Professor McFadyean, who has arrived here from London to investigate the disease on the spot Should the discovery of the microbe prove to be an accomplished fact the Liverpool School of Tropical Diseases is to be congratulated in that it will have been the means of minimising the widespread ravages of this formidable disease among horses throughout the country. Dr. Annett's experiments are to be continued

Jan. 16th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Housing of the Working Classes.

AT the meeting of the Manchester City Council on Jan. 3rd a report from the Sanitary Committee was adopted which recommended the purchase of 237 acres of land at Higher Blackley to be used for purposes under the Housing of the Working Classes Act and the Allotments Acts. In moving its adoption Alderman Walton Smith, the chairman of the committee, spoke of the work done during the past 14 years in the way of demolishing back-to-back houses and insanitary buildings generally and of the difficulties experienced in finding suitable accommodation for the people who had been displaced Objection was taken to the purchase, as the distance was four miles from the city, but this was met by the statement that by the time the houses were built and the land laid out there would be railway and tramway facilities, so that working men would be able to get to and from their work without difficulty There is some difference of opinion as to whether a workman should live near his work or at a distance, and it is satisfactory to know that one member of the council, well known for his acquaintance with the habits of the working classes, said that those who lived away attended their work better than those living near to it in the centre of the town This recalls the mistake made when the assize courts were built in Strangeways. It was thought that the judges, tired with the day's work in court, would be glad to pass along a corridor into the beautiful house adjoining which had been built for their entertainment But no; they wanted to get away for a few hours from the scene of their labours and to breathe a fresher air, so that now they make no use of their lodgings in Strangeways The better sort of working men will be only too glad of a change from the stuffy town, while the boon to their wives and children will be priceless. And in these days we cannot afford to neglect anything that will help to bring up the coming race in health and vigour.

Street Explosion in Manchester.

We are reminded from time to time that all of our nineteenth-century conveniences bring with them their special dangers. Not long ago a high pressure main gave way in Strangeways, causing a large upheaval of the ground, and some time afterwards a sewer gave way in Oxford street threatening, as one of the local papers puts it, "a number of innocent passers by with the fate of Korah, Dathan, and Abiram." Occasional upheavals on a comparatively small scale have occurred in connexion with the electric supply and on Jan. 5th a terrific report startled the people near the Royal Exchange, the flags in front of the building being lifted for a distance of 20 yards, while, as an eye-witness says, "in a few seconds a sheet of flame at least 20 or 30 feet high sprang from the pavement." It is extraordinary, and as some say "little short of miraculous," that no one was hurt, for these flags are crowded on Friday afternoons. There were, however, some narrow escapes, one gentleman having his hat blown across the road though he felt no shock. There are always satisfactory explanations of the why and the wherefore, but they come a little late. Mr. Wordingham, the city electrical engineer, is said to have explained that "the accident was due to the fact that the old-fashioned rubber cables are liable under certain conditions to portions of the rubber distilling from excessive heat" Another account states that it was caused by defective insulation, "the current finding its way out through a weak spot and instantly converting a considerable length of the indiarubber covering into inflammable vapours which took fire." It shows how progressive and yet how imperfect our practical knowledge is that these cables, laid a comparatively short time since, with the sanction, presumably, of the late Dr. John Hopkinson, who represented the foremost science of the day, should so soon have become "old-fashioned" and discarded and that for some time their removal has been going on. The explosion took place in a comparatively small section that was awaiting removal. Mr. Wordingham is said to have stated that "the new kind of cable was of a material that would render a repetition of these explosions absolutely impossible when the relaying in the city was complete." This is satisfactory so far as it goes, but such predictions are not always fulfilled. As the *Manchester Courier* says, "Nothing would excite more general surprise than the absence of excavations for two days together in any of our main streets" for something connected with the gas pipes, water pipes, sewers, or electric cables.

A Fatal Christmas Feast.

As everyone knows, our national festivals are made the occasions by some of the baser sort for disgusting orgies, though it is comparatively rare for the results of their abuse to be the subject of a coroner's inquest. But on Jan. 2nd Mr. Smelt, the city coroner, held an inquiry concerning the death of a woman from Salford who, with her husband, was spending New Year's Eve with an aunt in Hulme. She had complained of not feeling very well, but after taking some tea and whisky seemed better, and during the evening took some tinned salmon, tinned lobster, bread-and-butter, sweet cake, two glasses of claret, and a bottle of stout. She also sang a song, but had to go to bed, and "soon after midnight, whilst the company were still welcoming the new year with liquor and music, she died." Besides this woman there were ten people in the house all drunk. Mr. Heslop made a post-mortem examination of the body and after his evidence the jury returned a verdict of "Death from syncope arising from heart disease and excessive eating and drinking," while Mr. Smelt characterised the case as one of the most disgraceful that had ever come before him. We hear a great deal that is true about the good qualities and the intelligence of our working classes, but not perhaps quite as much as it is well for us to know of the large leaven that exists of those whose civilisation is little above that of the lowest savages. The problem of their rescue from a condition that does not speak well for the practical results of our educational methods is not one to be entered on here, but it is saddening and disquieting to think that in close proximity to, yet untouched by, the knowledge, the culture, and refinement of the day there are numbers of our people whose moral and intellectual plane is scarcely above that of the "brutes that perish."

Washhouses in Congested Districts.

At the last meeting of the Manchester City Council one of the members asked what had been done with regard to his suggestion made some months ago to the Baths and Washhouses Committee that small washhouses should be provided in the congested districts of the city. The chairman replied that a special sub-committee had been appointed to consider the question and would be called together early in the year. This question is not new. It was brought before the committee years ago. The boon to the poor women living in back streets in crowded houses with scant accommodation for washing themselves and their children would be most valuable. They have not the courage to go to the palatial public baths with their grimy little offspring but would gladly take them to a cottage differing little from those in which they dwell. This matter has often been pressed on the committee, as the chairman well knows. But some of the council are ambitious and wish the baths to be noble buildings "worthy of a great city," as if anything would for long be decorative where smoke is allowed so much of its own sweet way.

Jan. 9th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Hospital Accommodation for Wounded Soldiers in Scotland.

THE Board of Directors of the Crichton Royal Institution, Dumfries, have offered to take in 10 wounded soldiers from South Africa, preferably men suffering from nervous disorders. The managers of Campbeltown and district Cottage Hospital have offered to the War Office the free use of five beds in the hospital for the accommodation of wounded or invalid soldiers. The Red Cross Society in Glasgow has suggested to the Health Committee of the Glasgow Town Council that a portion of the new hospital at Ruchill in the Maryhill district of Glasgow should be offered to the Government for the accommodation of soldiers from the front. The committee forthwith agreed to offer the Government the use of the eastern part of the hospital consisting of eight pavilions where 500 soldiers could be accommodated. It is understood that the Red Cross Society undertake to provide the medical men and nurses It is expected that the hospital will be ready for use by the end of February or the beginning of March. Two beds have been offered in the Castle Douglas Diamond Jubilee Hospital for the accommodation of wounded soldiers, preference being given to those of the territorial regiment, the King's Own Scottish Borderers.

Typhoid Fever in Ayr.

Six fresh cases of typhoid fever have been notified within the last few days in Ayr, bringing the total number up to 176 on Jan. 16th.

Urban Mortality in Scotland in 1899.

An examination of the monthly returns as to the eight principal towns of Scotland, published by the Registrar-General and the issue of which for last year has just been completed, shows that the total general mortality in the eight towns together was 32,430, which on an estimated aggregate population of 1,587,414 gives a death-rate for 1899 of 20·43 per 1000 living inhabitants. Of the total 32,430 deaths, 15,828 occurred in Glasgow (the largest of the eight towns), 5859 in Edinburgh, 3189 in Dundee, 2719 in Aberdeen, 1410 in Leith, 1509 in Paisley, 1321 in Greenock, and 595 in Perth. This brings out the respective death-rates in the towns individually as follows:—Glasgow, 20·16 per 1000; Edinburgh, 19·60; Dundee, 19·20; Aberdeen, 19·06; Leith, 18·22; Paisley, 19·49; Greenock, 21·70; and Perth, 19·37. Of the whole 32,430 deaths 12,111, or 37·34 per cent, were of children under five years of age. In Perth 24·37 per cent of the persons who died were under five years of age, in Edinburgh 32·19, in Paisley 35·39, in Aberdeen 36·81, in Dundee 37·91, in Glasgow 39·15, in Greenock 41·33, and in Leith 42·13 Miasmatic diseases caused 3062 deaths in the eight towns collectively, or 9·4 per cent. of the whole number. In January, measles and whooping-cough were prevalent in Aberdeen, Edinburgh, and Leith. In February, whooping-cough prevailed in the same three towns, measles in Aberdeen, and influenza in Edinburgh. In March, influenza was marked in Edinburgh and Aberdeen, whooping-cough in Edinburgh and Leith, and measles in Aberdeen. In April measles still prevailed in Aberdeen and whooping-cough in Leith. In May and June whooping cough continued to prevail in Leith and measles was marked in July. Measles also prevailed in Glasgow in June, July, and August In September fever prevailed in Paisley. There was an abnormal mortality from measles in October in Glasgow, Leith, and Greenock. The same was the case in Greenock and Perth in November, in which month also whooping-cough prevailed in Perth. In December the average rate of mortality from miasmatic diseases was exceeded in Paisley owing to the prevalence of measles and whooping-cough, in Greenock because of measles, and in Perth because of measles, scarlet fever, and whooping-cough. The deaths for the year for the eight towns collectively from inflammatory affections of the respiratory organs (not including pulmonary phthisis and whooping cough) amounted to 6267 or 19 3 per cent of the whole Those from pulmonary phthisis alone numbered 3033 or 9 4 per cent The mean temperature for the year was 47 8° F and the mean rainfall 36 99 inches During the year the death was recorded of a widow aged 101 years Some particulars are also given as to 44 selected smaller town districts with a united population of 721 801 In these collectively the general mortality amounted to 13 090, or 18 13 per 1000 inhabitants 3835 of the deaths took place in the first quarter

Aberdeen University Court

At a meeting of this body held last week it was agreed that the classes in Latin under graduation class standard should be discontinued The annual accounts of the University were submitted by Professor Hay, who said that the young and growing Faculty of Science and the University library were inadequately provided for Otherwise the surplus past and expected, was fairly good and the prospects including those of the completion of the building extension scheme, were not unsatisfactory An endeavour is being made to arrange the difficulty as to the site for the new Greyfriars Church in connexion with the extension of the University buildings

Jan. 16th

IRELAND

(FROM OUR OWN CORRESPONDENTS)

The Health of Dublin

THE health of Dublin shows no improvement, last week again 110 deaths from respiratory diseases were registered It has been officially announced that His Excellency the Lord Lieutenant has been in communication with the Local Government Board of Ireland on the steps which should be taken for dealing as promptly as possible with the present unhealthy condition of Dublin The matter is forming the subject of a joint inquiry by the inspectors of the Local Government Board and the chief public health officer of the Corporation A letter dated Jan 13th was addressed by the Local Government Board to the superintendent medical officer of health of the city, suggesting various sanitary precautions conveying a warning to the public in reference to the highly infectious nature of the influenza now prevailing and promising the approval of the Board for any temporary addition which the Public Health Committee might think it necessary to make to their staff of sanitary sub officers and dairy inspectors A letter has appeared in the morning papers from Sir Charles Cameron informing the public that although influenza is not notifiable under the provisions of the Infectious Diseases Notification Act it is highly contagious and persons suffering from it should be carefully isolated To judge by the leading articles and letters which now appear daily in the journals both the public and the authorities are at last becoming alive to the appalling state of things as regards the death rate which now exists in Dublin

Mater Misericordiæ Hospital, Dublin

The authorities of the Mater Misericordiæ Hospital have guaranteed that at least 30 beds shall be available there for wounded patients who may return to Dublin from our armies in South Africa The hospital is the largest in Ireland and is dependent altogether on the donations and bequests of Irish people—receiving no Government grants whatever

The Irish Hospital for South Africa

In addition to Sir William Thomson and Mr George Stoker Dr J B Coleman of Dublin has been appointed to the staff of Lord Iveagh s Irish hospital for South Africa Dr Coleman, who is a physician to the Richmond Hospital, was formerly a house surgeon at the Mater Misericordiæ Hospital

Death of Dr S R Mason of Dublin

Dr S P Mason of Merrion square Dublin died rather uddenly on the morning of Jan 9th His health was known to be bad for the last few years but his immediate death was not at all anticipated He was an M D of the Dublin University, a Fellow of the Royal College of Surgeons in Ireland, and formerly a Master of the Coombe Hospital. He filled the chair of Midwifery at the Royal College of Surgeons in Ireland for some years His death at the early age of 43 years has been a cause of much regret to his many friends.

Coleraine Cottage Hospital

At the annual meeting of the supporters of this charity, held on Jan 9th, it was reported that the receipts for the past year were £553 16s 3d, and the expenditure £362 18s 4d The building, which was closed from April until December for enlargement and improvement, was re opened rent free, and the re furnishing will soon be complete 19 patients were admitted and there were 35 extern cases

Death of Dr R L Hunter of Larne

I regret to announce the death at his residence, Larne, co Antrim of Dr R L Hunter, on Jan 12th, at the age of 68 years. Educated at the Belfast Queen's College, he graduated M D of the Queen s University in 1868 After acting as an assistant in England he was engaged as a surgeon during the Franco Prussian War He escaped from Metz during the great siege of that place and went to America, whence he returned to his native district and for the last 30 years has practised in Larne At different times he was Admiralty surgeon, police surgeon, and attendant to the coastguards and naval reserve His health had been gradually failing for the past 12 months He had an extensive practice and enjoyed the respect of a large circle of friends

Ulster Medical Society.

The usual monthly meeting was held on Jan 10th at the Museum, Belfast, but owing to the great epidemic of illness there was not as large an attendance as usual Professor W. H Thompson read a paper on Protamines and their Cleavage Products and Physiological Effects, and Dr Kirk brought forward a communication on Fractures of the Neck of the Radius

The Influenza Epidemic

The epidemic of influenza is still raging all over the North of Ireland, increasing the death rate, causing great inconvenience in business and giving medical men an immense amount of work

Death of Dr Stephen O Sullivan Professor of Surgery in the Queen s College, Cork

Cork has been visited by a very severe epidemic of influenza During the week ending Dec 23rd, 1899, the mortality rose to over 50 per 1000 The resources of undertakers and of officials of cemeteries have been taxed to the utmost The local members of the medical profession have supplied their quota to the sufferers Already something like 25 per cent of medical practitioners have been prostrated by the disease, whilst the others have been kept rushing from patient to patient Professor O Sullivan was confined to his house for about three weeks, suffering from a severe attack and, believing himself to be then sufficiently recovered, he resumed the practice of his profession For many years he had been suffering from asthma and chronic bronchitis and the attack of influenza had so undermined his constitution that a relapse soon resulted in pneumonia which proved fatal in a few days The news of his death, which occurred on Jan 8th, was heard with great regret, not alone by members of the profession but also by the citizens at large He obtained the degree of M D at the Queen's University in 1862 and soon afterwards was appointed house surgeon at the North Infirmary, a position which he held for eight years On resigning that post the governors of the hospital, in recognition of his services, elected him assistant surgeon and soon afterwards he became intern surgeon, an appointment which he held with much credit to himself and much advantage to the institution up to the time of his death He loved the North Infirmary as if it were his own private property and did much for its advancement in public esteem In the year 1880 he was appointed Professor of Surgery at the Queen's College, Cork, in succession to Dr Tanner and for some time was a member of the Council of the College He also represented Convocation on the Senate of the Royal University for a number of years He was consulting surgeon to the Mercy Hospital, was connected with several public institutions in Cork, and he enjoyed a large consulting practice Professor O Sullivan took an intense the "battle of the clubs" at Cork and he attended meetings of the health. His mature judgment was always at the disposal of his brethren. He was a man of strong views and even when they did not correspond with those of his colleagues all admired his tenacity of purpose and his sincere desire to advance the interests of the profession. His funeral was almost a public one.

Jan. 16th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

United Resignation of the Medical Staff of a Municipal Dispensary.

IN the Ward of Ternes at Paris there is a dispensary organised by the Municipal Council and connected with the School Board of the city (Caisse des Écoles de la Ville). At this dispensary there attend a certain number of medical men who give their services gratuitously to poor children. Each one deals with his own specialty and receives no remuneration. The mayor of the Quarter and his deputies have, however, sought to pervert this philanthropic work, which does a great service to the poor, from its proper end to that of a political and electoral engine. The authorities of the Caisse des Écoles have practically decided that children who go to any school other than the municipal schools shall be no longer allowed to receive gratuitous medical advice. This law obviously excludes all those little sufferers whose parents like to send them to schools presided over by religious orders or private teachers. Owing to this regulation, so contrary to the philanthropic feeling which prompted the 14 medical men on the staff of the dispensary to give their services gratuitously, the said staff has resigned in a body. It is necessary to insist once more upon the "cheek" (*sans-gêne*) with which public bodies in France treat the medical profession in its relations to the State, the municipalities, or the law courts. Everywhere the medical profession is treated as an underling whose duty is simply to obey the most arbitrary orders. When any salary is given it is fixed upon an absurdly low scale and for this is demanded cruelly hard work for very long hours and accompanied by heavy responsibility. When services are given gratuitously the requirements of the authorities are quite despotic and are accompanied by a complete lack of consideration. Before this last occurrence there had already been a series of petty annoyances at the Ternes Dispensary. The chief medical man sent in his resignation, whereupon a successor was appointed solely by the governors (*administrateurs*) without any reference to the opinions of the other medical men. The dispensary nurse, whose work was admirable, was threatened by the governors, anxious to manifest their political zeal, with dismissal if she sent her child to any school other than a municipal one. It must, however, be sorrowfully confessed that what renders it easy for a municipality to treat medical men in the way that they do is, as the municipality somewhat insolently answers, the fact that the number of applicants for official places exceeds the number of posts, so that no difficulty is found in filling up the vacancies caused by resignations even of unpaid posts, so great is the liking among French medical men to be an official.

Jubilee of the Society of Biology.

The Society of Biology has been celebrating with an official ceremony the fiftieth anniversary of its foundation. The Government delegates and the members of the society first assembled at the College of France where a marble tablet has been placed on the wall of the laboratory of Claude Bernard, the founder of the society. The tablet bears this inscription: "In this laboratory there worked, from 1847 to 1878, Claude Bernard, Professor of Medicine at the College of France." Orations in praise of Bernard were delivered by M. Gaston Paris, the Director of the College of France, and by Dr. d'Arsonval, who to-day occupies the chair held by the great physiologist. A grand ceremony then took place in the large Theatre of the Sorbonne where the Minister of Public Instruction was received by the officials of the society, with Professor Bouchard, the President, at their head. There were many delegates present from French and foreign societies, and among the latter were Waller of London, Blumenthal of Berlin, Héger of Brussels, and Prévost of Geneva. Speeches were made by Professor Bouchard, by the Minister of Public Instruction, and by some of the delegates. Various decorations were distributed and in the evening a banquet with more speeches concluded the festival.

Complaint against a House Surgeon.

The lay press has been making a great to-do over an alleged scandal at the Children's Hospital. A little girl is said to have died owing to the brutal treatment of a house surgeon while putting on a Sayre's jacket. A complaint has accordingly been lodged with the Tribunal, who have ordered an inquiry into the circumstances and a post-mortem examination. What really happened was as follows. The child suffered from angular spinal curvature. She was very irritable and struggled when anyone touched her. The house surgeon was ordered to put on a plastic jacket but the child tore away the bandages as they were being put on and pinched the house surgeon's arm as hard as she could. He lost patience with her and gave her a light tap on the cheek to make her keep quiet. After that she was good and the jacket was applied without any more trouble. In the evening the house surgeon, to console the child, went to see her as she lay in bed and brought her some little delicacy to eat. As ill-luck would have it, however, just at that moment the child gave one cry and died—an unfortunate event which does sometimes happen after a plaster jacket, although the occurrence is very rare. The house surgeon will certainly not be prosecuted, for all the other patients in the wards are ready to bear witness to his uniformly kind treatment of the patients and to the fact that he never ill-treated the child. But this unfortunate incident, which has been grossly misrepresented by that section of the press which is always in search of sensational copy, serves as a pretext for heaping new insults upon the medical profession.

Madness on the Stage.

One of the Paris theatres has just produced a piece in six acts under the title "In Peace." The plot deals with a matter which has for some time sadly exercised both writers and legislators; one moreover which bears directly upon the rôle of the medical man in modern society. A commercial man returning home from a long journey finds his business ruined by his son-in-law and his children to whom he had confided his affairs during his absence. Naturally annoyed at this he announces his intention of disinheriting them, so they arrange with a medical man to treat him as a lunatic and have him immured in an asylum. Four long scenes pass in the asylum and naturally enough the author makes out that many of the inmates are not mad but only there on account of family intrigues. Among them is a noble-minded priest who has recognised the impossibility of escape and has resigned himself to end his days there "in peace"—a peace which foreshadows that of the grave. The hero of the piece when he comprehends the situation falls into paroxysms of rage which naturally strengthens the opinion that he is mad. One day at the instance of some of his relations, who are disinterested, a magistrate and a medico-legal expert arrived at the asylum to make inquiries of the patient himself. But the influence of his surroundings has proved too much for his brain and he has become really mad, so that he flies at the magistrate and tries to strangle him. Henceforward he is an outcast from society and condemned to die in the prison-house. The medical man in charge of the asylum is depicted as an unscrupulous scoundrel who sticks at nothing as long as it pays him, and the attendants by his orders give morphia secretly to the morphino maniacs in order to prolong their stay in the asylum. The play has not taken the public fancy, for its real dramatic interest is *nil*, but the production has served as a peg for discussions in the press as to the exaggerated powers of medical men in such positions and to demand the carrying out of the oft-mooted, but never realised, reform of French lunacy laws.

Jan. 16th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Death of Professor Francesco Orsi.

BUSY as death has been in the ranks of the profession at home and abroad, it has laid a peculiarly heavy hand on the Lombard medical school. In Professor Giovanni Zoja it lately lost an anatomist of a high order and on New Year's Day, its illustrious professor of clinical medicine, Dr. Francesco Orsi, succumbed to a lingering illness. Born in 1828, he was still a student in medicine when the revolution of 1848 summoned the youth of the Alta Italia to take the field against Austria, and Orsi was among the first to enrol himself in the battalion of Lombard undergraduates. He was actively engaged in the whole campaign which, in April, 1849, closed on the field of Novara with Radetsky's decisive victory over King Carlo Alberto, and the conclusion of peace saw him once more immersed in clinical study at Pavia. In 1855 cholera was raging throughout Italy, and Orsi, still an undergraduate, repaired to the scene of its greatest prevalence, Nave, in the province of Brescia. There his fearlessness, his professional skill, and his energy did much to lighten the visitation, after which he graduated with high honours as Doctor of Medicine at Pavia. In 1859 war again broke out between Austria and Piedmont, which was this time reinforced by the Emperor Napoleon, and Orsi applied for a post on the army medical staff. His application was granted on the very day of the announcement of the Treaty of Villafranca which prematurely closed the campaign; and so indignant was he at this unexpected turn of affairs that he threw up his appointment and restricted his service to assisting Professor Porta in attending the wounded in hospital. Called to the University of Genoa to fill the chair of Clinical Medicine he did much to enhance the fame of the Ligurian school till 1866, when his Alma Mater, Pavia, secured him for her chair of Medical Pathology and Clinical Medicine. His ability in diagnosis and treatment soon gave the Lombard University a distinguished name, while his expository power, remarkable for its lucidity, succinctness, and impressiveness, brought him pupils from all parts of the kingdom. Among these may be mentioned Pietro Grocco, now head of the Tuscan school; Camillo Bozzolo, professor of clinical medicine at Turin; Achille De Giovanni, Rector Magnificus of Padua, where he is also professor of clinical medicine; and Carlo Furlanini, who holds the chair of Special Pathology in Pavia. Besides being a busy teacher and consultant he was an energetic and philanthropic citizen and filled more than one civic post in his native province with popularity and success. No less proficient in written than in spoken discourse, he published numerous treatises on difficult or debated subjects in medicine, specially valuable being his "Analisi Critica sulla Dottrina dell' Erpetismo," his monograph "Sulle Malattie del Sangue," his "Frammenti di Patologia e Terapia Generale," and his "Curiosità Chimiche." His funeral, which took place at Pavia on Jan 3rd, was inkeeping with his fame as a teacher and clinician—the "founder," in fact, of the Lombard Medical School, as he was called. The whole Senatus Academicus and the undergraduates of all the faculties, bearing the university banner draped in black, were present, as well as many former pupils holding chairs in other medical schools. Of these Professor Grocco of Florence was the spokesman of the occasion and delivered a touching discourse on the genius and virtues of the deceased. Dr. Achille Monti, professor of pathology at Pavia, followed worthily as representing the Minister of Public Instruction, Dr. Baccelli; while the syndic in a few effective periods expressed on the part of the citizens of Pavia their sense of the loss they had sustained. The ceremony concluded with the announcement of telegrams of sympathy and condolence from all parts of the Italian kingdom.

The Vatican Consultants in Medicine and Surgery.

Leo XIII. has seen and highly approved the gold medal just conferred on his chief consultants in medicine and surgery by the Roman Catholics of Novi (Liguria). The medal, of massive gold, a *chef d'œuvre* of the well known artist in that *métier* Signor P. Ferrea, presents on its obverse aspect the portraits of these distinguished functionaries, each portrait having under it the name of its subject—Joseph Lapponi and Caietanus Mazzoni. On the reverse side is given the following epigraph from the pen of an accomplished Lombard prelate:—

QUOD
E PRAESENTI DISCRIMINE
LEONEM XIII PONT. MAX.
NONAGENARIUM
CHIRURGIA ERIPUERINT
NOVENSES ALIQUOT CIVES
HONORIS CAUSA
MDCCCIC.

(Because they rescued from immediate danger by surgical intervention the Supreme Pontiff Leo XIII. in his ninetieth year some citizens of Novi have bestowed on them this medal to render them honour, 1899.) The medal gives artistic expression to the gratitude felt throughout the Roman Catholic world on the Kalends of March last when it learned that the Holy Father had emerged from his consultants' hands stronger and better than he had been for years and when within 24 hours 10,000 telegrams in that sense reached the Vatican and some 350 the private residences of Dr. Lapponi and Dr. Mazzoni. That Leo XIII. maintains his health and his energies, physical and mental, in the severest winter known in Italy for a whole generation is testimony sufficient as to the skill and care with which his consultants acquit themselves. As I write I am informed of another token of gratitude for the successful operation above referred to. This time it is conferred on Dr. Mazzoni singly by the three nephews of Leo XIII. It is a magnificent parchment, designed and illuminated by Perazzoli of Rome, and bears the following dedication: "Ludovico, Camillo, and Riccardo Pecci, gratefully honouring the distinguished master of the healing art, who in March, 1899, with skilled and assured hand, restored health and vigour to the Pontiff and peace of mind to his distressed family and to the anxious Catholic world—an arduous and splendid example of operative science which history will not fail to commemorate." The marginal ornamentation contains allegorical figures and cherubs in illustration of medicine, with various Latin mottos artistically introduced; while the armorial bearings of the Pecci and Mazzoni families sustain each other in the central space of the parchment. In the Vatican itself no fewer than three high functionaries are also under medical treatment. Of these the Cardinal Vicar (Jacobini) is somewhat better; Prince Altieri, commandant of the Pontifical Guard, is dangerously ill; while Cardinal Trombetta (in his eighty-fourth year and not expected to recover) has received from the hands of his Holiness the apostolic benediction.

Award of the Bressa Prize.

Every four years the Reale Accademia delle Scienze of Turin awards the prize of 9600 francs to the contemporary *savant* who in its judgment has deserved best of physical science or nature study during the quadriennium. Since its foundation by Signor Bressa, a distinguished ornament of the subalpine seat of learning, 11 such prizes have been awarded. This, the eleventh of the series, has just fallen to Dr. Ernst Haeckel, Professor of Zoology in the University of Jena, for "valuable contributions covering the whole field of biological science."

Jan. 14th.

Obituary.

THOMAS GREAVES WALKER, M.R.C.S. ENG., L.S.A.

MR. THOMAS GREAVES WALKER died at his residence, Colston's-parade, Bristol, on Jan. 8th from pneumonia, after a short illness. Mr. Walker was educated at the London Hospital and qualified as L.S.A. and M.R.C.S. Eng. in 1885 and 1889 respectively. The deceased, who was only 39 years of age, had been in practice in Bristol for 10 years. He was extremely popular not only with his patients but also amongst the members of the medical profession. Mr. Walker was medical adviser to the local branch of the Society for the Prevention of Cruelty to Children and took great interest in the work. Much sympathy is felt in Bristol for his widow and children.

AMBULANCE WORK IN THE FIELD.—Surgeon-General G. J. H. Evatt, principal medical officer of the Western District, gave an interesting lecture at the headquarters of the local volunteers in Plymouth on Jan. 10th, the subject being "The Organisation and Working of the Army Medical Service in the Field." Surgeon General Evatt alluded to the fact that in the Western District, stretching from Land's End to Gloucester, there were only two army surgeons left—himself and another. Civilian surgeons were coming forward to assist and a militia medical corps was being organised to take the place of the regulars who were going abroad.

Medical News.

University of Oxford.—The following candidates at the recent examinations were successful.—

Final Examination for the M B Degree.

Pass List—A. C. Goodwin, B A., Keble, F. P. T Hilliard, B A, Magdalen, F. O Stoehr, B A, Trinity; and J A Willett, B A, University.

Pathology alone—E D Bond, B.A., Keble; J D Rolleston, B A, B N.C., J E H Sawyer, B A, and W. V. Shaw, Christ Church, F. J Stevens, M A., Exeter, A. E Thomas, B A, Merton, and R. Warren, B A, New.

First Examination for the M B Degree.

1 *Organic Chemistry*—G D. Allen, non collegiate, G Hely-Hutchinson Almond, Hertford, L T Burra University, E Burstal, Trinity, D Davidson, Brasenose, H. R Dean, New; J Freeman, University; R C Jewesbury, Christ Church; H A. Philpot, New, E Whitley, Trinity; and A R Wilson, Wadham

2 *Materia Medica and Pharmacy*—T E. C Cole, Christ Church, W. L. M Day and A. C. Le Rossignol, Exeter College, and A. J. Wigmore, non collegiate

3 *Human Anatomy and Human Physiology*—E L. Farncombe, St. John's; A. H. Hogarth, Christ Church; C M H Howell, Trinity, L D Neve, Merton, and P. F Tinne and *H. M Turnbull, Magdalen.

* Offers Human Anatomy only, being exempt from examination in Human Physiology.

Examining Board in England by the Royal Colleges of Physicians and Surgeons—The following gentlemen passed the Second Examination of the Board at the January quarterly meeting of the Examiners in the subjects indicated:—

Anatomy and Physiology—Joseph Baird Albury, St. Mary's Hospital, Edward Whyte Alment, St. Bartholomew's Hospital, Oliver Francis Haynes Atkey and Harold Balme, King's College, London; Francis Barton, University College, Liverpool, Algernon James Beadel, Guy's Hospital, Stanley Bennett, Cambridge University and St Bartholomew's Hospital, Charles Reginald Bradley, St George's Hospital, George Russell Haines Chell, Mason College, Birmingham; George Martin Clowes, London Hospital; Robert Harry Lucas Cordner, St George's Hospital, Thomas Reginald Couldry, St. Bartholomew's Hospital; Harold Juler Cundell, St. Mary's Hospital; Harold Stewart Cassan Darbyshire, University College, Sheffield, and St Thomas's Hospital, Edward David Davis, University College of South Wales, Cardiff, Harold Benjamin Day, Kings College, London, William Frank Lydston Day, Cambridge University, Percy Toplis Drabble, University College, Sheffield; Raby Montague Grogono, London Hospital, Charles Walter Cowell Harvey, St Bartholomew's Hospital, Philip Arthur Hendley, King's College, London, Vernon Hetherington, St. George's Hospital, James Howard, Owens College Manchester, Ernest Charles Hodgson, and Guy Hughes, St Bartholomew's Hospital, William Ibbotson, University College, Sheffield, Reginald Lewis Jones, Cambridge University and Middlesex Hospital, Ernest Henry Kenderdine, Mason College, Birmingham; Charles Samuel Kingston, St Bartholomew's Hospital, John Lloyd Lewis, London Hospital, John Daniel Stuart Lloyd, Mason College, Birmingham, Allen Douglas Low, Nelson Low, Owen Leonard Lowsley, William Terrance McCowen, and Edward Henry Milner-Moore, St. Mary's Hospital; Lionel Henry Moiser, Yorkshire College, Leeds, and Guy's Hospital, Charles Molteno Murray, Cambridge University and Guy's Hospital, John Patten Nettell, London Hospital, Edward Newton, Cambridge University and St George's Hospital, George Blake Norman, Cambridge University and St. Mary's Hospital, Loraine Orton, Cambridge University and St Bartholomew's Hospital, Thomas Hamilton Ollerhead, Arthur Frederick Pilkington, and Ernest Aubrey Price, St. Mary's Hospital, Frederick Paine, Middlesex Hospital, John Douglas Pearson, Guy's Hospital, James Houston Porter, London Hospital, George Herbert Richard and Percy John Robbins, St Mary's Hospital, Edmund Arthur Roberts and John Latham Rushton, Kings College, London, Frederic Emilius Roberts, St. George's Hospital, Robert Poole Sephton, Cambridge University and Owens College, Manchester, Edward Bertram Smith, St Bartholomew's Hospital, Frederick Morton Vincent Smith, Guy's Hospital and Mr Cookes' School of Anatomy and Physiology, Daniel Jenkins Thomas, University College of South Wales, Cardiff, John Haydon Timothy, King's College, London; Francis John Turner, Guy's Hospital, Hugh Waddell, Queen's College, Belfast, Henry James Davey Walker, London Hospital, and Charles Murray Woods, Charing cross Hospital.

Anatomy only—Joseph Wilding, St. Bartholomew's Hospital

Physiology only—James Ewing, Yorkshire College, Leeds, and Graham Lionel John Wilson, St George's Hospital

44 gentlemen were referred in both subjects and one in Physiology only.

Plymouth Royal Eye Infirmary.—The annual meeting of this institution was held on Jan 10th. The medical report showed that 1890 patients had received treatment during 1899; of these, 1560 were either cured or relieved, the remainder being still under treatment. There had been 255 in-patients admitted, the daily average number being 14 The treasurer stated that the receipts amounted to £2378 and the expenditure to £2214. It is hoped that the new infirmary at Mutley, on which £13,418 has been expended, will be ready for occupation early in March.

Royal College of Surgeons in Ireland.—Mr. Arthur Chance has been elected a member of the council of the College.

A Medical Magistrate.—Sir John Williams, Bart, M.D., F.R C.P., Lond, has been placed on the Commission of the Peace for the county of Carmarthen.

Barry Accident Hospital.—At the meeting of the *Hospital Committee of the Barry District Council* it was decided to take over the Accident Hospital and to conduct the building in future at the expense of the rates. The medical staff will continue to give their services gratuitously.

Royal United Hospital, Bath.—The annual meeting of the Royal United Hospital Working Association was held on Jan. 20th. The report showed that this useful society had supplied 1016 gifts in clothing to the hospital, representing a value of £200.

Presentation to a Medical Man.—Mr. Andrew McMillan, M.D. Aberd, of Stanley, Perth, on his recent retirement from active practice, was on Jan. 11th the recipient of a public testimonial as a token of the esteem in which he has been held by the community after a professional career of 37 years. The presentation was made by a deputation of friends who waited upon Dr. McMillan at his residence, and consisted of a solid silver salver suitably inscribed, an aneroid barometer and thermometer, and a purse containing 60 sovereigns.

Drainage of Chard.—At the last meeting of the Chard Town Council a letter was read from the solicitor of the Lord of the Manor, stating that they were about to commence proceedings against the council for polluting the Chard reservoir with town sewage and that a writ would be issued forthwith. After some discussion the council decided to adopt a scheme of drainage recommended by Mr. C. T. Walrond, C E., of London, estimated to cost £8000, and the town clerk was instructed to ask for a stay of the threatened legal proceedings.

Freemasonry.—*Rahere Lodge*, No. 2546.—An ordinary meeting of the Rahere Lodge, No. 2546, was held at Frascati's Restaurant on Jan. 9th, when Bros. Worth and Slater were raised to the degree of Master Mason. The death of Bro. Bill was announced and a vote of sympathy with his relations was unanimously passed. The following grants were confirmed: (1) £21 to the British Medical Benevolent Fund; (2) £50 to the Soldiers' and Sailors' Families Association; (3) £25 to the Depot Mobilisation Relief Fund for orphans and widows of members of the Royal Army Medical Corps; (4) £25 to the Orphans and Widows of Officers' Fund; (5) £1 1s. to "Our Brothers' Bed" at the Home for the Dying; and (6) £10 10s. to each of the three masonic charities to be placed on the list of the respective stewards for the festivals. After the meeting 20 brethren dined together.

Society for the Relief of Widows and Orphans of Medical Men.—A quarterly court of this society was held on Jan 10th, Mr. Christopher Heath, Vice-President, being in the chair Two new members were elected and the deaths of Sir James Paget, President, and Mr. Grimson, a director, were reported. Mr. Christopher Heath from the chair proposed the following motion: "The quarterly court of directors of the Society for the Relief of Widows and Orphans of Medical Men desires to record its great regret at the death of Sir James Paget, Bart, the President of the society, who has for many years taken the greatest interest in the society's welfare and until recently has regularly taken the chair at the meetings of the court." There were no fresh applications for grants and the death of a widow was announced who had received since January, 1875, £1333 10s from the funds. It was resolved that £1205 10s be distributed among the 48 widows, 11 orphans, and the six recipients from the Copeland Fund. The Christmas present, £531, had been given on Dec. 18th. The expenses of the quarter amounted to £74 14s. 6d. The nomination of a President was postponed to the April court.

BRISTOL MEDICAL CHARITIES—The employés of Messrs W. D. and H O Wills during 1899 voluntarily collected £364, which has been divided amongst the different medical charities of Bristol

ROYAL VICTORIA HOMES, BRENTRY.—At the meeting of the Newport (Mon) Corporation held on Jan 9th it was decided to contribute £1000 to the funds of the Royal Victoria Homes, Brentry, in consideration of having seven beds reserved for a period of 25 years

HEALTH OF CARDIFF.—Dr. E. Walford, the medical officer of health of Cardiff, states that during 1899 there were 5309 births and 2857 deaths registered, equal to a rate of 28 5 and 15·3 per 1000 respectively The death rate in 1898 was 14 8 per 1000, the lowest rate since 1845

HOSPITAL SUNDAY IN BIRMINGHAM.—A meeting, presided over by the Lord Mayor, was held on Jan 4th at the Council House, Birmingham, to receive the report and balance sheet of the years collections and to present a cheque to a deputation from the Queen's Hospital, on behalf of which institution the collections were made. The report stated that the day appointed was Oct 29th and, with one or two exceptions, all the collections at places of worship were taken on that day. The number of places of worship at which collections were made was 276, thus making, with five contributions from personal or anonymous sources, 281 returns, as compared with 280 in 1898 The gross receipts amounted to £5304, as compared with £5246 in 1898, when the collection was for the General Hospital, and £5267 in 1896, the last occasion when the Queen's Hospital benefited It was, indeed, the largest collection that had been raised for 21 years, namely, since 1878, when the collection exceeded £6000 The Lord Mayor, after the adoption of the report and balance sheet, handed to Sir James Sawyer, on behalf of the Queen's Hospital, a cheque for £5059 2s 7d

---

THE PRESERVATIVES AND COLOURING MATTERS IN FOOD

EVIDENCE BEFORE THE DEPARTMENTAL COMMITTEE

MONDAY, JAN 15TH

THE Committee appointed by the President of the Local Government Board to inquire into the question of preservatives and colouring matters in food resumed its sittings after the holidays to-day, when it examined three witnesses. Sir HERBERT MAXWELL, M P , Chairman of the Committee, occupied the chair

Mr SAMUEL RIDEAL, Doctor of Science and Fellow of the Institute of Chemistry, was the first witness and in answer to the chairman he explained that his views with regard to preservatives in food had been set out in a paper by Mr A G R Foulerton and himself published in *Public Health* for May 1899 He and Mr Foulerton had engaged in a number of experiments to ascertain the actual amounts of boric acid and borax on the one hand and formaldehyde on the other, which were necessary for preserving purposes in milk As the result of these experiments they came to the conclusion that one part of formaldehyde in 50 000 was sufficient to preserve milk, even in warm weather, for 24 hours, and that one in 2000 of a mixture of boric acid and borax was sufficient for the same purpose Having arrived at these conclusions they then attempted to ascertain whether these quantities had any effect upon the digestibility of food. The conclusion they came to was that the effect of these quantities of preservatives was inappreciable upon the digestibility of food even after contact for 24 hours There was a certain slight retarding effect noted, but no inhibiting effect These experiments were made *in vitro*, but he had performed experiments upon animals to supplement them The latter showed that the quantities of formaldehyde had no effect upon the nutrition of cats or guinea pigs or rabbits The cats experimented with were three months old and the guinea pigs and rabbits were adults He had tried with kittens of three or four weeks at first, but he found it difficult to feed them by hand for the natural milk of a cat contained a very much larger quantity of albumen than the milk of a cow Since making the experiments he had read Dr H F Annett's paper in THE LANCET,[1] and he desired to point out that Dr Annett gave no information as to the quantity of milk consumed by the kittens

The CHAIRMAN said that Dr Annett had told the Committee that he gave the kittens as much as they would take.

Mr RIDEAL, continuing his evidence, said that he did not consider the quantities which he had given to be the maximum that could be taken with safety The question really resolved itself into the susceptibility of the individual. Cases were recorded of 20 grains of boric acid having produced rash symptoms but that would correspond to a very large quantity of milk containing one in 2000 of boric mixture He did not think that anyone should be allowed to put an unlimited amount of preservative into milk He advocated a limitation of the amount and a declaration to the consumer of its presence He considered that the quantities he had mentioned were suitable quantities for preserving purposes, and if they were declared they could be used by the majority of people with impunity In the case of invalids and young children, however, the milk should be altogether free from preservatives Even smaller quantities than he had mentioned might be used if they were added at the time when the milk was taken from the cow.

Professor THORPE then examined the witness as to certain tables which he had prepared, the object of the examination being to show that the quantities mentioned would have little preserving effect upon the milk —Mr RIDEAL, however, insisted that these quantities were sufficient for preserving purposes for 24 hours even in warm weather.

In reply to Dr BULSTRODE, witness said that he was not prepared with evidence to show that larger quantities would have effects prejudicial to health

Mr. CHARLES CASSAL, Public Analyst for Kensington, St. George's Hanover square, Battersea, and other districts, was the second witness He expressed the opinion that the position of the public analyst in regard to preservatives and colouring matters in food should be clearly defined by the Legislature or by an authority delegated by the Legislature The public analyst, he said, must have a definition of what constitutes adulteration for the purposes of the Sale of Food and Drugs Acts, and he thought that the legislature should see that the necessary experiments were carried out His view was that the purchaser was entitled to a clear and explicit declaration of the nature of the article which he received In the present state of things the local authorities found great uncertainty and expense in connexion with proceedings If it were held that it was necessary to use chemical preservatives then the nature, amount, and effect of the preservatives employed should be disclosed to the purchaser He was of opinion that it was quite possible to carry on the milk supply of a large community like that of London without recourse to chemical preservatives For instance, the Aylesbury Dairy Company supplied an enormous district and it never used preservatives either in milk, cream, or butter, and other large firms were in the same position He had it from people engaged in the milk trade that it was not only possible but right and proper, that the milk supply of a large community should be free from chemical preservatives What they did was to adopt cold treatment which was found to work quite satisfactorily If it were contended that small vendors had not the means for this treatment then he replied that they should not go into the business without proper equipment for it. His view of these preservatives was that they were foreign ingredients and that their presence constituted adulteration quite apart from the question of their injuriousness He advocated the prohibition of preservatives, and failing prohibition the disclosure of their presence to the purchaser At different times he had examined samples of milk supplied to large institutions and hospitals in London and although he had not in any of these cases determined the proportions he had in a number of instances found boric preparations present in the milk He had found salicylic acid in wines—in small quantities in foreign wine and in large quantities in so-called British wine In orange wine he had found 26·6 grains per gallon, in wine called British sherry 11·50 grains, and in black currant wine four grains With regard to formaldehyde he was of opinion that its use was considerably on the increase. Experiments made by himself and others went to show that formaldehyde even in dilute solutions affected some of the constituents of food material in such a way as to make them practically insoluble and incapable of digestion. He had not made any determination of quantities of formaldehyde in samples of milk submitted to him because at present there was no satisfactory process of estimation, though no doubt in time one would be devised With regard to colouring, there was some colouring which might be considered legitimate but others, again were fraudulent and ought to be prohibited. For instance, he would stop the colouring of peas with sulphate of copper

By Dr BULSTRODE: He opposed the use of any preservative other than salt and he recommended the use of cold storage as the best means of carrying on trade.

Mr DE HAILES, analyst to the Dairy Trade Protection Society, the third witness examined gave to the committee an account of the means by which milk was brought from distant places to London and insisted that preservatives must be used As for cold storage he said that many farmers were without the means for adopting it. He was aware, he said, that some milkmen make a great point about not using preservatives, but they were careful to get their supplies from farms within a short distance of London He would not like to say that it was impossible to supply milk to London for a greater distance than 40 miles without preservatives, but he would say that the milk trade as at present carried on, could not be carried on without preservatives He saw great practical objection to vendors being required to make a declaration to each purchaser of the presence of preservatives, especially in view of the manner in which the Sale of Food and Drugs Acts was administered, although he should have no objection to a notice being exhibited in the shop saying that the milk sold there was preserved. He also saw objection to a declaration in each case when butter with a preservative was sold.

The Committee then adjourned

TUESDAY, JAN. 16TH

The Committee met again to-day with Sir HERBERT MAXWELL in the chair and proceeded with the examination of witnesses

Mr ALEXANDER G. R. FOULERTON, bacteriologist to the Middlesex Hospital examined by the CHAIRMAN, said that in his opinion preservatives in milk were necessary, especially in the case of small retailers who had to supply the poor and could not get rid of surplus milk in the same way as large companies. He was of opinion that the amount of such preservatives as boric acid and formic aldehyde present in milk was absolutely harmless to the ordinary individual who took a small quantity of milk on the other hand he thought that to an invalid or a child the amount might be and probably in some cases would be decidedly hurtful The boric acid in the case of an invalid or a child was capable of producing toxic symptoms, but he did not think that formic aldehyde would produce these symptoms, though it might make the milk less digestible. He thought that the public ought not to be allowed to buy preserved milk without knowing it in order that invalids and children might be protected The amounts which he should consider safe for the average individual were, supposing that about one pint of milk were taken per day, 1 in 2000 of boracic acid and about 1 in 50,000 of formic aldehyde His idea about preservatives was that they should be used to keep good milk fresh and not to keep stale milk. Under the present system it was almost impossible for poor people in London to get good milk without the use of preservatives. The system might be modified but that would involve doing away with the small retailer. He was aware that in some foreign countries the use of preservatives was prohibited, but he saw great difficulties in the case of large communities whose milk-supply was brought from a distance. He did not for a moment contend that the interests of the small trader were to be placed before the interests of the public health. He confessed that the disappearance of the small trader would be an excellent thing for the public health, but he did not know whether it could be done. He advocated a declaration of the presence of preservatives in milk as a safeguard and speaking generally, he was in favour of declaration rather than prohibition.

---

[1] THE LANCET, Nov 11th, 1899, p 1282.

In examination by Professor Thorpe the witness took exception to the idea that the experiments of himself and Mr. Rideal showed the amounts of preservatives used to have had practically no effect in preventing the change in milk. In his own experience, he said, he had kept overnight milk with one in 50,000 of formic aldehyde and found it perfectly sweet next morning, while similar milk without the formic aldehyde became tainted. Explaining his position further, Mr. Foulerton said he did not regard the question merely from the point of view of the small trader, but from the public health point of view. The small trader might sell a perfectly good milk and it might be taken into a dirty, little room with half a dozen people living in it, and surely it was to the advantage of the public health that the milk should be kept in a good condition as it would be by the addition of a preservative. It might be said that these were conditions in which milk should not be kept, but, as a matter of fact, it was kept in those conditions in many of the poor districts of London. Of course, if the conditions were removed the necessity for a preservative would disappear.

By Dr. Bulstrode: He was not aware whether 91 per cent. of the milk-supply of Birmingham was free from preservative, but if such were the case he supposed the conditions of that city must be different from those of London. He could not conceive that milk free from preservative could be kept good in a crowded house for 24 hours during the hot weather. If declaration were found to be impracticable then he should advise prohibition.

By Dr. Tunnicliffe: Before determining the preservatives which should be allowed there would require to be very considerable further inquiry and no doubt the list would require to be altered from time to time as circumstances demanded.

Mr. Harald Faber, Fellow of the Chemical Society and Commissioner in this country for the Danish Government, was the next witness, and, in reply to the chairman he said that his duties were to watch over the interests of Danish agricultural produce coming to this country, to keep his Government informed on various matters, to see that no misrepresentations took place, to advise as to improved methods of manufacture or sale, and to find new outlets for trade. He had in the discharge of these duties given attention to the subject of preservatives in food, and his opinion was that preservatives in food ought not to be used unless when declared. These preservatives were chemicals, and the people who used them, not being generally chemists, were unable to judge of the quality of the articles they used and they were also ignorant of their effects. The idea of preservatives was to prevent the food decomposing, but in the course of digestion these very articles of food were intended to be decomposed, and therefore the preservatives were liable to prevent proper digestion. In Denmark salicylic acid, boric acid, and certain mineral salts were prohibited altogether. Saccharin in beer and wine was not allowed unless declared on the label. There was an expression of opinion from the Royal Board of Health, dated October, 1895, that the use of boric acid or borax in food to a certain extent, one gramme daily, was considered by them to be injurious to health. No inconvenience was felt in the dairy trade of Denmark in consequence of the prohibition of preservatives. In butter and margarine no other preservative than common salt was allowed. The town of Copenhagen had about 450,000 inhabitants and they consumed a larger quantity of milk per head than the people of this country, and though the milk came from very distant places to the town the supply was adequate and in every respect satisfactory. One large company sterilised every drop of milk it sold. It was sterilised in bulk and then put in sterilised bottles and sold in that way. The heat applied was at least 85° centigrade. Previously to the prohibition of preservatives attempts had been made in Denmark to introduce them, but the dairy farmers did not take to the preservatives and the attempts never succeeded. In the case of butter some of it was exported without salt but most of it was salted to some extent, usually to the extent of about 1 per cent. The butter so salted kept good for at least three weeks, even in hot weather—indeed, long enough for the purposes of the trade. For himself, he did not believe that the use of preservatives improved the keeping of butter to any great extent; the thing to see to was that the butter was properly made. Danish butter was almost exclusively made from sterilised milk. Under an Act recently passed milk could only be sent out for food for cattle which had been Pasteurised to at least 85° C. or which had come from a cow which had stood the tuberculin test. This measure was designed to prevent the spread of tuberculosis in cattle.

By Professor Thorpe: If the Pasteurisation was carefully done it did not in the least affect the flavour of the milk. He had been present at an experiment when the milk was heated to over 90° centigrade, and experts were unable to distinguish between this milk and milk which had not been heated. There had been no difficulty in Denmark in persuading people to adopt Pasteurised milk for consumption; indeed, it was a common thing for them to buy the raw milk and heat it themselves. Raw milk was regarded by a large proportion of the people of Denmark as a thing to be avoided. Witness repudiated altogether the allegation that in recent years there had been some deterioration in the keeping qualities of Danish butter. He insisted that Pasteurisation of the milk had had nothing but beneficial effects upon the butter. For years and years butter from Pasteurised milk had taken the prizes at the dairy shows.

By Dr. Bulstrode: More than half the foreign butter imported into this country came from Denmark and consequently had no preservative beyond 1 per cent. of salt.

Mr. A. Gilbey of Messrs. W. and A. Gilbey, wine-merchants, the third witness examined, gave evidence as to the presence of preservatives in wines imported into this country. He stated that salicylic acid is very little used and indeed that it is unnecessary to use it in wines of the strength of those which are imported into England. In the case of his firm if they had reason to suspect its use in a particular country or district they made it a condition in their contracts that the wine should be free from it. His firm were not aware whether salicylic acid was injurious to health, but there was a prejudice against it in the public mind and for that reason they insisted on its absence.

The Committee then adjourned.

WEDNESDAY, JAN. 17TH.

The Committee met again to-day, Sir Herbert Maxwell presiding, and proceeded with the examination of witnesses.

Mr. T. Carrington Smith, dairy farmer in Staffordshire, chairman of the Dairy Products Committee of the Central Chamber of Agriculture, along with Professor James Long, Cheshunt, gave evidence on behalf of the Central Chamber of Agriculture.—Mr. Smith informed the committee that the Chamber had passed a resolution declaring that it was opposed to the employment of preservatives and colouring matters in articles of dairy produce, whether British or imported, and appointing representatives to urge before this Committee that as preservatives and colouring matters were believed to be injurious to the health of invalids and children their use should be prohibited. Speaking from his own experience he said that the prohibition of preservatives would not interfere with the daily supply of fresh milk to large communities. His farm was over 120 miles from London, and during the year from Michaelmas, 1898, to Michaelmas, 1899, he sent to London the whole of his milk with the exception of the Sunday morning milk and though he used no preservative there had not been the slightest suspicion of any sourness, there had been no complaint made to him by the consignees, and he had never lost a single pint of milk. The morning milk reached Willesden at about 11.15 A.M. and the evening milk late overnight. Mr. Smith explained that he cooled the milk by passing it over a series of tubes through which cold water ran. Although the word "refrigerator" was used to describe the apparatus, the temperature did not at all approach the freezing point. In his opinion a good water-supply was a *sine quâ non* for dairying purposes and all that was necessary for this cooling process was a good supply of water. Mr. Smith said that he and his farmer friends thought that the consignees in the large towns might do more than they do at present to keep the milk cool after they have received it, and not only so, but also that the railway companies might arrange to have a better temperature in their milk vans. His idea of a good temperature for milk was 60° Fahrenheit. With regard to colouring, Mr. Smith said that when he was engaged in the cheese trade he used annatto to make a highly-coloured cheese, which had great favour in certain industrial centres in the North of England. Nobody, however, was deceived, for the material was well known to be artificially coloured. As a representative of the Central Chamber of Agriculture he advocated the prohibition of both preservatives and colouring matters, though personally he did not think the two things stood upon the same platform.

By Professor Thorpe: The two things that he looked to to keep milk in good condition were cleanliness and coolness, both of which were within the reach of the ordinary farmer, and he submitted that if he were able last summer in the exceptionally hot weather to send his milk every day to London without recourse to preservatives, the milk trade generally could be carried on without them.

By Dr. Tunnicliffe: He did not believe that a legal prohibition of preservatives would have more than a temporary effect upon the price of milk.

Professor James Long in the course of his evidence said that he was distinctly of opinion that dairy traffic generally, and the milk traffic in particular, could be carried on without the use of preservatives. Simply by taking proper precautions an ample and satisfactory supply of milk could be maintained in large communities. If the use of preservatives were prohibited the farmers would have no difficulty in supplying the milk and the buyers in the large cities would no doubt protect themselves by constructing cool chambers for the reception of the milk. He thought that there was a great deal to be done in the way of cleaning the milk by separation, for milk not cleaned could not be expected to keep. Professor Long exhibited to the Committee a quantity of slimy matter which had been taken from six gallons of milk by an ordinary sieving process. He considered that purchasers were entitled to be protected from the introduction unknown to them of what might be harmful drugs into a common article of food like milk, and he suspected that a good deal of injury was being done by the increasing use of these preservatives. He also objected to the use of colouring matters and said that the high colour sometimes desired in dairy products could be attained by a selection of particular breeds of cattle.

Mr. Walter William Fisher, President of the Society of Public Analysts and public analyst for the counties of Oxford, Berks, and Bucks, the city of Oxford, and the borough of Banbury, said that he and Dr. Thomas Stevenson had been asked by the Society of Public Analysts to give evidence. He could not say that he had the authority of the society to represent its views, because the society as a body had not come to any definite conclusion upon some of the important matters before the Committee. With the assistance, however, of members of the society he had prepared a statement of the facts of the case with regard to the use of preservatives and colouring matters in food and he would hand it in for the information of the Committee. His opinion was that the free use of preservatives should not be legalised, that indeed some effort should be made to limit their use. There could be no doubt that the use of preservatives had grown very considerably in recent years and unless it was checked in some way it would further extend and it would become very difficult if not impossible for people to get articles of food free from preservatives. His opinion was that in some cases preservatives should be prohibited altogether and in others their presence should be declared. He would prohibit preservatives in new milk when it was sold as new milk, and when milk was not sold as new milk he would recommend that there should be a maximum limit for preservatives prescribed. He would not dogmatise about formalin, though he was rather suspicious about this preservative because he had noticed that when milks were preserved with it it was very difficult to dissolve the curd in hydrochloric acid. He could not say of his own knowledge what the effect of small doses of formalin would be upon the human organism. The statement of the facts of the case which he had submitted to the Committee showed that there was great variation in practice as to the quantity of preservative added to milk. The people who sold the preservative stated on the package that it was absolutely harmless and the milkman had no special knowledge which enabled him to test the accuracy of the statement, and therefore it appeared to him it was desirable to fix a superior limit. He admitted that at present it was difficult often to convince magistrates, but if a limit were fixed it would be something to which public analysts could appeal. If this Committee got together sufficient evidence to show that formaldehyde was undesirable in food, then the fact that it was difficult to determine formaldehyde quantitatively would be a good argument for its prohibition. He considered that new cream should be treated like new milk, and that in the case of fresh meats and fish if they were sold as fresh they should be without preservatives. As to salted and preserved meats and fish, if a limit were fixed it should be a low one. He was not prepared to say that preservatives should not be allowed in such articles as ham and bacon. He had very little information about colouring matters, though he was aware that Congo red was used to colour meat, that bloaters were coloured with a little red earth, and that saltpetre was also used to improve the colour of meat. He considered it objectionable to colour peas with copper.

Dr. THOMAS STEVENSON, President of the Institute of Chemistry, Adviser to the Home Office and Public Analyst, said he objected to the use of preservatives in milk because of the risk to invalids and infants. He attached great importance to the experiments of Dr. Annett; he considered them extremely valuable, and he hoped they would be continued upon a larger scale. He was of opinion that the indiscriminate use of preservatives was attended with very great danger, especially to people suffering from certain complaints. As for salicylic acid it had very considerable effect upon some people, though upon others it had very little. The fact that it had little effect upon some was no proof that it was non-injurious. In connexion with lead poisoning it was found that many people drank the lead-polluted water and that only a fraction of them suffered. One objection to boric acid in milk was that it enabled the milkman to pass off as fresh milk that was really stale. On account of the odour it gave out only small quantities of formaldehyde could be used without detection, but even small quantities must harden the food very much, and therefore he objected to it altogether in such an article as milk. He thought it would be well to prohibit preservatives, although upon health grounds he saw no considerable objection to the use of boric acid in very minute quantities in butter and probably in a few other articles. His strongest objection was to the use of preservatives in milk. In regard to colouring matters there had been many changes in recent years and especially in connexion with confectionery, and they had been upon the whole advantageous. He would prohibit the use of copper to colour peas because of the danger to health and because he considered it unnecessary.

The Committee then adjourned.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, King William-street, Strand, London.
Aids to Materia Medica. Part III. By William Murrell, M.D., F.R.C.P. 1900. Price 2s. 6d.

BALE, J., SONS, AND DANIELSSON, Great Titchfield-street, London, W.
Darwin and Darwinism, Pure and Mixed: A Criticism with some Suggestions. By P. Y. Alexander, M.A., LL.D. 1899. Price 7s. 6d. net.

BLACKIE AND SON, Old Bailey, London.
An Introduction to Analytical Chemistry. By G. G. Henderson, D.Sc., F.I.C., and M. A. Parker, B.Sc. 1899. Price 5s.
The Principles and Practice of Modern House Construction. Edited by G. L. Sutcliffe. Illustrated. Divisional Vol. vi.

BOYLE, R., AND SON, Holborn Viaduct, London.
The Boyle System of Ventilation.

CHURCHILL, J. & A., Great Marlborough-street, London.
Diet and Food. By Alexander Haig, M.A., M.D. Oxon., F.R.C.P. Second edition. Illustrated. 1900. Price 2s.

F. A. DAVIS COMPANY, Philadelphia.
The Surgical Diseases of the Genito-Urinary Tract, Venereal and Sexual Diseases. By G. F. Lydston, M.D. 1899.

GLAISHER, H. J., Wigmore-street, London.
On Granular Kidney and Physiological Albuminuria. Being the Lettsomian Lectures. By Sam. West, M.A., M.D. Oxon., F.R.C.P. Lond. Price 7s 6d. net

GRESHAM PUBLISHING COMPANY, Farringdon-avenue, London.
The Principles and Practice of Modern House Construction. Edited by G. Lister Sutcliffe. Illustrated. Vols. i. and ii. 1899. Price 50s.

HADDEN, BEST, AND CO., West Harding-street, Fetter-lane, London.
Local Government Law and Legislation for the Year ending 30th September, 1899. Edited by W. H. Dumsday, Barrister-at-Law. 1899.

HAZELL, WATSON, AND VINEY, Creed lane, Ludgate-hill, London.
The Mirage of Two Buried Cities. By J. F. Horne, M.D., F.R.S.E. 1900. Price 10s. 6d.

KEGAN PAUL, TRENCH, AND CO., Charing Cross road, London.
Life and Happiness. By Auguste Marrot. Price 2s. 6d. net.

LEWIS, H. K., Gower-street, London.
Letter, Word, and Mind Blindness. By J. Hinshelwood, M.D., F.F.P.S. Glasg. 1900. Price 3s.

LONGMANS, GREEN, AND CO., London.
25th Annual Edition of the Classified Directory to the Metropolitan Charities for 1900, with an Appendix. By W. F. Howe, editor. 1900. Price 1s.

MACLEHOSE, JAS., AND SONS, Glasgow.
Glasgow Hospital Reports. Vol. ii. Illustrated. 1900.

MACMILLAN AND CO., London.
A Manual of Zoology. By the late T. J. Parker, D.Sc., F.R.S., and W. A. Haswell, M.A., D.Sc., F.R.S. Illustrated. 1899. Price 10s. 6d.
Lessons on Prescriptions and the Art of Prescribing. By W. Handsel Griffiths, Ph.D., L.R.C.P. Edin. New Edition. 1899. Price 3s. 6d.

MASSON ET CIE., Paris.
Leçons de Clinique Médicale. Par Dr. J. Vires. 1900.

PENTLAND, YOUNG J., Edinburgh.
The Edinburgh Medical Journal. Edited by G. A. Gibson, M.D., F.R.C.P. Edin. New series. Vol. vi. 1899.

SCIENTIFIC PRESS, Southampton-street, London.
Nursing in Diseases of the Throat, Nose, and Ear. By M. Yearsley, F.R.C.S. 1899. Price 2s. 6d.

SCOTT, WALTER, Paternoster-square, London.
The Races of Man: An Outline of Anthropology and Ethnography. By J. Deniker, Sc.D., Paris. Illustrated. 1900. Price 6s.

SMITH, ELDER, AND CO., Waterloo-place, London.
Transactions of the Pathological Society of London. Vol l. 1899.

SWAN SONNENSCHEIN AND CO., London.
Muscle, Brain, and Diet: A Plea for Simpler Foods. By E. H. Miles M.A. Camb. 1900. Price 3s. 6d.

The British Almanac and Family Cyclopædia for 1900, 73rd year of issue (Chas. Letts and Co., Royal Exchange, London, E.C.), price 1s.—Mental Nursing, by William Harding, M.D. Edin., M.R.C.P. Lond. (The Scientific Press, Southampton-street, Strand, London, 1899), price 1s.—The Problem of South African Unity, by W. B. Worsfold, 1900 (Geo. Allen, Charing-cross-road, London), price 6d. net.—Home Nursing of Sick Children, by J. D. E. Mortimer, M.B., F.R.C.S., L.S.A., 1899 (The Scientific Press, London), price 1s.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

BARLOW, JOHN, M.D., F.R.C.S., has been appointed Additional Examiner in Clinical Surgery in the University of Edinburgh.

BRAMWELL, EDWIN, M.B. Edin., has been promoted Senior House Physician to the National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury, vice J. S. Collier.

BROOK, WM. F., F.R.C.S. Eng., of St. Helen's-road, Swansea, has been appointed by the Secretary of State for the Home Department to act as a Medical Referee under the Workmen's Compensation Act, 1897, for the Neath Division of County Court Circuit, No. 31.

BUZZARD, E. FARQUHAR, M.A., M.D. Oxon., M.R.C.P., has been appointed Junior House Physician to the National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury, vice E. Bramwell.

CLEGG, J., M.B. Lond., M.R.C.S., has been appointed an Honorary Medical Officer to the Urmston Cottage Hospital.

COLES, A. C., M.D. Edin., has been re-appointed Medical Officer of Health by the Denton District Council.

DINGWALL, A. M.B., C.M. Aberd., has been appointed Medical Officer for the Kinsham and Pembridge Sanitary District of the Kington Union.

HAYSON, E. R., L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer for the Eighth Sanitary District of the Southmolton Union.

JENKINS, HERBERT STANLEY, L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Bristol Royal Hospital for Sick Women and Children, vice Wyndham Milligan, resigned.

LEADER, HAROLD, M.B., has been appointed House Physician to the East London Hospital for Children and Dispensary for Women, Shadwell, London, vice Percy S. Blaker, resigned.

MACDONALD, D., M.B., C.M. Glasg., has been appointed Local Medical Officer for Glenmoriston by the Aird District Committee.

MACDONALD, R. C., M.B. Aberd., L.R.C.P., L.R.C.S. Edin., L.F. .S. Glasg., has been appointed Local Medical Officer for the Boleskine portion of the parish of Boleskine and Abertarff.

Morris, C. D., L.R.C.P. Lond., M.R.C.S., has been re-appointed District Medical Officer by the Sunbury Urban District Council.

Quayle, Edwin, L.R.C.P. Lond., M.R.C.S., has been appointed an Honorary Medical Officer to the Urmston Cottage Hospital.

Saunders, E. Simes, M.D., C.M. Aberd., has been appointed Medical Officer to the Dispensary, Royal Albert Hospital, Devonport, vice Alonzo Rider, resigned.

Scatliff, A. W., L.R.C.P., L.R.C.S. Edin., D.P.H. Eng., has been re-appointed Medical Officer by the Margate Town Council.

Slader, G. W. B., L.R.C.S. Irel., has been re-appointed Medical Officer of Health by the Gainsborough Rural District Council.

Thomas, Jabez, F.R.C.S. Eng., Ty Cerrig, Swansea, has been appointed by the Secretary of State for the Home Department to act as a Medical Referee under the Workmen's Compensation Act, 1897, for the Neath Division of County Court Circuit No. 31.

Turner, F. S., L.R.C.P., M.R.C.S., has been re-appointed Medical Officer for Penn and Coleshill of the Amersham Union.

Wilson, W. Cheyne, M.D., C.M. Edin., has been appointed by the Admiralty to give instruction in the Roentgen rays at the Naval Hospital, Plymouth, to such naval medical officers as may be detailed to go through the course.

Wood, W. Dyson, L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health by the Henley District Council.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

Bath General or Royal Mineral Water Hospital, Bath.—Resident Medical Officer, unmarried. Salary £100 per annum, with board and apartments.

Bolton Infirmary and Dispensary.—Junior House Surgeon for twelve months. Salary £80 per annum, with apartments, board, and attendance.

Brixton Dispensary, Water-lane, Brixton.—Resident Medical Officer for two years, unmarried. Salary £150, with furnished apartments, attendance, coals, and gas.

Central London Ophthalmic Hospital, Gray's Inn-road, W.C.—House Surgeon. Salary at the rate of £50 per annum, with board and residence in the hospital.

Chelsea Hospital for Women, Fulham-road, S.W.—Clinical Assistant. Tenable for three months on payment of eight guineas.

Chester General Infirmary.—Visiting Surgeon for two years. Salary £80 per annum, with residence and maintenance in the house.

City of Liverpool.—Visiting Physician to the City Hospital North, Netherfield-road. Salary £130 per annum. Applications to the Town Clerk, Liverpool.

County Borough of Croydon.—Medical Officer of Health for the Borough. Salary £500 per annum, increasing annually by £50 to a maximum of £600 per annum (subject to statutory deductions). Apply to the Town Clerk, Town Hall, Croydon.

Doncaster General Infirmary and Dispensary.—Indoor Dispenser and Assistant to the House Surgeon. Honorarium 20 guineas per annum, with board, lodging, and washing.

East Suffolk and Ipswich Hospital, Thorofare, Ipswich.—Second House Surgeon for one year, unmarried. Salary £60 per annum, with board, lodging, and washing.

Hull Royal Infirmary.—Honorary Surgeon.

Leicester Infirmary.—House Physician for twelve months. Salary £100 per annum, with board, apartments, and washing.

Loughborough and District General Hospital and Dispensary, Loughborough.—Resident House Surgeon. Salary £100 per annum, with furnished rooms, attendance, and board.

Mason University College, Birmingham.—Lecturer on Osteology and Chief Demonstrator of Anatomy.

Metropolitan Asylums Board.—Three appointments of Assistant Medical Officers at the Fever and Small-pox Hospitals, unmarried. Salary £160 per annum the first year, £180 the second year, and £200 the third and subsequent years, with board, lodging, attendance, and washing (subject to statutory deduction). Applications to the Clerk to the Board, Norfolk-street, Strand, W.C.

Newark-upon-Trent Hospital and Dispensary.—House Surgeon, unmarried. Salary £80 per annum, with board and lodging in the hospital.

Nottingham City Asylum.—Second Assistant Medical Officer, unmarried. Salary £125, with board, apartments, and washing.

Nottingham General Dispensary.—Assistant Resident Surgeon. Salary £140 per annum. Special arrangement made as to board, &c.

Nottingham General Hospital.—House Surgeon for two years. Salary £100, rising £10 a year to £120, with board, lodging, and washing.

Paddington Green Children's Hospital, London.—House Surgeon from Feb. 1st to May 7th. Salary at the rate of 50 guineas a year, with board and residence.

Parish of Rousay and Egilshay, Orkney.—Resident Medical Officer. Salary £51 per annum. Apply to the Inspector of Poor, Rousay, Orkney.

Plymouth Borough Asylum.—Assistant Medical Officer, unmarried. Salary £125 per annum, rising to £150, with furnished apartments in the Asylum. Board and washing free.

Royal College of Surgeons of England.—Election to the Court of Examiners.

Royal Cornwall Infirmary, Truro.—House Surgeon, unmarried. Salary £85 with board (excluding stimulants) and apartments.

Salisbury Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

St. Mark's Hospital for Fistula and other Diseases of the Rectum, City-road, London.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

The Chief Inspector of Factories has given notice of vacancies for Certifying Surgeons under the Factory Acts at East Ilsley in the county of Berks, at Southampton in the county of Southampton, at Wollaston in the county of Northampton, at Edinburgh in the county of Midlothian, at Haddenham in the county of Cambridge, at Kirkoswald in the county of Cumberland, and at Thornbury in the county of Gloucester.

University College, London.—Assistant Surgeon and Assistant Physician.

University of Glasgow.—Three Examiners in Medicine. Salary attached to each is £30 per annum.

Western Dispensary, Rochester-row, Westminster.—Resident Medical Officer, unmarried. Salary 100 guineas per annum, with furnished rooms, coals, gas, and attendance. Apply to the Secretary.

West Herts Infirmary, Holly-grove, Boxmoor.—Locum Tenens for six to 12 months or longer. Salary at the rate of £100, with board, fire, lights, furnished rooms, attendance, and washing.

West Kent General Hospital, Maidstone.—Assistant House Surgeon for six months. Honorarium at the rate of £50 per annum, with board and residence.

Worcester General Infirmary.—Assistant House Surgeon and Dispenser for two years, unmarried. Salary £70 per annum, with board, residence, and washing.

Births, Marriages, and Deaths.

BIRTHS.

Cooper.—On Jan. 14th, at Belsize-road, N.W., the wife of Ernest Frederic Cooper, M.R.C.S., of a son.

Dods.—On Jan. 8th, at Marylebone-road, N.W., the wife of Louis F. Dods, Surgeon, of a daughter.

Gaskell.—On Jan. 10th, at Underhill-road, East Dulwich, the wife of Leonard S. Gaskell, M.R.C.S., of a daughter.

Ionides.—On Jan. 14th, at First-avenue, Hove, the wife of T. H. Ionides, M.B., F.R.C.S., of a daughter.

Lowsley.—On Jan. 10th, at City-road, Finsbury-square, E.C., the wife of L. D. Lowsley, L.R.C.P., M.R.C.S., of Hampstead Norris, Berks, of a son.

Sanders.—On Jan. 6th, at Villa Nina, Cannes, the wife of Gordon Sanders, M.D., F.R.C.P. Edin., of a daughter.

Sturrock.—On Jan. 12th, at Home-terrace, Broughty Ferry, N.B., the wife of J. T. Sturrock, M.B., of a daughter.

MARRIAGES.

Hancock—Selfe.—On Jan. 10th, at the Church of St. Michael and All Angels, Lower Sydenham, John Edwin Hancock, M.R.C.S., L.R.C.P., D.P.H., of Hurst House, Hurst-green, Sussex, to Clara Maberly, eldest daughter of John Henry James Selfe, of "Ightham," Mayow-road, Sydenham, S.E.

Henson—Major.—On Jan. 11th, at the Parish Church, Croydon, William Warner Henson, M.R.C.S., L.R.C.P., of Impendhla, Natal, to Dorothy Wickham Featherstonehaugh Major, second daughter of the late C. M. Major, of Cromwell House, Croydon.

Jones—Burman.—On Jan. 16th, at St. Matthew's Church, Upper Clapton, by the Rev. J. Cullin, M.A., William Black Jones, M.D., B.S. Lond., of Llangammarch Wells, Breconshire, elder son of the late Rev. William Mead Jones, D.D., to Elizabeth Ada, third daughter of William Kimin Burman, of Clapton, N.E.

Mannington—Clarke.—On Jan. 4th, at Hawkhurst, Kent, Frank Mannington, F.R.C.S., of Belmont, Muswell-hill-road, N., to Lilian, daughter of E. R. Clarke, Esq., of Hawkhurst.

Plummer—Moxon.—On Jan. 17th, at St. Nicholas, Great Yarmouth, by Rev. D. M. Wauchope, vicar of New Bilton, Rugby, assisted by the Rev. Canon Rogers, vicar of Great Yarmouth, Selby W. Plummer, M.D., of Durham, to Lilian, daughter of the late Thomas Hy. Moxon, M.R.C.S., of Great Yarmouth.

Roger-Smith—Woodd.—On Jan. 10th, at the Parish Church of Hollington, St. Leonard's-on-Sea, by the Rev. Trevor Basil Woodd, rector of the parish, assisted by the Rev. T. W. Adam, of St. Peter's, Eaton-square, Hugh R. Roger-Smith, M.D., M.R.C.P., third son of Professor T. Roger-Smith, of University College, London, to Dorothy Eugenia, third daughter of the late Rev. Basil Woodd, of Leckby, Hollington Park, St. Leonard's.

Row—Harrild.—On Jan. 10th, at St. Bartholomew's Church, Sydenham, Charles Martin Row, M.R.C.S., L.R.C.P. Lond., of Pleydells, Warbleton, Sussex, to Mary Josephine, elder daughter of Horton Harrild, of Westwood, Sydenham.

DEATHS.

Castellote.—On Sept. 20th, 1899, at Kabambaré, Central Africa, Ramon Horace Castellote, M.D. Lond., F.R.C.S., son of Ramon Castellote, Salcott-road, Wandsworth common, aged 29 years.

Collum.—On Jan. 12th, at Surbiton, Robert Collum, M.D., M.R.C.S., M.R.C.P., aged 84 years.

Manbey.—On Jan. 13th, at Stanley Villa, Stanley-road, South Acton, George Manbey, M.R.C.S.

Roberts.—On Jan. 12th, at the Hawthorne, Croxley-green, Herts, John Henry Roberts, F.R.C.S., in his 87th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE HYGIENE OF A HOUSE.

CORRESPONDENT has sent us some verses by an unknown poet relative to the frost and the plumber; the following are some of them. Such troubles at this season of the year are not altogether unknown, and the lines may serve, our correspondent thinks, as a text for a little advice as to what should be done in a similar emergency, pending the arrival of the necessary plumber:—

"Sing hey! sing ho! for the plumber bold!
He fears not the grip of the Ice King cold
In the bar saloon of the 'Block and Fall'
With his mate he awaits the urgent call!
When the terrified household fly in vain
As the water squirts from the bursting main,
When the thaw lets the pent up water flow,
Sing hey for the plumber bold! sing ho!"

It is far too often forgotten that a healthy house is an enormous factor in the health of the inmates, and we fear that the average householder has but the haziest idea of the construction of the various parts of a house. Damp, for instance, is productive of many evils. It is true that so far this year we have had no frost worth speaking of, and it is some years since the weather was cold enough to reproduce the miseries so vividly depicted by Leech as happening to the Briggs family. But we cannot command the weather and it is not always feasible to have the water-pipes in a house carefully packed. Every householder can take the advice given below and can learn the disposition of the pipes in a house, as to whence they come and where they go. If he knows where the taps are and how to turn off the supply he may be able to save various expenses in the matter of rotted floors and ceilings, to say nothing of illness arising from damp and its consequences. Water-supply, sewerage, and lighting are three subjects with which every householder should have some acquaintance, at least to the extent of being able to turn off the water in his house in a case of emergency. A house cannot be expected to go like clockwork, and even a clock wants some attention. Many a room has been made damp and unwholesome by leakage from a defective gully pipe. It is quite within the province of a medical man to give a little attention to these matters, so that, knowing, he may be able to instruct those of his patients who know not.

The expansive force of water at the moment when it solidifies as ice is so enormous that a very small quantity is capable of overcoming an amount of resistance out of all proportion to its bulk. When water freezes in a pipe it is seldom that it occurs at more than one or two points, unless, of course, the pipe is very much exposed. In the act of freezing the pipe is usually burst though the water cannot escape at the fracture thus made until the ensuing thaw removes the obstruction. This is the exciting moment when the terrified householder sends for the much-sought after plumber. No one can expect to be successful in acting in an emergency of this nature if at the supreme moment he is entirely ignorant of every constructive detail of the house he occupies. He should at least be acquainted with the following facts: (1) the position of the stop-valve in the main supply pipe; (2) the position of the cisterns; and (3) the destination, and, if possible, the course, of the several service-pipes from each cistern.

The situation of the stop-valve in the water company's main supply-pipe.—This is generally fixed at the nearest point to the public way, either in a cellar or sunk in the ground by the boundary fence. See that it is oiled and in working order and ascertain which way it has to be turned to open or close it.

The positions of the cisterns supplying the several fittings.—If there be more than one note which fittings each one supplies.

The destination of the several service pipes.—Every cistern should have a stop-valve in each of the service pipes leading from it at a point close to the cistern, and each valve should have a label attached stating the service which it controls whether bath, closets, sinks, &c. In the absence of such valves the services themselves should be labelled, and one or more wood plugs about four feet long with taper ends (stout broom handles will do) should be kept in readiness near the cistern. These, if properly pointed, can be inserted as a plug into either a small or large pipe at the point of connexion with the cistern. The reflection from the surface of the water renders it at times difficult to see the open ends of the pipes at the bottom of the cistern. This can be easily overcome with a candle and any kind of reflector to throw the light to the bottom of the cistern, such as a white basin or a bright dustpan, when the orifice of the pipe can be distinctly seen and the plug can be inserted into the mouth of the defective service. At any time the services can be easily traced for labelling by the insertion in rotation of the plug stick, when by trying the closets and taps it can be noted which supplies are cut off. In testing a time allowance must always be made for the amount of water remaining in the pipe, also where a closet is supplied through a disconnecting cistern it will be necessary to try a second discharge. The old pan-closets are an exception being supplied through a valve in the bottom of the larger cistern, the end of the service pipe being in this case invisible. This service, therefore, cannot burst, the pipe, excepting when the closet is in use, being empty.

A burst from frost may be either in the main supply or in one of the service pipes leading from the house cistern; this can as a rule be located before the frost breaks.

When the burst is in the main supply.—Unless during frost it is noted that the cisterns are filled daily several days may elapse before the fact is indicated by the whole house being without water. In this case at once turn off the stop valve already described. After the thaw has well set in slightly open the valve and watch the result before turning the same fully on.

When the burst is in one of the down services.—Turn off the valve or plug that particular service after which an endeavour may be made to thaw the same by artificial heat, cloths soaked in boiling water, &c. If the pipe has burst the water remaining in the pipe will soon indicate the position of the fracture, when after repair provision may be made to prevent a recurrence. In the event of a burst pipe discharging and no provision having been made to meet the emergency the pipe can be flattened. To do this draw the pipe as far as possible away from the wall and place behind it any piece of metal, such as a hammer or flatiron, to act as an anvil, and then with a few heavy blows with a hammer flatten the pipe just above the fracture. Care must be taken to strike the pipe fairly with the flat face of the hammer or the sharp edge may cut it and make matters much worse. If the burst pipe is not accessible turn off the tap of the main supply or tie up the ball valve in the cistern and run off the water through the closets, taps, &c.

Whenever frost affects the cistern or supply pipe that feeds the kitchen or any high pressure boiler the fire must be extinguished before the water in the boiler is withdrawn or evaporated. It is good policy to remember that in all cases prevention is better than cure.

"IN HIS NAME": THE RECORD OF THE R.S.U. AND SHAFTESBURY SOCIETY."

We have received from a correspondent two pages of a periodical bearing the above title. He asks our opinion of the conduct of the officials of the Ragged School Union and Shaftesbury Society as exhibited in the following little article, taken from page 6 of their presumably official journal.

> GIVING NATURE A CHANCE.
>
> On Wednesday, Dec. 20th, a demonstration of manipulative surgery and scientific massage was given by Professor Atkinson of Park-lane, in the Lower Hall, Exeter Hall.
>
> One negative advantage at the very least may be claimed for his system—the child is still *all there* when he has finished. Every surgeon cannot say as much, and we have known parents object to operations upon their children, and the children have recovered without them. In these instances there would have been the irreparable loss of members.
>
> We therefore felt justified in giving a fair chance to the "Nature assisted by Science" teaching and practice of the Professor. Accordingly, 500 cripples were brought to Exeter Hall to a treat. A number of the children were examined, with the result that a verdict was given that four out of five of the children present could be cured.
>
> The practical outcome is that there is every likelihood during the year 1900 of a representative party of the afflicted children of London being restored to soundness of limb and body.

We think on reading the above paragraphs that the parents and natural or legal guardians of 500 cripples have a distinct cause of grievance against the gentlemen who have suffered little children to come unto "Professor" Atkinson. A promise has been held out to them on no scientific grounds whatever that 80 per cent. of the crippled children can be made whole. It is cruelty thus to juggle with the hopes of the sick. Nor is it comprehensible to us why giving the "Professor" an advertisement should be called "giving Nature a chance."

THE METROPOLITAN ASYLUMS BOARD AND ITS ASSISTANT MEDICAL OFFICERS.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Jan. 13th there appeared an advertisement for an assistant medical officer at the Caterham Asylum of the Metropolitan Asylums Board. Having had experience of that Board I should like to point out for the benefit of intending applicants a few of the conditions under which the assistant medical officers at their asylums work. On entering upon my duties I was taken to my quarters by the steward, who apologised for the lack of accommodation offered me, explaining at the same time that such conditions were only temporary. My "quarters" consisted of one room in which I slept, the same room had also to serve me as an office, dining room, as well as for the reception of personal visitors, and indeed for every use that it is possible to put a room to. All that was temporary as far as I was concerned consisted in the facts that on committee days a screen was taken from the room, so that visitors could see the bed and the fact that I had a knob put on the door after I had occupied my quarters for three weeks. Since I left there have [illegible] particular asylum. The junior assistant [illegible] in a common dining-room and has consequently only to use his bedroom for an office and living-room generally. The medical superintendents at their asylums are not allowed to write testimonials. The Metropolitan Asylums Board, however, accept testimonials from other asylums. Such conditions prevailing one is not surprised to find that after years of service under the Board promotion is impossible elsewhere, and as the Board is not enamoured with the idea of promoting its own men the assistant medical officers find themselves in an awkward position. At other asylums it is the practice to allow the assistant medical officer the use of spare bedrooms in which to lodge a visitor, it being recognised that life in asylums is somewhat monotonous. In my time when a visitor arrived his host laid himself down on his couch (if he had one, I had not) and with his clothes on was happy that his brother from Scotland or a medical friend from America had come to see him. They were the only visitors whilst I served the Metropolitan Asylums Board. Now the Metropolitan Asylums Board will no longer allow any visitor to be the guest of their assistant medical officer overnight.

Would intending applicants for the post advertised kindly apply to any of the Metropolitan Asylums Board's medical officers for information? I am, Sirs, yours faithfully,

P. J. S.

THE DEARTH OF QUALIFIED ASSISTANTS.

To the Editors of THE LANCET.

SIRS,—I noticed in THE LANCET of Jan. 13th the great difficulty of obtaining qualified assistants. I think the occasion a suitable one to bring before your notice the fact that there are at present some unqualified men who through deficient capital are unable to meet expenses of certificates and examination, though in some cases the sum is not large, and they have only the final to pass, as is my own case. It would be an unspeakable blessing to such men if you brought their cases before the profession with the object of starting a fund to enable them to qualify and overcome the difficult position they are placed in owing to the General Medical Council's regulations. I am sure they would sign any contract to repay the sum on qualifying.

I am, Sirs, yours faithfully,

Jan. 16th, 1900. UNQUALIFIED.

WIDAL'S TEST.

To the Editors of THE LANCET.

SIRS,—I would feel grateful to you if through your columns in answer to correspondents you would answer this question: What is *Widal's test for differentiation of* simple continued and typhoid fever and how is it applied? I am, Sirs, yours faithfully,

Jan. 10th, 1900. SURGEON.

* Widal's test for typhoid fever depends upon the fact that the serum of the blood of a patient suffering from that disease has a certain action upon the typhoid bacillus. The method of applying it has been slightly varied by different observers, but the following, as introduced by Dr. Johnston of Montreal can be relied upon. A drop of the patient's blood is secured, placed on a clean stick, and allowed to dry. A loop of a bouillon culture of the typhoid bacillus is placed on a clean cover-glass and to this is added a large loopful of a watery solution of the dried blood. From the mixture of blood and typhoid bouillon a "hanging drop" preparation is made and examined with a high power objective; if the patient is suffering from typhoid fever the typhoid bacilli rapidly form clumps. If the patient has not typhoid fever this clumping does not take place.—ED. L.

A SUSPICIOUS ADVERTISEMENT.

THE following advertisement appears in the *Potteries Advertiser* for Jan. 13th, 1500 —

TO LADIES.

MRS. TILSLEY requests all LADIES suffering to consult her *at once*, her treatment being simply a help to nature. All Wounds successfully treated by

MRS. TILSLEY,

114, Botteslow St. (off Charles St.), HANLEY.

We *do not quite know* what the cryptic sentence, "All wounds successfully treated" means.

VOMITING OF PREGNANCY.

To the Editors of THE LANCET.

SIRS,—*Would you or any of your readers kindly give me a hint re* the treatment of sickness in early pregnancy. I have tried cerium oxalate, hydrocyanic acid, and nux vomica without result.

I am, Sirs, yours faithfully,

Jan. 13th, 1900. OBSTET.

A SANITARY WATER-CLOSET SEAT.

THERE can be little doubt that the seat of the water-closet is sometimes a source of infection, and many devices have been suggested from time to time with a view of obviating any insanitary possibility of this sort. Mr. G. N. W. Thomas, M.B., Ch.B. Edin., of 252, Girlington-road, Bradford, sends us a sketch of a new design for a water-closet seat which he has registered at the Patent Office. The seat is circular, but fairly wide gaps are provided immediately in front and at the back, the former to avoid contagion with septic matter from the genital organs, and the latter to prevent soiling with fæcal matter under careless use. We are under the impression that a similar arrangement has been formerly proposed. There are no doubt good features in it, one distinct advantage being also that the closet may be used as a urinal with a much diminished risk of wetting the seat. It would be well if some such arrangement could be introduced into public lavatories.

◆

One Anxious to Know.—The various County Councils in most cases are responsible for the regulations. Government has nothing to do with the matter, and there is no State limit to the age of candidates. Medical superintendents have a large voice in the selection of their assistants, but we fear that the prospect of success for a man over 40 years of age is very small.

M. H. C.—The Mauser rifle bullets are of varying size according to the calibre of the rifle, but the mean weight is about 200 grains. The Lee-Metford—i.e., Mark II., Mark IV., and the Dum-Dum—bullets all weigh the same—namely, 215 grains.

Locum should be careful not to break the spirit of his undertaking whatever the letter may be. He must consult a solicitor as to his legal position What he wishes to do does not commend itself to us.

J. B.—If nothing has been pre-arranged in the matter we think a week's notice must be accepted.

A. J. P., Leeds.—We are making inquiries.

Verax can sign the certificate.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 18th, 1900.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall	Solar Radia in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8 30 A.M.
Jan. 12	30 40	S.E.	..	67	44	57	36	38	Foggy
" 13	30 28	S.	...	63	43	33	33	34	Hazy
" 14	30 01	S.E	...	57	40	31	31	33	Fine
" 15	29 58	S.W.	0 02	51	48	31	39	40	Raining
" 16	29·46	S.W	0 18	55	48	40	42	43	Raining
" 17	29 53	S.	0 36	73	52	41	43	43	Raining
" 18	29 83	WNW	0 10	70	46	38	37	39	Fine

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3 30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1 30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2 30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.)

TUESDAY (23rd).—London (2 P.M.), St. Bartholomew's (1 30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3 30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2 30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (24th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9 30 A.M.), Gt. Northern Central (2 30 P.M.), Westminster (2 P.M.), Metropolitan (2 30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (25th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3 30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3 30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (27th)—Royal Free (9 A M and 2 P M.), Middlesex (1 30 P.M), St Thomas's (2 P M) London (2 P M) University College (9 15 A.M) Charing-cross (2 P M) St George's (1 P M), St. Mary's (10 P M.) London Throat (2 P M)

At the Royal Eye Hospital (2 P M) the Royal London Ophthalmic (10 A.M) the Royal Westminster Ophthalmic (1 30 P M), and the *Central London Ophthalmic Hospitals operations are performed daily*

SOCIETIES

MONDAY (22nd).—MEDICAL SOCIETY OF LONDON—8.30 P.M *Discussion* on the Pathology and Treatment of Appendicitis (opened by Mr C B Lockwood and Dr W H Allchin) (Mr Lockwood's remarks will be illustrated by a series of lantern slides from microphotographs)

TUESDAY (23rd)—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20 *Hanover-square*, W)—Papers:—(1) Mr C A. Ballance: On the Conduct of the Mastoid Operation for the Cure of Chronic Purulent Otorrhœa with remarks on the Cases requiring the Mastoid Operation by Sir William Dalby—(2) Mr A. E. Cumberbatch The Complete Mastoid Operation for the Cure of Chronic Suppurative Disease of the Middle Ear Observations on the Selection of Cases *for* Operation.

WEDNESDAY (24th)—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W)—4 30 P M. Informal Exhibition of Cases 5 P M. Ordinary Meeting

SOCIETY OF ARTS—8 P M Mr W C B. Meade-King: Local Government and its Relation to Parish Water-supply and Sewerage

THURSDAY (25th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM—8 P M Patients and Card Specimens. 8.30 P M Papers:—Dr W Edmunds: Experimental Exophthalmos and Enophthalmos—*Mr* A. Lawson: *Corneal Horns*—Mr C H D Shears: Acute Glaucoma following a single Application of Hematropine.—Mr W M. Beaumont: Family *Tendency* to Ophthalmoplegia Externa.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20 Hanover-square, W)—8.30 P M Discussion on the Treatment of Nervous Diseases and Affections by Baths and Climate (introduced by Dr H Campbell).

FRIDAY (26th).—CLINICAL SOCIETY OF LONDON (20 Hanover-square W)—8 30 P M Papers:—Mr J Hutchinson, jun: Two Cases of Successful Primary Resection of Gangrenous Small Intestine.—Mr Pearce Gould: A Case of Bullet Wound of the Abdomen with Four Wounds of Small Intestine and Two of the Mesentery, Operation, Recovery—Dr Rolleston: A Case of Fatal Hæmopneumothorax of unexplained origin.

LECTURES, ADDRESSES DEMONSTRATIONS, &c

MONDAY (22nd).—MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C)—4 P M. *Dr J F Payne* Consultation (Skin). 5 P M. Dr D Grant: Class Demonstration II:—Practical Otology

LONDON THROAT HOSPITAL (204 Gt. Portland-street W).—4 30 P M. Dr F Potter: Examination of Throat. (Post-Graduate Course)

TUESDAY (23rd)—MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C)—4 P M Sir W H Broadbent, Bart Consultation. (Medical)

WEST LONDON POST-GRADUATE COURSE (West London Hospital W).—5 P M Mr H. Lloyd Williams Some Dental Lesions

WEDNESDAY (24th).—ST JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W C) 4.30 P M Dr T D Savill: Lupus Vulgaris (Post-graduate Course)

MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C)—4 P M. Mr H. W Houghton: *Consultation* (Surgical)

THURSDAY (25th).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck street W)—5 P M Clinical Demonstration—Dr T. D Savill: Cases of Infantile Paralysis and other Amyotrophies.

WEST LONDON POST-GRADUATE COURSE (West London Hospital W).—5 P M. Mr S Edwards: *Common Affections of the Rectum* and Anus.

MEDICAL GRADUATES COLLEGE AND POLYCLINIC) 22, Chenies street W C)—4 P M. Mr J Hutchinson Consultation (Surgical.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W C)—4 P M *Dr Garrod: Demonstration of Selected Cases.*

CHARING-CROSS HOSPITAL.—4 P M Dr Bruce: Medical Cases (Post-graduate Course.)

FRIDAY (26th).—MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C)—4 P M. Dr StClair Thomson: Consultation. (Eye, Ear, Nose and Throat.)

During the week marked copies of the following newspapers have been received *Brighton Gazette East Daily Press (Norwich), Lloyd's Weekly Newspaper, Hull Daily Mail Morning Herald Dundee Advertiser Leicester Daily Post, Nottingham Daily Guardian Wigan Observer Glasgow Herald, Leeds Mercury Nuneaton Observer, Retford Record, Kentish Observer Midland Counties Herald, Times of India, Pioneer Mail, Cheltenham Mercury Surrey Leader, Whitby Gazette, Western Mail, Western Morning News, Bradford Observer, Express and Star Ealing Guardian, Warrington Guardian, Scotsman, Architect, Builder Citizen Liverpool Daily Post Health, Bristol Mercury Sanitary Record, Yorkshire Post Indian Textile Journal, Leeds Mercury Cheltenham Examiner Hereford Mercury First Aid, Poole Herald Le Courrier de la Presse Mining Journal, City Press Local Government Chronicle Hertfordshire Mercury Jackson's Oxford Journal, Reading Mercury Birmingham Daily Mail, British Dental Journal Beverley Guardian, Normanton Herald, Kent Herald Potteries Advertiser Surrey Advertiser Local Government Journal, Weekly Free Press and Aberdeen Herald, Kilmarnock Herald Tewkesbury Record Highland News (Inverness) Ballymoney Free Press, Birmingham Daily Post, Western Telegraph (Croydon), &c, &c*

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS" and not in any case to any gentleman who may be supposed to be connected with the Editorial staff It is urgently necessary that attention be given to this notice

---

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession may be sent direct to this Office

Lectures, original articles and reports should be written on one side of the paper only AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters whether intended for insertion or for private information must be authenticated by the names and addresses of their writers not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed To the Sub Editor

Letters relating to the publication sale and advertising departments of THE LANCET *should be addressed 'To the Manager'*

We cannot undertake to return MSS not used

MANAGER'S NOTICES.

THE INDEX TO THE LANCET

THE Index to Vol II of 1899, which was completed with the issue of Dec 30th, and the Title-page to the Volume were given in THE LANCET of Jan 6th

---

VOLUMES AND CASES

VOLUMES for the second half of the year 1899 are now ready Bound in cloth, gilt lettered, price 18s carriage extra

Cases for binding the half year's numbers are also ready Cloth, gilt lettered, price 2s, by post 2s 3d

To be obtained on application to the Manager, accompanied by remittance

---

TO SUBSCRIBERS

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423 Strand, W C, are dealt with by them! Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c, should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices

Subscribers, by sending their subscriptions direct to THE LANCET Offices will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect

The rates of subscriptions, post free, either from THE LANCET *Offices or from* Agents, are —

FOR THE UNITED KINGDOM		TO THE COLONIES AND ABROAD	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance

---

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions Any demand for increased rates on this or on any other ground, should be resisted The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues, and agents are authorised to collect and do so collect from the Proprietors the cost of such extra postage

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates whatever be the weight of any of the copies so supplied, *Address*—THE MANAGER THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND

Communications, Letters, &c., have been received from—

—Dr. H. E. Annett, Liverpool; Messrs. Allen and Hanburys Lond.; Messrs. Armour and Co. Lond.; A. G. H.; Dr. S. K. Aiyar, Arkonan, India; A. J. P., Leeds; Mr. E. Armitage, Hawall; *Archives de Médecine Militaire* Paris, Editor of; Aston Hall Sutton Coldfield, Secretary of.

—Mr. W. G. Black, Edinburgh; Mr. S. Bonner, Lond.; Messrs. J. Bartholomew and Co., Edinburgh; Mr. J. A. H. Brincker, Lond; Mr. G. Stanmore Bishop Manchester; Mr. J. A Bradbury Wigan; Mr. Haydn Brown, Lond; Birmingham General Hospital, House Governor of; Mr. Bensusan, Lond.; *Birmingham Daily Post*; T. B. Browne Ltd., Lond.; Messrs. Bonthron and Co, Lond.; Mr. G L Barritt, Spalding; Messrs. J. N. Bishop and Sons, Lond; Brixton Dispensary, Secretary of; Messrs. Burroughs, Wellcome, and Co., Lond.; Messrs. Burgoyne, Burbidges, and Co, Lond.; Messrs. Boulton and Paul, Norwich; Mr. A E. Bartrum, Plumstead; Messrs. Brown, Gould, and Co., Lond.; Messrs. T. H. Browne, Lond.

C.—Mr. J. E Cornish, Manchester; Messrs. Cassell and Co, Lond.; Mr. H. Cripps, Lond.; Messrs. W. and R. Chambers, Edinburgh; Chelsea Hospital for Women, Secretary of; Messrs. Clarke, Son, and Platt, Lond.; Surgeon-Major Caverhill, Edinburgh, Cornwall County Council, Clerk of; Mr. E Treacher Collins; Messrs Crossley and Co., Lond.; Messrs. Carnrick and Co; Lond.

D.—Mr. R. Deakin, Radstock; Doncaster General Infirmary, Hon Secretary of; Dr. T. S. Dowse, Lond.; Dr. A H Davenport, St. Kilda, Australia.

E.—Dr. E. F. Eliot, Southampton; Dr. J. Edmunds, Lond.; Mr. M. Edwards, Bexhill; E. D.; Dr. James Edmunds, Lond.; East Suffolk Hospital, Ipswich, Secretary of.

F.—Dr. W. E. Fogg, Dundee; Messrs. Fassett and Johnson, Lond.; Fromms Extract Co, Lond.; Messrs. Findlater, Mackie, Todd, and Co, Lond.

G.—Dr J. G. Gibbon, Mullingar; Dr. A. B. Green, Cambridge; Mr. T. Penn Gaskell, Lond.; Dr. R. Garstang, Knutsford; Mr. T. F. Gardner, Bournemouth; Dr. M. Giommi, Jesi, Italy; Dr. R. K. Gupta, Chowk Matti, India; Miss B. Garvie, Jaipur, India.

H.—Mr A. Hamilton, Montpellier; Mr. E. Hughes, Guildford; Mr. O L Holst, Eastbourne, Mr A. Helbig, Lond.; Mr. J. Heywood, Manchester; Mrs. Hartley, Dublin; H. B, Dublin; Hull Royal Infirmary, Secretary of; Mr. E. M. Hainworth, Hull; Dr. W. Hunter, Lond.

I.—Ideal Publishing Union, Lond.; Institut de Bibliographie, Paris, Director of.

J.—Mr. P. B Johnson, Dublin; Mr. G. P. Johnston, Edinburgh; Messrs. Jewsbury and Brown, Manchester; Mr. H. Langley Jones, Lond.

K.—Mr. E. Knight, Lond.; Dr. R. Kennedy, Glasgow; Dr. A. B. Kelly, Glasgow; Kreochyle Co, Lond.; Mr. B. Kuhn, Lond.

L.—Miss Lucy, Coldstream; Liverpool School of Tropical Diseases, Secretary of; Laurent Perrier, Ltd., Lond; *L'Année Chirurgicale*, Bruxelles, Director of; London Press Exchange, Mr. H. K. Lewis, Lond.; Leicester Medical Society, Hon. Secretaries of; Loughborough and District General Hospital, Secretary of.

.—Dr. J. McClymont, Leyton; Mr. H. Manders, Lond.; Messrs. Macmillan and Co., Lond.; Mr. J. Maddocks, Bradford; Mr. J. W. Morris, Lond; Medical Institute, Liverpool; Medical Student, Lond.; Dr. E A Mills-Roberts, Bethesda; Dr. W. A. Mackay, Huelva, Dr. J. G. Modlin, Monkwearmouth; Mr. R A. Scott Macfie, Liverpool; Dr. A. W. Miller, Lond.; Medical Graduates' College and Polyclinic, Lond., Secretary of; Dr. C. F. Moore, Dublin; Mr. K. Manoukian, Constantinople; Mr. J McMurtrie, Glasgow; Messrs. J. Maythorn and Son, Biggleswade; Messrs. F. L May and Co, Lond.; Mr. S. B. Mason, Pontypool; Messrs. E Merck, Lond.; Mr. R. Monson, Newcastle-on-Tyne.

N.—Messrs. Niblett, Sutherland, and Marcuson, Lond; Nottingham City Asylum, Clerk of.

O—Mr. J. Offord, Lond.; One Anxious to Know, Liverpool, Mr. A. T. Ozzard, Suddie, British Guiana.

P.—Dr. J. Phillips, Southsea; Mr. Y. J. Pentland, Edinburgh; Messrs. Parke, Davis, and Co, Lond.; Messrs. C. Pool and Co., Lond.; Miss Ponsland, Teddington; Perfect Automatic Hot Appliance Co, Lond.; Parish of St. Marylebone, Clerk of.

R.—Dr. C. V. Robinson, Dover; Messrs. A. Reiner and Co, Lond.; Dr. S. Rideal, Lond.; Mr. H. J. Rice, Sandbach; Messrs. A. Rote and Co, Lond; R. S, Manchester; Royal Cornwall Infirmary, Truro, Secretary of; Messrs. Raimes and Co., York; Royal Mineral Water Hospital, Bath; Mr. G. H. Radford, Lond.; Royal College of Surgeons in Ireland, Registrar of; Dr G. A. Reid, Southsea; Mr. E J. Reid, Lond.; Miss Rouse, Lond.; Mr. J. Ritchie, Lond.

S.—Mr. A. Stenhouse, Glasgow; Mr. H. W. Stanley, Erdington; Dr. W. Shackleton, Lond., Society of Arts, Lond., Secretary of, Society for Relief of Widows and Orphans of Medical Men, Lond, Secretary of; Messrs. W. H. Smith and Son, Manchester; Messrs. Spiers and Pond, Lond.; Mr. H. R Salmon, Lond; Mr. H. W. Scriven, Lond.; Sociedad Propagandista del Clima, Malaga, St. John's Hospital for Skin Diseases, Lond; Superintendent of; Lady P. Stewart, East Grinstead, Messrs W. Sugg and Co, Lond; Mr. C. Sprawson, Lond.; Dr. G F. Still, Lond., Smith's Advertising Agency, Lond.; Messrs Street and Co, Lond.; Messrs Squire and Sons, Lond.

T.—Mr. J. B. Thomas, Lond.; Dr L Thorne Thorne, Lond.; Mr. J. H. Targett, Lond.; Messrs E B Treat and Co, New York, Teale Fire Place Co, Leeds; Messrs. C. Tayler and Co., Lond.

U.—Union Assurance Society, Unqualified, Lond.

V.—Mr. J. W. Vickers, Lond.

W.—Mr. W. Wagstaffe, Sevenoaks; Professor A. L. Wright, Netley, Mr M Wood, Lond.; *Worcester Herald*; Wills, Ltd., Lond., Dr. N. C. Ward, Southall; Westminster Hospital, Dean of, West Kent General Hospital, Maidstone, Secretary of; Dr. A L. Wykham, St. Johns-Antigua, West Indies; Mr. H. F. Walker.

Y.—Dr. E. S. Yonge, Manchester.

Z.—Z., Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. C. M. Allan, Longton; A C.; A B, Worthing; A. W. B; Dr. A. W. M. Auden, Leigh; Dr. J. W. Allen, Glasgow; A M; Dr. T. B Adam, Brechin; Mr. D E Anklesaria, Sadra, India; Miss E. Adams, Lond.; Messrs. C. Ash and Sons, Lond.; Messrs. Alford and McCulloch, Lond; Anglo-Swiss Condensed Milk Co

B.—Mr W. Bernard, Londonderry, Mr. W. H. Barrett, Chichester, Mr. D. M. Beck, Botesham; A. Bishop, Ltd, Lond.; Mr. H. Beattie, Banbury; Mr. J. W. Burdwood, Bourne; Mr. A. C Bushell, Folkestone; Borough Hospital, Birkenhead, Hon. Treasurer of; Mr L. A. Bidwell, Lond.; Mr H. H. Ballachey, Chalford; Dr. W. W. Baldwin, Rome; Mr J. T Briscoe, Alton; Mr. T. W. Bevan, Nantyglo, Mr J. Bellenger, Southampton; Mr. H. R. H. Bigg, Lond.; Messrs. Brady and Martin, Newcastle-on Tyne; Dr. B; Mr. A N, Barnley, Wigston Magna; Bowdoin College Library, Brunswick, U.S.A.; Librarian of; Dr. J. Blumfeld, Lond.; Mr. W. P. Bothamley.

C—Dr. W. Coates, Lahore; Dr. W. J. Collins, Lond.; Messrs. Cox, Leicester; Mr. J. G. Christian, Harrogate; Dr. J. J. Cranny, Dublin; Mr. G. W. Collins, Wanstead, Messrs. J. Cowen and Co., Lond.; Rev. W. H Cleveland, Gateforth; Mr. H. M. Cox, Lond.; Surgeon W. J. Codrington, R N., H.M.S. *St. George*, Training Squadron; Messrs. Callard, Stewart, and Watt, Lond., *Clifton* Grand Spa, Manager of; Messrs E. Cook and Co., Lond.

D—Dr J. W. Dalgliesh, Docking; Mr. R. Dane, Sandown; Mr. R. Davis, Lond.; Messrs. Davies and Rhys, Aberdare; Doctor, Pontesbury; D. A. B; Messrs Derry and Sons, Nottingham; Mr. W. T. Dearden, Crumpsall.

E.—Mr T F Elmes, Cork; E. C; E H.; E H. C.; Messrs. Evans, Sons, and Co, Liverpool.

F.—Mr. T. G. Fenton, Easky; Dr. D. A. Fraser, Montrose; Messrs. Forsaith, Lond.; Fellows Manufacturing Co., Lond.; F. W. A.; Mr. F. A C. Fletcher, Crosshills; F. W.; Rev. R B. Forrester, Wolverhampton.

G.—Dr. A. Gardner, Kirby Moorside; Surgeon General W. R. Gore, Whitchurch, Mr. W. J. Gardam, Lond.; Messrs Gilyard Bros, Bradford; Messrs. Griffin and Griffin, Crowborough; Dr. T. Greer, Belfast; G. H. R.; G. H. G., G F B, Galen, Lond.; Messrs C. T Gotting and Sons,

H.—Mr E. G. Hawkins, Plymouth, Mr. H. W. Hart, Bournemouth West; Dr. V. Harley, Lond.; Messrs. C. J. Hewlett and Son, Lond.; Mr. J. J. Hanly, Binegar; Mr. P. A. Heeland, Hindley; Dr. J. Hughes, Llanilar; Dr. W. A. Hollis, Brighton; Mr. R Hutton, Leamington, H D, Dr W. Hutchinson, Widnes

I.—Messrs Innes, Smith, and Co., Birmingham.

J.—Mons Jerome, Brussels; Mr. D I Jones, Kidwelly; J. A. T.; J W D; J. H R, J E L. P; J. L. C., J B; Jenner Institute of Preventive Medicine, Lond., Hon. Secretary of.

K.—Dr. J. G. Kerr, Old Cumnock; Messrs. Kilner Bros., Lond.

.—Dr. D. J. Leech, Manchester; Messrs. Lee and Martin, Birmingham; Mr. C. Lund, Newcastle-on-Tyne; Dr. T. R. Lombe, Torquay; Mr. R. Lomax, Lond.; Dr. W. J. Le Grand, South Normanton; Leeds Public Dispensary, Secretary of; Lillie-road (69), West Brompton; Mr. B W. Lamb, Albrighton, Mrs. Leech, Wandsworth.

M.—Mr. W. A. Mushé, Lond.; Dr. D. Macartney, Glasgow; Dr. A. MacGregor, Lond.; Mr. F. Mannington, Lond.; Manchester Clerical, &c, Association; Dr A. M. Mackintosh, Stevenston; Medical Society of Victoria, Melbourne, Hon. Treasurer of; Mr. A Moxon, Nuneaton; Dr. G. F. McCleary, Sutton; M, Saltburn; M. M. L.; Mr. S H. Merryweather, Skelton in-Cleveland; *Medical Review*, Lond; Medicus, Liverpool; M. L. W.; M.B, London; Mr. Marshall, Darwen; Messrs. Macdonald Bros, Lond.; Mr. C. W. MacGillivray, Edinburgh

N.—Northern Medical Association, Glasgow; Messrs Neyroud and Son, Lond.; N. G. M.

O.—Mr. C. A. F. Osburne, Old Catton; Dr. E. H. L. Oliphant, Glasgow; Messrs. Oliver and Boyd, Edinburgh.

P.—Mr. A J. Pollard, Armley; Dr. H. A. Perkins, Tunbridge Wells; Messrs. Potter and Clarke, Lond.; Mr. G. C. Peachey, Brightwalton, P. O. H., Mr. W. Pippette, Teddington.

Q.—Q St J.

R.—Dr. M A. Ruffer, Alexandria; Mr. R W. Roberts, Cwm Avon; Dr. F. W. H. Robson, Burscough Bridge; R. A. D.; Richmond Union, Clerk of; Dr. R. J. Reece, Lond.; Messrs. Robertson and Scott, Edinburgh; R T. W; Mr. R. Redpath, Newcastle-on Tyne; Mr. J. Reader, Wakefield, Royal Isle of Wight Infirmary, Ryde, Secretary of.

S.—Mr. W. Smith, Aberdeen; Mr. E. V. Stanley, Lond; Mr. H. B. Smith, Sheffield; Mr. A. W. Statter, Cannes, France; Surgeon, Manchester; Dr. S. H. Smith, York, St. Albans Rural District Council, Clerk of, S J.; Dr R. Sutcliff, Great Torrington; Mr. D. Stewart, Glasgow; Dr. A. E. Sansom, Lond.

T.—Mr. H. W. Tippett, Lond.; Mr A. H. Tubby, Lond.; Dr. C B. Taylor, Nottingham; Taunton and Somerset Hospital, Accountant of; Mr. J. Thin, Edinburgh; T. F. S.; Temperance Male Nurses' Cooperation, Lond.

U.—United States Consulate Bahia, Brazil.

V.—Mr. W. Van Praagh, Lond. Dr. G. R. Vicars, Wood Dalling.

W.—Mr. E S. Warburton, Treherbert, *Wilts County Mirror*, Salisbury; Dr. F. W. Whyte, Strandtown; Dr. H. Whittom, Lond.; Dr. J. Warren, Lond; Mr. J. D. S. Wood, Steynin, Mr. R. T. Williams, Cwm Avon; Mr. T H. Waller, Chelmsfor; Messrs. H. Wilson and Son, Lond.; W. A. S.

Y.—Mr G. Young, Lond.; Yo Corporation, Accountant of.

EVERY FRIDAY. THE LANCET. PRICE SEVENPENCE

SUBSCRIPTION, POST FREE.

For the United Kingdom.		To the Colonies and Abroad.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5
Official and General Announcements	Ditto	0 5
Trade and Miscellaneous Advertisements	Ditto	0 4
	Every additional Line	0 0

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5

Terms for Position Pages and Serial Insertions on application.

Advertisement Department in France—J. ASTIER, 8, Rue Traversière, Asnières, Paris.

A Clinical Lecture

ON

SLEEPLESSNESS

Delivered at the Medical Graduates College and Polyclinic on Jan 17th, 1900,

BY SIR WILLIAM H BROADBENT, BART, M D, F R C P LOND, F R S,

PHYSICIAN EXTRAORDINARY TO H.M THE QUEEN; PHYSICIAN IN ORDINARY TO H R.H THE PRINCE OF WALES CONSULTING PHYSICIAN TO ST MARY'S HOSPITAL.

GENTLEMEN —Sleeplessness is one of the torments of our age and generation and we are daily called upon to treat it but I could not well bring cases before you for demonstration While, however, I have no actual patients to present and shall not even read notes of cases, it is incumbent on me to treat sleeplessness from a clinical point of view I am fortunately therefore, under no necessity to discuss the various theories of sleep, nor have I to entertain you with speculations on the neuron or as to the behaviour of dendrons during sleep such as those which now seem to be the inevitable introduction to all questions in which the nervous system is concerned—to attempt to explain, in effect, the *ignotum per ignotius*, which has a perennial fascination

One word, however, must be said as to difference in the vascular condition of the cortex of the hemisphere in the sleeping and the waking state According to old experiments the cerebral cortex is in a condition of anæmia during sleep and it has been assumed that the blood is shut off by contraction of the arterioles but we have been assured by Dr Leonard Hill that the vaso motor regulation of the blood supply does not extend to the brain, that no nerves are distributed to the cerebral blood vessels, and that it has been demonstrated by experiment that the blood pressure within the cranium is entirely controlled by the ebb and flow of the blood in the splanchnic area On the other hand my friend Dr Alexander Morison shows beautiful preparations of arteries from the pia mater in which these vaso motor nerves are conspicuously visible and independently of this direct evidence, one was disposed to wonder why these vessels had muscular walls if there were no nerve supply It seems to me that the only possible explanation of many of the disturbances of the functions of the brain from peripheral irritation of various kinds is a reflex influence of the cerebral circulation

In this lecture I propose to limit myself to the consideration of sleeplessness where it constitutes the special complaint on account of which the patient seeks advice To speak of loss of sleep where it is only one among many symptoms of disease of brain lungs, or heart, or one of the effects of fever or other acute affection, would require two or three lectures

Sleep consists essentially of a suspension of the functions of the higher centres of sensation or rather perception involving inaction of the corresponding motor centre The reflex action of the cord persists as well as the vital reflexes concerned in respiration and the action of the heart. Reflexes also survive in which there is a considerable degree of purposive coördination, the extremities will be withdrawn from a source of irritation and we turn over in bed and may adjust bedclothes without waking The Indian thief will steal the blanket from under the sleeper by so tickling him that he rolls over first in one direction and then in another While sensation is suspended a loud noise or a bright light, a shake or a sharp impression on the surface will penetrate the barrier opposed to impressions and rouse the sleeper, and many persons have the faculty of waking at a given hour Most of us, indeed, can wake up to catch an early morning train in case of need The intensity of the respective sensory impression required to disturb sleep varies greatly in different individuals and in the same person at different times A susceptibility to the disturbing influence of light and sound can be cultivated by sleeping in darkened rooms and with closed curtains On the other hand habit enables a Londoner to sleep not only in spite of the more or less continuous roar of traffic but through the thunder of a railway waggon or a post office van tearing along a quiet street, and many persons can sleep in broad daylight

It may be said at once that the treatment of sleeplessness does not resolve itself into a choice of drugs To compel sleep by opiates or sedatives is not to cure sleeplessness It is true that when the brain has been overtaxed by engrossing work, or the nervous system has been shattered by a severe shock or exhausted by overwhelming anxiety or outworn by excitement or the habit of sleep has been broken by long and anxious vigils over a sick bed, a judiciously selected remedy may quiet the molecular vibrations and restore self control to the brain and so break the wakeful habit and renew the patient's confidence Setting aside these exceptional cases the sedative whatever it may have been, may leave the cause of sleeplessness untouched, and while this remains in full operation the nervous system becomes accustomed to the drug and a larger and larger dose is required Then, moreover, the effects of the drug are not confined to the production of sleep The substance is carried by the blood everywhere and it may check secretions, derange digestion, impair the peristaltic vigour of the stomach and intestine, affect the circulation and deteriorate the blood, and interfere with the nutrition of the tissues One effect all drugs have, and always have—they diminish the resistance and impair the manhood of the individual It is not only that he has experienced relief and that he longs for it again, but he will not endure with patience and fortitude a privation of sleep which he would formerly have thought unimportant So it goes on until the morphia habit is established or the patient becomes a slave to chloral or sulphonal or trional Nothing is easier than to obtain a cheap kind of credit by prescribing a sedative, especially if its name is new to the patient and he can be assured that he is not taking an opiate properly speaking, but it may be the first step in the downward course towards suffering, bodily and mental, of the most terrible kind From what I have seen I should prefer to be a victim to morphia or to opium rather than to chloral or to sulphonal or to trional If the reaction from the opium intoxication is painful there is at any rate a positive pleasurable exaltation, whereas the best that chloral and sulphonal can give is oblivion and there is not only depression but a pitiable loss of volition The wretched subject cannot make up his mind on the most trivial question and when he has come to a decision he regrets it immediately Besides this indecision there is loss of memory, and either from this loss of memory or from impairment of the moral sense no dependence is to be placed on his statements The heart and the vessels lose their tone, the circulation becomes languid, and the tissues grow soft and flabby, till finally the victim is incapable alike of effort and enjoyment Unfortunately these drugs are placed within the reach of all in the form of syrups and tabloids, there is no restriction on their sale, and they are constantly taken on the advice of chemists or friends The medical man who prescribes any of them has thus no further control over their administration and incurs therefore a terrible responsibility

The essential preliminary to the treatment of sleeplessness is the recognition of its cause in the particular case We have therefore to consider the causes of sleeplessness Of these the most important undoubtedly is the original constitution of the nervous system The capacity for sleep and the readiness to sleep vary enormously in different persons Some can command sleep at a moment's notice almost at any time and under any circumstance, with others sleep always requires careful wooing But while there are inborn differences in this respect manifested even in infancy, much can be done to bring the nervous system into a condition which favours sleep or the reverse and this is a point always to be borne in mind in the treatment of sleeplessness Of all the influences which tend to bring the nervous system into a state in which sleep is ready, sound, and refreshing, the most important are fresh air and exercise A sedentary mode of life has a contrary effect. Besides therefore, protecting the light sleeper from all causes of sleeplessness and removing any which may be identified, it may sometimes be necessary to revolutionise his habits and to lay down special rules as to his mode of life The old distich "After dinner rest awhile after supper walk a mile" seems to have been written for the benefit of such an individual

These naturally bad sleepers are greatly to be pitied The slightest change in the bed or of pillows or coverings will give a bad night, the pillow must be h and it must be soft and low for others. Sleep in a strange room is for a time impossible. A chink in a shutter, or a badly-fitting blind, or ill-adjusted curtain admitting a single beam of light will cause some to wake up at daybreak. Some must have absolute darkness, others require a certain degree of artificial light. It is in such cases that the great difficulty arises of deciding whether sedatives of one kind or another may be given. Much depends on the kind of sleeplessness. If the patient can lie quiet and, while sleepless, remain tranquil, I should hesitate to give drugs. He has rest even if he does not sleep and very commonly there is sleep of which he is not conscious. An occasional dose may be given to parry the effects of any unusual excitement or fatigue The choice of the drug would be determined a good deal by the experience of the individual, but if the pulse-tension were high chloral would be indicated as a vascular relaxant; if it were low, paraldehyde or bromide or some such combination as morphia and hyoscyamus. When the patient tosses and fidgets and gets up looking worn and tired there is more need to have recourse to sedatives and it is extremely likely that their use will become more or less habitual. If possible bromides should be the drugs employed. There are cases in which a moderate dose of ammonium bromide just seems to bring the irritable and sensitive nervous system to an average condition and I have known patients to take it indefinitely without apparent injury. I cannot say this of any of the chloral or sulphonal class of drugs.

There are conditions of the circulation which interfere with sleep. Perhaps the most easily recognised of these is coldness of the feet. Anæmic girls are often kept awake by cold feet, and in debility from other causes coldness of the extremities may prevent sleep. For sleeplessness so caused a hot bottle is the obvious remedy, or, perhaps better, enveloping the legs in warm flannel up to and above the knees, which will usually be felt to be cold as well as the feet. Such patients should be warned not to dawdle while undressing but to change and get into bed quickly, and the feet should be vigorously rubbed. To anything of this kind, however, they are indisposed by the very languor and weakness which give rise to the coldness of the extremities. A great help to sleep in patients suffering from sluggish circulation is a little very hot and strong beef-tea or hot milk on going to bed. Stimulants should be avoided in the case of the young; there is less objection to them in elderly people, but in them the stimulant should not be relied upon simply as such, but should be given in the form of a hot drink, such as negus or spirit and hot water. Cold feet may prevent sleep when there is no weakness of any kind after hard intellectual work, especially when carried on late into the night. It is not a mere negative coldness which can be rectified by supplying warmth; external heat seems to be rejected and the feet refuse to be warmed by it. There is, in fact, spasm of the arterioles excluding the blood, just as when the feet are stone cold in fever while the temperature in the mouth or rectum is 103° F., and it may be pointed out that when the extremities are warmed by the application of external heat the warmth is not simply supplied from without; the vessels are relaxed by the heat applied to the surface and the warm blood is admitted. Under the circumstances we are considering, the reflex vaso-dilatation does not take place and the hot bottle, even if available, is of no use. The resource is friction, but this has to be persevered with for some time to be effectual. To stand in cold water for a few minutes before rubbing the feet is an excellent expedient, resorted to, as I have found, by many hard-working friends and to which I can bear personal testimony. Hot beef-tea or milk would be invaluable, or even a drink of hot water, but brain-workers are too much engrossed with the task in hand for forethought to provide these remedies. I would particularly warn my young hearers who may be sleepless after hard work against opiates. They may be most effectual and may not seem to disturb the digestion or interfere with work next day, but I think the judgment is liable to be impaired so that dominant ideas are not adequately tested and get the upper hand, while the ultimate results may be disastrous.

Sleeplessness may be due to an exactly opposite condition—a hot burning feeling in the feet which, however, more commonly wakes the patient up than prevents his getting to sleep. It may be part of a general sense of heat and discomfort attending gout, or sub-acute rheumatism, or rheumatoid arthritis, when the feet may be really hot, or the sensation of heat may be subjective only, (while the feet are cold to the touch and deep crimson in colour. Patients will often insist on putting the feet out of bed, but the relief thus obtained is only partial and temporary. The treatment of the sleeplessness will be that of the underlying condition. If an opiate is required, as may be the case, especially when there is pain, an old-fashioned Dover's powder is one of the best vehicles and there is little danger of its laying the foundation of the opium habit. Or phenacetin or antipyrin may afford relief and find a legitimate opportunity of usefulness.

Conditions of the circulation which do not give rise to such conspicuous effects are very frequently attended with sleeplessness. One of these is high arterial tension. It may be supposed that the high blood-pressure does not permit the arterioles to shut off the supply and reduce the cortical circulation. Whatever the explanation may be the cases are very common in which high arterial tension and sleeplessness go together and in which the lowering of the one affords relief to the other. Since the presence in the blood of nitrogenised waste is one cause of high tension the treatment dictated is to minimise its formation and promote its elimination. The patient will be put on a regulated diet in which the proportion of animal food will be adjusted to the individual requirements. In this the patient's previous habits and dietetic idiosyncracies must be taken into account. Nothing can be more absurd than to lay down rules to be applied indiscriminately to all sorts of constitutions. A glass of water night and morning is usually a good thing. Among the most efficacious of the eliminants is a mercurial aperient which, as it may have to be repeated once or twice a week for a long time, must be mild. A single grain of calomel or one or two mercurial pills or mercury with chalk with colocynth and hyoscyamus, or compound rhubarb pill, is usually sufficient and may be taken twice a week indefinitely. The eliminant action of the mercurial aperient may be followed up by mild salines or by alkaline tonics.

Rare instances are met with in which an exactly opposite condition—extremely low tension—appears to give rise to sleeplessness, or at any rate makes sleep in the horizontal position difficult or impossible. In the sitting position these patients can scarcely keep awake; at any period of the day they will drop off to sleep if they sit down and try to read; and even over the morning newspaper and after dinner they will sleep indefinitely until they go to bed and lie down when at once they are wide-awake. It seems as if the toneless vessels were incompetent to resist the slight increase of pressure within the cerebral vessels when the patient lies down. The treatment here must obviously be tonic.

By far the most common cause of sleeplessness is indigestion in its various forms, and the particular incident of indigestion which seems to be the most active antagonist of sleep is flatulence, especially gaseous distension of the stomach. Apparently it is mechanical pressure or stretching which prevents sleep, since sleep often at once follows the eructation of a few cubic inches of gas. The volume of gas displaced is quite insufficient to affect the splanchnic circulation, and it is not easy to understand in what direction the pressure operates which produces the result. There may be extreme dilatation of the stomach from pyloric obstruction without serious influence on sleep, and whenever the stomach has been displaced downwards, so that the lesser curvature is defined on the abdominal wall, or can be followed by palpation, I have found that the effect on sleep was little marked. When, on the other hand, the upper line of gastric resonance has been high, corresponding with the fifth space and the base of the ensiform, sleeplessness is common even though the area of resonance may not be very extensive. It does not follow that when flatulence is the cause of sleeplessness the patient should suffer from the ordinary symptoms of flatulent dyspepsia, epigastic pain or discomfort, and frequent eructations. Flatulent distension of the stomach produces its worst effects when we are not conscious of its existence. When we suffer from flatulence in the ordinary sense of the word what we are conscious of is not the flatulence itself but the effort to get rid of or displace it. When it is tolerated by the stomach and no effort is made to expel it its more serious effects are produced—anginoid pain in the cardiac region, palpitation of the heart, and sleeplessness. It will be clear from what has been already said that the form of dyspepsia attended with sleeplessness is that in which the special characteristic is atony of the muscular walls of the stomach, allowing of the passive distension of the organ. A further inference will be obvious—that it is in brain-workers whose nervous energy is diverted from the work of digestion, or in those whose mode of life is sedentary and whose general nerve-tone is low, or in persons depressed by anxiety and worry, that this form of dyspepsia is most liable to occur. One way, indeed, in which grief and worry and anxiety give rise to protracted sleeplessness is through the effects on digestion. Sleep will come to the relief of grief and even anxiety gives way to weariness and sleep, but nothing is more certain than the effect of mental depression on digestion, and when the sufferer is roused by flatulence or abdominal discomfort the distressing or agitating idea takes possession of the mind and banishes further sleep. Flatulent dyspepsia, again, is one of the causes of the sleeplessness which is said to belong to old age. It is not old age as such to which sleeplessness is to be attributed but to the infirmities attending it—to vascular conditions or functual derangements of one kind or another of stomach, bowel, or bladder. Flatulent dyspepsia very often interferes with sleep on first going to bed and may keep the sufferer awake indefinitely. This faculty it shares with various causes of sleeplessness, but one very common variety of sleeplessness is highly characteristic of flatulence. The patient, possibly a good sleeper naturally, falls asleep on getting into bed and then wakes punctually night after night at a given hour, at two o'clock, three o'clock, or four o'clock as the case may be, and then lies awake for the rest of the night. The explanation is that the last meal has not been entirely passed on into the duodenum. Fermentation takes place in the food which remains in the stomach and after a certain time sufficient gas and acidity have been developed to disturb the sleep.

The treatment of sleeplessness due to flatulence is, of course, that of the dyspepsia. This in itself would demand an entire lecture for its discussion and you will not expect me to enter upon it. All I need do is to enumerate the expedients for preventing the interference with sleep. The simplest of these is a tumbler of hot water at bedtime, and it is usually effectual. The stomach is stimulated to contract, much of the gas present in it at the time is expelled, and any fermenting contents are swept on into the small intestine where the antiseptic bile checks further fermentation and where flatulence gives rise to less disturbance. The hot water should be taken before undressing so that it may have time to clear out the stomach and expel the gas before the patient lies down. Should hot water not be sufficient sal volatile and carbonate of soda may be taken before it or an alkaline carminative draught may be given—carbonate and sulpho-carbolate of soda with aromatic spirit of ammonia, compound tincture of chloroform, or ether and peppermint or camphor water and sometimes bromide of sodium or ammonium may be added with advantage for a time. Friction over the epigastrium or between the shoulders may help to disperse the flatulence. I do not think it is well to allow even so simple and harmless a matter as a nightly dose of hot water to grow into a habit. As a rule it should not be continued for more than a week at a time as the response of the stomach becomes imperfect. It has seemed to me that an alkaline draught can be taken longer without losing its effect. I know several patients who wash out their own stomach at bedtime whenever they have sensations which lead them to apprehend a bad night.

Some individual causes of sleeplessness must be considered. Tea and coffee are looked upon as powerful agents in the prevention of sleep and there are no doubt many here who have found a cup of strong tea or coffee an excellent preparation for an evening's work. Certain kinds of tea and really good coffee do undoubtedly act as stimulants to the brain; they help the tired nurse to keep awake and fresh, and keep sleep at bay for the student who is working far into the night. They may, indeed, produce a condition of intense wakefulness. When, however, it is stated that a cup of tea in the afternoon will keep a given person awake all night, I doubt very much whether it is the tea, as such, which is responsible for the result. Imagination often plays a very influential part in the effect Let such a person be confidently assured that pure China tea, brewed for not more than two minutes, is innocent of such evil properties and he or she will often take it with impunity whether it conforms exactly to the description or not. But afternoon tea is a very common cause of flatulent dyspepsia and in this way may be responsible as the cause of protracted sleeplessness. So with the after-dinner cup of black coffee, it is often the dinner and not the coffee which disturbs the night's rest

Influenza has familiarised us with sleeplessness of a most obstinate character. There is always asthenia, cardiovascular and nervous, which must be borne in mind in the treatment. With the general effect on the nervous system there may be complications which contribute seriously to the prevention of sleep and may even interfere with the action of powerful opiates or sedatives. Among these is acute dilatation of the stomach, a not uncommon incident of an attack of influenza. It was present in the worst case of post-influenzal sleeplessness that I ever saw, in which there was not a wink of sleep for four days and nights. Sleeplessness following influenza must be treated as an acute affection and, unless there is speedy improvement under such tonics as arsenic or phosphorus, strychnine and quinine, together with measures for the relief of functional derangements, opiates may be given without hesitation and I think it better to have recourse at once to combinations of opium or morphine and hyoscyamus with carminatives than to try sulphonal, or trional, or chloral and bromides. In case of need morphine may be given hypodermically and it usually adds greatly to the efficiency to combine it with strychnine as well as atropine. The immediate effect of large doses of alcohol is torpor. A result of long-continued alcoholic excess is sleeplessness culminating in delirium tremens. The remedy here is total abstinence with considerable doses of strychnine or nux vomica and perhaps digitalis. At the same time the liver and stomach disorders resulting from the alcohol will demand attention as they may keep up the sleeplessness and are indeed frequently its main cause

I do not know whether it is worth while mentioning some of the popular remedies for sleeplessness. Among them is the hop pillow which certainly sometimes seems to soothe. There is, again, the saffron bag applied to the pit of the stomach immortalised by Bulwer Lytton in "The Caxtons." Gently smoothing the hair is undoubtedly efficacious in many cases, as is also, but less frequently, sponging the burning palms. Dipping the face in cold water is one of the expedients of the worker late at night; some will sponge the entire head. Then there are the different ways in which people try to hypnotise themselves by watching and counting the invisible breath, slowly counting imaginary sheep as they pass through an imaginary gate, and the like. I have not ventured on the large subject of the employment of hypnotism. That it has its legitimate uses in inducing sleep I have no doubt. It has not been my good fortune to meet with a case where it has overcome the morphine habit or rescued the victim of chloral or sulphonal.

THE PROCESS OF DIGESTION AFTER RESECTION OF ABOUT SIX FEET OF THE SMALL INTESTINE.

BY PROFESSOR CARL SCHLATTER,
OF THE ZÜRICH SURGICAL KLINIK.

(*Translated for* THE LANCET.)

BEFORE proceeding further, the title of this paper requires some explanatory observations. The dimensions of the intestine when in the living body or when only just removed from it are, as every surgeon knows, subject to great variation. Surprisingly different results are obtained according as the bowel is measured in the completely collapsed con dition or when containing gas and distended. In illustratio of this mention may be made of an intestinal resection pe formed by me in a case of strangulated gangrenous herni some weeks after the operation which is the subje of this paper. The piece of intestine as it lay o the table in the relaxed condition measured barely 50 cen metres (20 inches) in length, but when I, in order test the resistance of the necrosed portion, filled the tine with water, not using any additional force, the portion underwent elongation to 90 centimetres (3 Trzebicky[1] has also called particular attentio variations in the length of the intestine. T intestine removed in resection is generally co its size, on which account measurements taken at that time must lead to delusive results. When I specify 192 centimetres as the length of the portion of the intestine resected in the present case it is to be carefully kept in mind that this number expresses the shortest length—i.e., what Trzebicky calls the deceptive measurement in the case of resected and contracted intestine. In order that accurate comparisons of this case with others may be made it is necessary at the outset to allude to this question of disparity in methods of taking measurements. For the due appreciation of a reduction of the absorbent area of the intestine there is an essential preliminary question: What proportion of the intestinal tract is removed in resection? The statements of text books with regard to the total length of the intestine vary considerably; one[2] gives five and a half metres (18 feet) as the length of the small intestine, while another one[3] gives eight metres (26 feet). Beaunis and Bouchard specify as the limits four metres and eight metres (13 feet and 26 feet); Trzebicky finds values ranging from 561 centimetres to 870 centimetres (from 18 feet 5 inches to 28 feet 9 inches); Vierordt finds values ranging from 560 to 770 centimetres (from 18 feet 5 inches to 25 feet 5 inches), the length of the large intestine being given as from 130 to 230 centimetres (from 4 feet 3 inches to 7 feet 6 inches). According to Beneke the ratio existing between the total length of the body and the length of the intestine is that for every 100 centimetres of the former there are 387 5 centimetres of small intestine (without the duodenum) and 91 5 centimetres of large intestine. The height (*Korperlange*) of our patient being 172 centimetres (5 feet 8 inches), in accordance with the last of these estimates the length of the small intestine might be taken to be 666 centimetres (21 feet 10 inches). The portion resected would therefore amount to rather less than one-third of the total length of the small intestine.

---

[1] Ueber die Grenzen der Zulässigkeit der J Archiv für Klinische Chirurgie, Band xlviii., p. 63.

To what extent may the human intestine be removed without entailing, if not actual death from inanition, at least serious interference with the function of absorption persisting as long as food continues to be supplied? This question is of great interest to the physiologist and under certain circumstances is also of the utmost practical importance to the surgeon. Attempts to discover the answer have been made in a variety of ways, and have led to valuable observations. Senn[4] first proceeded by the method of making experiments on animals. Of seven extensive resections of the small intestine performed on dogs and cats only two were available for the purpose in view. *In both cases an intense*, long-continued, and eventually fatal marasmus was the sequel of the resection. As the result of these experiments Senn came to the conclusion that excision of more than one-third of the whole length of the small intestine was an operation dangerous to life, productive of marasmus, and in this way fatal sooner or later. He also directed attention to a compensatory hypertrophy of the intestinal wall. Trzebicky assigned much wider limits for the intestinal resections permissible in dogs, supporting his conclusions by extensive resections of the small intestine performed by him on 28 animals. "Resections of half the small intestine were tolerated quite well; resections of two-thirds and upwards of the jejunum and ileum made such an inroad on the chemical and mechanical processes of digestion that the prolongation of life became impossible." There was incessant diarrhœa, followed at a later stage by vomiting; food was voided for the most part undigested, and in spite of a craving appetite the animals perished with symptoms of complete inanition. Trzebicky made an observation of even greater importance—namely, that the results of resection of the beginning of the jejunum *were more serious than those of resection further in the* direction of the ileo cæcal valve. He attempted to apply to the human subject the results which he had obtained and declared that the shortest length of the small *intestine being taken as 560 centimetres (18 feet 5 inches)* esection of one-half of it—i.e., 280 centimetres—was uite permissible, presuming that no further complications present. Monari[5] did not consider that the limits d by Trzebicky were conclusive. The inferences from his experiments, likewise made on dogs, even permitted a resection of seven-eighths of the small intestine without the production of important interference with metabolism. He believed that at least one-half of the small intestine might be removed in the human subject without the person's metabolism being influenced for the worse. In like manner with Senn, he also found hypertrophy and hyperplasia of the gastro-intestinal tract in the dogs which had been operated on.

The address delivered by Dreesmann[6] at the last congress of German naturalists and medical men held at Dusseldorf supplied us with a summary of the extensive resections of the intestine which have hitherto been performed on the human subject, a summary for which our thanks are due to that author. *Including the one observed by himself he* found a total of 26 cases in which more than one metre (39½ inches) of the small intestine had been removed. The ultimate results shown by the statistics were not particularly brilliant. Of the 26 patients 17 survived the operation and five of the latter suffered from disorders of the digestive tract, leaving 12 whose digestion remained subsequently unimpaired. It is to be noted that in 10 of the last-mentioned cases the portion of intestine removed was less than two metres (6 feet 7 inches). Up to the present time six resections of more than two metres of the bowel have been successfully performed—namely, 205 centimetres of the small intestine (Koberle), 208 centimetres of the small intestine (Kocher), 215 centimetres of the ileum (Dreesmann), 234 centimetres of the ileum (Shephard), and 310 centimetres of the ileum (Fantino). The sixth and most extensive resection was that made by Ruggi—namely, 330 centimetres of the small intestine in an eight-year-old boy on account of circumscribed peritonitis. Subsequent disorders of the digestive tract occurred in four of these extensive resections, only two remaining exempt from them—namely, the first performed one with 205 centimetres removed, and, strange to say, the last one with 330 centimetres removed. Evidently this most unusual case of Ruggi's can be explained only by the youthfulness of the patient in question, for in early life compensatory hypertrophy of the remaining intestine can establish itself much more easily than in the adult. From these statistics Dreesmann draws the inferences (1) that resections of less than two metres do not provoke any disorders of the digestive tract except when complications are present; and (2) that resections of more than two métres may be performed without subsequent disorders of the digestive tract, provided that the patients are young. The disorders referred to manifest themselves chiefly as diarrhœa.

Fantino's case[7] of resection of 310 centimetres (10 feet 2 inches) of the ileum deserves special consideration. The patient was a woman, 60 years of age. Notwithstanding her deficient assimilation of nutriment an increased supply of food succeeded in preventing emaciation. Fantino concludes his communication with the statement: "At all events, an important fact is now established—namely, the possibility of resecting three metres of the small intestine of an aged patient, provided that he or she possesses a normally-acting digestive apparatus."

With respect to the limits which are permissible in intestinal resection in the human subject it will be perceived from the foregoing short summary that opinions based on experiments made on animals present considerable divergencies. Extensive intestinal resections already performed on the human subject would supply a safer foundation on which conclusions might rest, but these operations are so few in number that any addition to the existing statistics of only six cases is very welcome. The account now to be given contains the essential particulars of the clinical history of a patient upon whom I operated in autumn, 1898, and whose small intestine was resected to the extent of about two metres, a length which nearly approaches the critical dividing line.

On the evening of Oct. 9th, 1898, there was a great disturbance and stabbing affray among Italians in Zürich, in the course of which a man, 23 years of age, was stabbed in the hypogastric region at 7 P.M. He immediately fell down and observed that his intestines protruded from the wound. His companions then conveyed him home, a distance of about 300 metres (320 yards); he did the whole journey on foot, being supported only underneath the arms. A medical man who was fetched an hour or two

---

[2] Gegenbauer.

d Waldeyer. Lehrbuch der Topographisch-chirurgischen 1899

lle Beiträge zur Darmchirurgie. Deutsch von W.

e Untersuchungen über die Abtragung des Magens es beim Hunde. Beiträge zur Klinischen Chirurgie,

[6] Berliner Klinische Wochenschrift, 1899, No 16.

[7] Contributo allo Studio delle Estese Resezioni Intestinali, Gazzetta Medica di Torino, 5 Marzo, 1896, No 10.

I
dom.
hand, w
Sleeple
a hot bu
commonly
sleep. It may
comfort atten
rheumatoid art
or the sensatior

afterwards applied a first-aid dressing and directed the removal of the patient to the surgical klinik. The patient eventually arrived at the Surgical Poliklinik (i e., out-patient department) in a municipal ambulance vehicle at 3 A M. on Oct. 10th, accompanied by three other Italians who had been stabbed. He was a man of middle size, strongly built, and well nourished; his mind was quite clear; his pulse was fairly strong, regular, and over 100; his extremities did not feel particularly cold; his thoracic organs presented nothing unusual After removal of the first aid dressing there was found lying on the right hypogastric region a voluminous coil of small intestine the length of which was estimated at two metres (six feet seven inches). The greater part of it was in colour from deep dark blue to black; the serous membrane was quite lustreless. At 4 A.M.—namely, nine hours after the infliction of the wound—the patient was anæsthetised with ether. After shaving the hair, the abdominal walls and especially the edges of the wound, together with the piece of intestine, were cleansed and sterilised with solution of corrosive sublimate (1 in 5000). The protruding intestine was tightly grasped by the little wound and was already in part undergoing necrotic change, so that reposition was not to be thought of and the only hope lay in total resection. With some trouble I succeeded in drawing the two ends of the piece of bowel further out of the wound in order that the resection might be performed in healthy tissue. After application of Wolfler's compressors to the healthy parts of the bowel at both ends and the shutting off of the affected parts by means of Péan's clamps at both ends, the bowel was cut through with scissors at one side, the healthy extremity cleansed with pads of iodoform gauze, and then the long piece of mesentery divided as far as the healthy portion of the other end of the piece of bowel, Péan's clamps being applied in rapid succession to the line of attachment of the bowel. The bowel was now cut through at the other end in front of the Wolfler's compressor, and the numerous clamps on the mesentery were replaced by ligatures. The edges of the gap in the mesentery were united by a row of interrupted silk sutures, so that the two intestinal orifices were made to meet one another by folding the peritoneum. The suturing of the two ends of the bowel was done in the following way. The edges of the serous membrane were first of all united posteriorly with a continuous silk suture, then those of the mucous membrane were united round the entire circumference, and finally, the edges of the serous membrane were brought together anteriorly. For greater security a third layer was added, consisting of a row of Lembert sutures in the serous membrane The original wound in the abdominal wall, the narrowness of which had hitherto been regarded as a desirable shutting-off of the abdominal cavity from external infection, was now for the first time enlarged by an incision about five centimetres (two inches) long for the purpose of replacing the sutured parts It was then found that the incision in the skin had formed the real constricting ring, the primary peritoneal wound being notably larger. The wound was about three fingers' breadth above the centre of Poupart's ligament on the right side and parallel to it; its length was a centimetre and a half (0.6 inch); its edges were quite smooth. After replacement of the sutured parts no effusion of blood was found in the abdominal cavity, neither were there any indications of perforation of the bowel The wound was therefore completely closed by a continuous silk suture of the peritoneum and an interrupted silk suture of the muscles and the skin. The dressing consisted of iodoform gauze and adhesive plaster. The length of the portion of intestine removed was 192 centimetres (six feet four inches) From the corrugation of the mucous membrane it was obvious that the whole of it belonged to the ileum.

On Oct 12th a note was made to the effect that the patient had scarcely suffered at all from the consequences of the operation. There was some vomiting when the anæsthesia was brought to a close The highest temperature hitherto attained was 37.8° C (100° F) on the evening of the second day. Some tea was given to him by the mouth on the day of the operation. On this day for the first time a stool was passed of semi solid (breiiger) consistence. On the evening of the 14th the temperature, which had not hitherto been febrile, suddenly rose to 38.3° C (101° F) and a copious eruption of urticaria appeared over the whole body. On the 16th it was noted that there was a complete absence of abdominal symptoms, the urticaria, however, still continued. The evening temperature on the previous day had been 39.8° C (103.8° F) but there had been a reduction in the pyrexia since then and the evening temperature now was 37.5° C. (99.4° F.). On the 17th the dressings were changed for the first time. The wound was healthy and had firmly united; the sutures were removed. The urticaria was fading. On the 19th the urticaria had disappeared. On the 20th, while the dressing was being changed, some pus was evacuated by pressure on the lower part of the wound; there was no redness at that place and the pus evidently came from the muscular layer of the abdomen. On the 20th the patient's evening temperature rose to 38° C. (100.4 F.) in consequence of his having eaten a fried sausage that day; on the 21st, however, he presented no abdominal symptoms. On Nov. 3rd the patient felt perfectly well; his weight was 64 kilogrammes (140¾ lb.) and he was on full diet. He was allowed to stand on the 9th. His weight on the 15th was 68 kilogrammes (149½ lb). On the 29th it was 73 kilogrammes (160½ lb), so that he had gained nine kilogrammes (19¾ lb) during the preceding three weeks. On Dec. 7th he was discharged recovered. He weighed 75 kilogrammes (165 lb), his appetite was always hearty, and his bowels acted regularly almost every day. The young man's strength was good and he presented an appearance of exuberant health. He would have willingly resumed his work as a hodman if want of employment in consequence of the winter season had not compelled him to return to Italy.

The foregoing clinical history unquestionably shows that in the case of a powerful, well developed man, 23 years of age, the loss of nearly two metres of the ileum was tolerated without the slightest subsequent derangement of the health. On ordinary hospital diet the patient remained perfectly free from any troublesome symptom, not even diarrhœa being experienced. Only one complication interrupted the normal progress of his recovery—namely, the appearance of urticaria over his whole body on the fifth day after the operation, this being a complaint from which he had never previously suffered. The relationship of cause and effect between the exanthematous condition and the immediately preceding operation on the intestine may be taken for granted, because disorders of the digestive organs often lead, both by their purely reflex and their chemical effects, to diffuse erythemata and urticaria.

In order that an opinion might be formed as to the conditions of intestinal absorption in the patient the assimilation of the ingested albumin and fat was followed up for nine consecutive days. I have to thank Dr. Plant, scientific assistant at the Zürich Cantonal Hospital, for carrying out the researches which led to the results now exhibited Special importance was attached to leaving the patient on ordinary diet as he was, with the most complete freedom of choice as regarded the nature and quantity of what he consumed. The investigations were made very laborious by the introduction of the last mentioned considerations, but it was only when carried out in this way that they were able to give a correct insight into the habitual capacity for absorption possessed by the remaining portion of the intestinal tube. The man's daily consumption of food fluctuated between from 400 to 800 grammes (from 14 to 28 ounces) of milk, from 200 to 450 grammes (from seven to 16 ounces) of coffee, from 307 to 372 grammes (from 11 to 13 ounces) of meat broth, from 420 to 643 grammes (from 15 to 23 ounces) of soup, from 260 to 345 grammes (from nine to 12 ounces) of potatoes or 317 grammes (11 ounces) of maccaroni, or from 50 to 224 grammes (from two to eight ounces) of stewed apples, from 123 to 163 grammes (from four and a half to six ounces) of veal, from 43 to 100 grammes (from two to four ounces) of eggs, and from 83 to 315 grammes (from three to 11 ounces) of bread. His daily allowance of wine was 400 grammes (14 ounces).

For the purpose of showing the relations between these figures and their values under ordinary circumstances some notes are subjoined on the conditions of assimilation in the normal state. In forming an opinion as to the assimilation of albumin it is to be kept in mind that with ordinary mixed, not specially selected, diet a loss of from 6 to 12 per cent. in the fæces is always to be expected.* As regards fat, a waste of from 10 to 15 per cent. of the fat contained in the food is considered as normal and a matter of course when the quantity of fat in the food is small, as, for instance, from 25 to 40 grammes per day. But when, as in this case, the average supply of fat is larger and rises to [illegible] grammes of daily [illegible] per day, then the foregoing percentage is much

---

* [illegible]

1. Pernicious anæmia is a special *form of chronic blood* poisoning—a toxæmia. 2. It is the result of a special infection of the digestive tract, especially of the mouth and stomach and probably, although to a less degree, of the intestine. 3. The chief source of the infection is through the mouth, from long-continued and *neglected cario-necrotic* conditions of teeth and sometimes possibly from stomatitis arising from other causes. 4. The usual effect of this infection is a chronic infective catarrh of the mouth and stomach which may in time lead to deeper seated changes, e g., ulcers *of the mouth and* tongue, chronic glossitis and atrophic changes in the tongue, and chronic gastritis with atrophy of gastric glands. 5. Evidences of the infectivity of the organisms of dental decay are overwhelming, and in suitable cases the infective nature of the resulting catarrh of stomach can also be demonstrated. 6. The infection is chiefly streptococcal and probably derives its special characters from being of a "mixed" character. 7. Such *infection* the more readily occurs if the stomach or intestine is already from any cause the seat of disease. 8 The gastric and intestinal irritation (sickness, retching, vomiting, looseness of bowels, and diarrhœa) so often noticed, and which I find to be even more common than is stated (being recorded in close on 80 per cent. of cases) is the local effect of this infective catarrh, while the excessive destruction of blood taking place in the portal area is the result of the action of the poisons in the blood. 9. The fever so commonly met with is not an accidental occurrence, the effect of weakness, but is a feature of the disease, a result of the infective process itself, and its variations correspond to variations in the activity of that process. 10. Such variations are common—from week to week, sometimes from day to day, in the progress of the disease, even when it is running a fairly progressive course. 11. In addition, however, the course of the disease towards the fatal termination is often marked by one—sometimes by two—periods of marked improvement, lasting, it may be, many months or a year or more, followed by relapses. This character of the disease I have come to regard as the result of a relative immunity, unfortunately only temporary in its nature, conferred by the disease itself—an immunity accelerated and greatly strengthened for a time by suitable medicinal treatment, notably by administration of arsenic. 12 The above conclusions suggest certain new considerations in regard to treatment, of which the chief are: (*a*) minute attention to the hygiene of the mouth and especially of the teeth, with the immediate removal of every source of infection there; (*b*) stricter antiseptic treatment of the stomach and intestine; and (*c*) antitoxic serum treatment with the view of antagonising within the blood itself the poisons absorbed into it.

III.—DENTAL, ORAL, AND GASTRIC CONDITIONS IN SEVEN CASES OF PERNICIOUS ANÆMIA.

That a disease so rare as pernicious anæmia should prove to be a chronic infective disease, still more that it should appear to have any connexion with a condition so common as cario-necrosis of the teeth, may well excite surprise. For the former conclusion my former observations had already prepared me, but for the latter I was quite unprepared, and its gradual development in my mind—for it has been very slow and gradual—may be best traced by giving a brief summary of the cases in the order in which they occurred. The fuller details will be reserved for the end of this paper.

CASE 1 (1888) —This was a case of pernicious anæmia in a man of 59 years of age. There was a history of "gastritis" six years previously. The origin of the illness was referred to a definite exposure to bad drains three years before, causing at the time sore-throat and diarrhœa, and followed by a constantly recurring inflamed condition of the throat and tongue and by increasing debility. The teeth were loose and the gums spongy. There were tender, inflamed sores under the tongue and chronic glossitis. Retching and vomiting were present in earlier stages of the illness, but in later stages they were absent. The blood showed 950,000 of red corpuscles, or 19 per cent., per cubic millimetre, and hæmoglobin 20 per cent. There were well-marked toxæmic attacks, marked by fever, sweatings, looseness of bowels, and intense urobilinuria. The post-mortem examination detected chronic and subacute gastritis of three years' duration, and typical pigment changes in the liver and kidneys. It was this case that first drew my attention to the mouth as a possible source of infection. The condition of the teeth and the gums I noted as a part of my routine examination, but it made no special impression on my mind. If I thought of it at all I put it down to weakness

CASE 2 (1894).—The patient was a man, aged 42 years, with a history of growing pallor for four years. The origin of his illness was referred by himself to a change of tooth-plate. He had a new set of upper teeth fixed in a gold plate, which tarnished and tasted "like pennies" and caused "acidity" from the first day he used them. Then followed progressive weakness, vomiting of food, nervous disturbances, numbness and tingling in hands and feet, loss of knee jerks, wasting of certain muscles, a toxæmic attack marked by delirium, constant vomiting, and general œdema. Under corrosive sublimate there was a rapid recovery in three months' time, and the patient remained well for two years. Then came a relapse, with sickness and biliousness, fever, and looseness of the bowels. The blood showed 1,800,000, or 36 per cent., of red corpuscles per cubic millimetre, and hæmoglobin 38 per cent. This case, striking as it was, failed to excite any special attention to the mouth or the teeth. I have no note of the condition of either. The absence of any note about the tongue may be taken as indicating that nothing special was observed in its condition. As regards, however, the previous condition of the teeth, the fact that already at the age of 38 years (four years before) he required a new set of false teeth for the upper jaw speaks more eloquently, perhaps, than words could do.

CASE 3 (1895).—This *was a case of pernicious anæmia.* The patient was a man, aged 60 years, whose previous health had been good. The origin of his illness dated from "influenza" two years before (in 1893), followed by another attack a year later (in 1894), and then by loss of appetite for both food and drink. After 1893 he constantly complained of a faint, weak feeling in the stomach. There was temporary improvement from December, 1894, to May, 1895. Between October, 1894, and May, 1895, the tongue was raw and tender "like raw liver," causing him intense pain. There were also toxæmic attacks and acute relapses of fever with disturbances of liver, also sickness and vomiting and gastric pain. The blood showed 1,860,000, or 37 per cent., red corpuscles per cubic millimetre and hæmoglobin 54 per cent. The duration of the illness was about two and a half years. No note as to the condition of the teeth had been taken when I saw him. I subsequently learned that he had bad teeth, with occasional neuralgia—seldom toothache. Latterly he would discover that a tooth was loose and could be drawn out without the slightest force or trouble.

CASE 4 (1896).—The patient, aged 56 years, suffered from pernicious anæmia. He was a country gentleman and was active and athletic. There was a history of increasing weakness, with intermittent periods of betterment, for two and a half years; specially marked for the previous three months. The tongue was soft, clean, moist, and not indented. The teeth were very bad, black, and decayed in both fangs and crowns. The stomach was dilated, with splashings and flatulence. There was no sickness, but uneasiness and discomfort. The patient had diarrhœa five or six times daily, with very offensive stools. There were nervous symptoms, numbness, tingling, loss of knee-jerks, and ataxia. The illness ended fatally. The blood showed 760,000, or 15 per cent., red corpuscles per cubic millimetre, and hæmoglobin 18 per cent. The duration of the illness was two and a half years.

It was this case that first directed my attention to the teeth. The case was a typical one in its mode of origin, showing steadily increasing weakness in a man previously strong and athletic, living a country open-air life, surrounded by every comfort, without exposure to any source of drain or sewer poisoning. What chiefly directed my attention to the teeth in this case was not, perhaps, so much that they were bad—although a blacker and worse mouthful of teeth I have seldom seen—as wonder that anyone in this patient's station of life and with his comforts and surroundings should have allowed his teeth to get into such a condition. Apart from the blood changes and their effects, which were very marked, the condition of the teeth was practically the only objective sign of disease that he presented. I could not believe that they could be the result of the disease; and the question arose in my mind, for the first time, whether they could have had anything to do with causing the disease. Locally, in the mouth, there was no obvious sign of disease, and except for a dilatation of the stomach with an ill-defined sense of discomfort there was nothing special to point to disorder of the stomach The only symptom of disorder of the digestive tract was the diarrhœa, which was marked by particularly offensive stools My suspicions might prove to be quite groundless, but I resolved henceforth to note the condition of the teeth in all cases coming under my notice

CASE 5 (1896) —This was a case of pernicious anæmia The patient was a clergyman, aged 51 years, whose previous health had been good, for he had never had any illness till the present time Its origin was undefined There was no history of drain poisoning, but there had been increasing weakness for 12 months, especially the last four months There was no history of indigestion, sickness, or vomiting, and the freedom from these symptoms continued, at most there was slight flatulence The tongue was clean, but not specially smooth, and with nothing abnormal Of the teeth, *two or three were exceedingly bad*, three being black rotten stumps in the lower jaw There was no diarrhœa Urobilinuria was present The patient made a temporary recovery but a relapse followed by death ensued The blood showed 1,230 000 or 24 per cent, red corpuscles per cubic millimetre and hæmoglobin 40 per cent The duration of the illness was two and three quarter years This case coming as it did within a fortnight of the previous one, served further to direct my attention to the teeth, for here also the teeth were the only diseased part of the organism apart from the blood changes and their effects There was no local trouble in the mouth, but the teeth were so bad that I remember stating that if the patient were not so weak I should like to have them all removed at once

CASE 6 (1898) —This was a case of pernicious anæmia in a man who had a history of indigestion and poor appetite and was aged 52 years The patient had been ill with anæmia six months before (in 1897) without sickness, but with irregularity of bowels, diarrhœa at times, and slight fever The tongue was clean but flabby The teeth were very bad and covered with tartar and sordes Three upper molars were gone, but the roots were left and one of them was loose and could be pulled out with the finger The breath was very bad, the digestion was very feeble and the bowels were irregularly loose Towards the end of the illness there was gastric pain on eating The case ended fatally The blood showed 1 390,000, or 27 per cent, red corpuscles per cubic millimetre, and hæmoglobin 34 per cent The duration of the illness was (?) nine months In this case there was a history of chronic indigestion very bad teeth, very feeble digestion, and later gastric pain and irregular looseness of bowels

The next case of interest to me in this relation that I met with was not one of pernicious anæmia but of subacute gastritis, caused and kept up by three suppurating teeth and permanently cured by removal of these teeth

CASE 7 (1898) —This was a case of subacute gastritis in a woman aged 62 years The patient suffered from severe intermittent sickness and gastric pain, necessitating the use of morphia, lasting eight months with loss of weight and increasing weakness Cancer was suspected, but on examination no sign of malignant disease was visible in the stomach, the abdomen, the rectum or the uterus Constant complaint was made of a bitter taste in the mouth nausea and loathing and distaste for all food The tongue was coated with a dirty moist fur The patient had false teeth both in the upper and the lower jaws The plates were scrupulously clean and the gums beneath the plates were perfectly healthy There were only three teeth in the jaws, and these were decayed there being suppuration around the roots with pus welling up on pressure There was no other sign of disease A provisional diagnosis was made of gastritis caused by continual swallowing of pus The stumps were ordered to be removed A week later the tongue was clean the sense of taste returned *for* the first time for eight months and there had been only one attack of gastric pain In another week there was a return of the sickness with vomiting and pain and slight fever The vomit obtained was free from *food*, it was watery, with rusty flakes consisting of mucus fibrin, catarrhal cells, leucocytes and blood, the whole being loaded with streptococcus and staphylococcus (pus) organisms and a few bacilli A diagnosis was made of infective gastric catarrh As a local antiseptic three grains *of* salicylic acid were given thrice daily and peptonised milk was also given and counter-irritation was applied There was complete cessation of all pain and a steady recovery *from* that time onward When the patient was first seen her weight was 9st 10lb, and a month later (after her illness) it was 9st 6lb Two months later it had increased to 10st 6lb She reported herself well and she has since remained well (after 15 months)

Up to this time my suspicions regarding the teeth were based on general grounds Knowing as I did how infective the organisms of dental caries were, such unhealthy teeth seemed to me to be *possible* sources of infection I had had no proof that infection from decayed suppurating teeth might be the direct cause of gastritis, nor did I know of any observations showing this This case was a particularly crucial one in this relation Had the teeth as a whole been very bad—e g, a number of rotten stumps interspersed with fairly good teeth, the condition one so often meets with both in private and still more in hospital practice—and had I had them all removed and replaced with good artificial teeth, I could *not* have been *sure* that the *resulting improvement* was due to removal of the teeth as sources of infection and not rather to improved appetite and better mastication As it was as regards new teeth no change was made, or, indeed, was necessary The only change made was the removal of the three suppurating teeth, which had, the patient said, never caused her any trouble and which indeed she regarded as "old friends whose loss she greatly deplored She said that "she had had them like that for 12 months or more '—her gastric trouble be it noted extending over about the same period of time I was able to demonstrate further in this case the infective nature of the gastric catarrh, the fluid vomited being loaded with pus organisms, three weeks after removal of the suppurating teeth

CASE 8 (1899) —This was a case of pernicious anæmia The patient was a man, aged 53 years, whose health up to June 1898 had been good There was a definite history of exposure for a period of some weeks to sewer gas He suffered from retching vomiting, and pain after food with intense salivation and gastrorrhœa The upper teeth were all absent except one in front which was dark, decayed, and loose in its socket Several molars and bicuspids were absent from the lower jaw He had worn tooth plates for the previous two years At the commencement of illness there were painful sores in the mouth under the tongue, which soreness as he said "seemed to spread down into the stomach and right through him" The blood showed 1 290 000, or 25 per cent, red corpuscles per cubic millimetre and hæmoglobin 24 per cent The vomited fluid was watery, with flakes of mucus and catarrhal cells, the whole being loaded with small cocci often in zooglœa like masses There were also bacilli and larger cocci but in fewer numbers A rapid temporary improvement was made under salicylic acid, but this was followed by a relapse marked by salivation, stomatitis occasional diarrhœa progressive weakness œdema acute epididymo orchitis and ultimately by death The duration of the illness was one and a half years

This case, coming so shortly after the observations made in Case 7, I regard as one of the most instructive which I have met with in respect not only of the history of its origin but also of its oral and gastric symptoms The illness dated from a definite exposure, lasting for a period of some weeks, to the *odours of a* cesspool close to the window where he worked, the smells from which were so bad that they often made him sick Among the first troubles he noticed were sores in the mouth, and his own description of his disease was that this soreness seemed to extend right through him from the mouth to the anus Then followed retching and salivation to a degree such as I had never before witnessed pints of fluid daily being brought up either directly from the mouth, or indirectly by vomiting from the stomach There was a history of dental trouble all the teeth in the upper jaw being absent with the exception of one which was markedly rotten and loose This, however, he valued despite its looseness and would not allow it to be removed Lastly there was the microscopic observation made on the vomited fluid which demonstrated the presence of *masses of* cocci The relation of events in his illness seemed thus to be in my mind 1 Previous dental trouble extending probably over many years (he had worn tooth plates for two years, but still retained decayed teeth) 2 A definite exposure to sewer gas infection which, either alone or in combination with preceding infection from the teeth set up both local infective trouble in the mouth (*sores* under the tongue with salivation and stomatitis) and gastro intestinal trouble (gastric infective catarrh with retching, vomiting, and pain). 3. The rapid onset of anæmia. Three months later the patient became so anæmic that he could not work and there was so much gastric trouble that cancer was suspected. 4. The subsequent history of the case—that of pernicious anæmia.

(*To be concluded.*)

EXCISION OF THE SPLEEN FOR INJURY.

BY O. ST. JOHN MOSES, M.B., C.M. EDIN.,
LATE CIVIL SURGEON, BACKERGUNGE, BENGAL.

ON Jan. 6th, 1899, a man was brought into the outdoor department of the Barisal Hospital, Bengal, by the police, whose report was to the effect that a quarrel had arisen between the patient and a neighbour, in the course of which they came to blows and the latter struck the former with a sharp-edged weapon (a *dao*) so as to wound him in the "stomach." My assistant surgeon (Babu Radha Nath Bose) on examining the patient at the time found that he had received a severe abdominal wound from which there was a dark congested-looking mass protruding, that considerable hæmorrhage had occurred, and that the patient's clothing had been stained, not only with blood, but also with mud, as though he had been working in the fields at the time when he received the injury. The patient was a well-built man, aged 45 years, by caste a Mahomedan, by occupation a cultivator, resident in the village of Nazirpur (police-station Gournadi). The symptoms of shock were well marked, for the man's face was pale, his lips were blanched and his hands and feet were cold; but he retained consciousness, there was no nausea or vomiting and there was no marked muscular relaxation. The pulse was comparatively feeble, but the heart-sounds were distinctly audible and apparently not much altered from the normal. On the left side of the abdomen, in the hypochondriac region and in the angle formed by the costal cartilage of the tenth rib and the left linea semilunaris, there was an incised wound, two and a half inches in length and three-quarters of an inch in width, and penetrating the whole thickness of the abdominal wall. The direction of the wound was from above downwards and slightly outwards so that the upper end, also somewhat wider, approximated more towards the middle line than did the lower end. Protruding outwards between the lips of the wound was a dark congested mass, a portion of the spleen. The lips of the wound had contracted tightly round the base of the projecting portion so as to prevent the return of venous blood. Moreover the capsule of the organ was incised to the extent of one and a half inches and the splenic pulp was bulging through this opening. Considering, then, the circumstances of the case, the fact that the injury had been inflicted some little time previously, and taking into account that the patient had been brought a considerable distance and that his wound had been exposed to septic influences, such, for instance, as contact with dirty clothing, I feared the effects of septic processes more than those of shock or hæmorrhage or other conditions. Thus I decided that it would be unwise to return to the abdominal cavity a portion of viscus which had been exposed so long and under such circumstances, especially as it seemed to me just possible that the peritoneal cavity might as yet be free from infection since the tight sphincter arrangement of the wound prevented the inflow of any fluid from the external surface. Of course there was the chance that the weapon which inflicted the injury had also carried septic infection into the peritoneal cavity, but even though such were the case it did not seem prudent to add to the dangers by wilfully returning a piece of septic spleen whose vitality was already lowered and whose substance would favour the growth of septic organisms in the patient's present condition. Yet at the same time I was unable to satisfy myself that the muscular contraction at the seat of injury had been so complete as to have excluded all chance of infective material having passed from the wounded surface of the organ to the portion still within the abdomen. The possibility of such a spread impressed itself the more upon me when I considered the dorsal decubitus of the patient and the consequent action of gravity. Under the circumstances, therefore, I looked upon the entire spleen as an infected organ, and I satisfied myself that its complete removal would minimise the risks of the patient.

Operation.—My first step was to administer to the patient half-drachm doses of compound spirit of ether and aromatic spirit of ammonia by way of stimulant. I had no fear of hæmorrhage at present, as the capillaries on the wounded surface of the abdominal wall had long ere this ceased to bleed, whereas the hæmorrhage from the injured organ and its capsule were held in control by the muscular edges of the wound. My next care was to wash the wound and the surrounding parts with the greatest precautions, and for this purpose I used by preference a solution of carbolic acid in the first instance of the strength of one part of the acid in 50 of water. This antiseptic substance penetrates more deeply into the tissues and thus finds its way into crevices far more readily than does the perchloride of mercury. Next, taking a long strip of lint about two inches wide and wringing it out of the antiseptic solution, I sprinkled it over with a mixture of equal parts of iodoform and boric acid and packed it round the base of the protruding tongue of spleen so as to prevent the ingress of any fluid into the peritoneal cavity. At this stage chloroform was administered and when the patient was thoroughly under the influence of the anæsthetic I secured the protruding mass by means of an ordinary hæmorrhoidal clamp such as that devised by Smith. This served a double purpose, for it acted as a ligature, preventing the inflow of any blood from this part of the organ and it also kept the projecting portion from slipping in when I took the next step in the operation. This consisted in extending the abdominal wound downwards for a convenient distance; in the present case one inch sufficed. In doing this, however, I adopted the plan of cutting at first through skin, fasciæ, and muscular layers only, then arresting the hæmorrhage completely, and finally extending the peritoneal opening. The spleen was quite isolated and its attachments, especially the gastro splenic omentum, were lax, and this allowed of my lifting the whole organ out and bringing the pedicle to the surface-level. I carefully avoided either pressing upon or pulling the spleen more than was absolutely necessary, so that I ran no risk of either squeezing infected material inwards or of rupturing the vessels at the hilum. I next proceeded to ligature the pedicle and for this purpose I used stout chromicised carbolised catgut, believing that the chromicised material does not so readily absorb septic matter as ordinary catgut or silk, which latter is also apt to become too loose as the enclosed portions contract. I applied double ligatures and before removing the parts external to the outer ligature I passed two sharp-pointed probes through the substance of the pedicle between the two ligatures. The probes were at right angles to one another; their sharp points were protected by means of two pieces of cork, their ends rested upon the surface of the abdomen, and their function was to support the stump which would remain after removal of the main body of the organ. Having done this I cut away the entire spleen external to the outer ligature. The remaining stump I treated exactly like the stump of the uterus in a Porro's operation—that is, at the wound which I closed round it. The wound was then dressed in the ordinary way with perchloride of iron. During the whole operation the greatest care was taken to prevent any fluid from passing into the peritoneal cavity; no appliance was introduced into that cavity, and by protecting the abdominal opening with a piece of gauze wrung out of carbolic lotion any air that passed into the peritoneal cavity was, as it were, filtered through an antiseptic medium. The spleen weighed 12½ ounces, and measured six inches in length, four and a half inches in breadth, and one and a half inches in thickness. In colour the organ was dark. It had, moreover, a slight constriction round the part that had been held by the abdominal wound.

After treatment.—The patient was kept at absolute rest and for the first 48 hours was fed entirely on milk. Pills containing each a quarter of a grain of the extract of opium and the same quantity of the extract of belladonna were administered at intervals in order to keep the patient at perfect rest and, by producing an artificial constipation, to avoid all straining efforts. At the end of 48 hours I dressed the wound with very great antiseptic precautions, the process being repeated every second day thereafter. On the eighth day after the operation (Jan 14th) the healing process had advanced so far as to allow of the removal of the probes, and a fortnight after the operation (Jan. 20th) the wound had completely healed up. On the following day I permitted the patient to be removed to the Barisal jail as a warrant had been issued for his arrest. I continued, however, to keep the man under observation in the jail hospital, and after an interval of some days I transferred him to the "convalescent gang," where he was kept on special diet and being an 'under trial' prisoner he had no work to do. On Feb. 3rd he was able to appear for trial in court. During the whole period of convalescence the patient's temperature never rose more than one degree above the normal; his pulse gradually returned to a healthy condition, and his appetite remained good. The recovery made by the patient was remarkably speedy, and the last report I had of him was in a letter dated Nov. 16th, 1899, which stated that he was in good health and able to attend to his ordinary occupation as in former times.

I may add that no vomiting occurred either during or after the operation and that no hæmorrhage or other complication took place during the period of recovery. An examination of the patient's blood made after the operation revealed no very marked condition, but having had no occasion to make such an investigation before the removal of the spleen I am unable to make any comparative statements. From the somewhat complicated physiological functions which the spleen discharges during health as a member of the hæmopoietic system, we should be led to expect important changes in that system and especially in the blood, after total removal of the organ in question. Such changes have from time to time been observed. Thus considering that the chief functions which the spleen discharges in the physiology of the human system are concerned with the production of white blood corpuscles, the breaking down of the red blood corpuscles (hæmolysis) and the metabolism of proteid substances, the breaking down of hæmoglobin—the change we should most of all look for after removal of such a body is an alteration in the relative proportion between white and red corpuscles in the blood. This has been noticed by several observers. Moreover, it frequently happens that the lymphatic glands take on a condition of hypertrophy to compensate as it were for the loss of the spleen. These lymphatic glands being engaged in the production of the white corpuscles of the blood their tendency is to increase in size and in activity and to correct the alterations in the blood often to the extent of making them inappreciable. Among others Czerny and Kocher have noticed enlargement of the lymphatic glands under such conditions. In the case that was under my care a close search revealed a single superficial lymphatic gland belonging to the femoral group on the left side swollen to the size of a small bean. It was situated a little below and to the inner side of the saphenous opening; slight pressure applied to the long saphenous vein over the lower margin of that opening in the fascia lata was sufficient to make the vessel stand out external to the swollen gland. Besides the swelling could not be traced to any other cause; it was not present at the time of the operation but appeared on the third day after and it gradually disappeared in the course of a week without the aid of any external application.

The operation of extirpation of the spleen or splenectomy as it is called, has been performed for many causes and with a varied degree of success. Leucocythæmia, chronic congestion of the spleen, albuminoid degeneration, syphilitic enlargement, simple and malarial hypertrophy of the organ, floating spleen, hydatid disease, cystic spleen, sarcoma, abscess, rupture, and wounds constitute the list of conditions for which the operation has been attempted. In leucocythæmia, chronic congestion, albuminoid degeneration, and syphilitic enlargement the results obtained from this operation have shown so high a mortality as to render this mode of treatment unjustifiable under the circumstances. In cases of simple and malarial enlargement and of floating spleen the results have been considerably better. Vulpius of Heidelberg in the tables of cases he has collected quotes two instances of ruptured spleen, both of which ended fatally. The operation is to be considered as one which is exceedingly severe which should only be undertaken when the surgeon is perfectly satisfied that it is the course of treatment which of all others under the prevailing circumstances is calculated to diminish the risks to be borne by the patient and when the operator is quite certain regarding the efficacy of his antiseptic arrangements. Besides the dangers common to all forms of laparotomy, especially infection of the peritoneum and its results, the great fear in this particular operation is that of hæmorrhage from the vessels at the hilum of the spleen. In the case which I have described the risks of such an accident were minimised to a great extent by the mode of procedure which I adopted.

Edinburgh.

THE PATHOLOGY AND TREATMENT OF APPENDICITIS.[1]

BY C. B. LOCKWOOD, F.R.C.S. ENG.,

ASSISTANT SURGEON AND LECTURER ON SURGICAL AND APPLIED ANATOMY, ST. BARTHOLOMEW'S HOSPITAL.

IN the discussion which took place recently before the Medical Society of London on the Prognosis of Appendicitis and which was introduced by Dr. H. A. Caley this observer and some of those who spoke made use of clinical statistics to a large extent. This method of inquiry is obviously of value, but it has not hitherto carried conviction to the minds of physicians and surgeons. The reason for this is simple. Taking the 99 cases of simple appendicitis and perityphlitis, on which Dr. Caley's remarks had been based, in which the patients were said to have recovered it is reasonable to ask how this is known to be true. A certain proportion of them must have had concretions in the appendix. The attack may have subsided, but the patients had not recovered and the appendicitis was sure to recur. It would be just as reasonable to say that a patient with stone in the bladder had recovered because after rest in bed an attack of cystitis had subsided. Without doubt some of the 99 cases relapsed and the patients went to other hospitals and were there included amongst the severe cases with perforation, gangrene, or septic peritonitis. I venture to think that appendicitis cannot be correctly prognosed until it is possible to infer from the clinical symptoms the pathological changes proceeding within the appendix. I do not intend to discuss the nomenclature of diseases of the vermiform appendix; much confusion prevails and the classification adopted by many authors is illogical. When inflammation originates in the vermiform appendix I intend to call it appendicitis and to add terms to indicate the *effects* which the disease has produced, such as ulceration, perforation, gangrene, the various inflammations of the peritoneum, of the broad ligament of the uterus, of the portal vein, and so forth. The remarks which follow are based upon the histological examination of 53 cases of appendicitis ranging from the slightest to the most acute. The specimens have been obtained from cases which I myself had operated upon and of which I know the histories.

The first group of cases is that in which suppuration was absent. Some of these cases come under the head of "appendicular colic." In these so far as is known no clear attack of appendicitis has ever occurred. They were characterised by slight *tenderness on pressure* over some part of the iliac fossa, by *disorders of digestion*, and by occasional attacks of transient pain not infrequently mistaken for renal colic.

[Regarding the normal anatomy of the appendix Mr. Lockwood directed special attention to the lymphoid follicles and the lymphatic system of the appendix. The continuity of the submucous and subperitoneal tissues through numerous gaps (hiatus muscularis) in the muscular coats was pointed out and the paths by which inflammatory and infective inflammations of the mucosa spread to the peritoneum were demonstrated by lantern slides.]

In a case of appendicular colic such as was described by Talamon a healthy young woman suffered for 18 months from abdominal pains. During the last six months she had been unable to follow her occupation. The pain was referred to the right side of the abdomen and to the right iliac fossa. It had been diagnosed as being caused by colic. The appendix was removed. To the naked eye it appeared normal. Microscopical section, however, showed the lumen to be filled with epithelium, mucus, granules, and crystalline bodies, and crowded with diplococci, small ovoid bacilli single and in pairs, small clumps of staphylococci, and streptococci in chains from four to six, and some long slender bacilli. In the microphotograph the lumen of the appendix is seen to be crowded with all these various bacteria have penetrated for perhaps half a millimetre into its substance. We might be reluctant to advise the removal of the appendix for a disease designated "appendicular colic." Such a designation conveys but little idea of danger. But few would hesitate to remove an appendix the mucosa of which was ulcerated and invaded by bacteria.

---

[1] An abstract of a paper read [illegible] before the Medical Society of London [illegible]

[2] The Lancet, Dec. 2nd, 1899, p. [illegible]

Amongst the cases which have been included under the term "catarrhal appendicitis" until the result of the histological examination has been ascertained the following has been considered a typical case. A young man, aged 29 years, had his first attack of appendicitis at the age of 19 years. During the next 10 years he had so many attacks that he could not recall their number. They usually confined him to bed for a day or two and prevented him from going to business. Perhaps an operation had been deferred because he suffered from mitral disease. The appendix was removed in the usual way and was not adherent. It was engorged with blood and felt very hard. It was constricted about three-quarters of an inch from the intestinal end. The micro-photograph shows the mucosa to be ulcerated and the lumen to be filled with granules, crystalline bodies, shreds of organic matter, irregular pieces of semi-transparent substance, and quantities of bacteria. These include many morphological varieties, cocci, diplococci, short ovoid bacilli single and in pairs, long slender bacilli, short thick bacilli with rounded ends, long thick bacilli, leptothrix, spores, and spore-bearing bacilli. Many of the tubular glands had shed their epithelium which had been replaced by plugs of bacteria projecting from the lumen. In some places these bacteria were penetrating the lymph canalicular system of the mucosa. The term "catarrhal appendicitis" does not perhaps convey to the mind a very clear sense of impending danger, but no one who is aware of the pathological state of such an appendix as this would hesitate for a minute in advising its removal.

Of the other pathological conditions associated with clinical signs of appendicitis I will take the effects of stenosis first. The appendix of a young woman who had had four attacks of appendicitis was removed. During the attacks the temperature rose. She had pain in the right iliac fossa, which was so severe as to cause collapse, there was constipation but no vomiting. Betwixt the last two attacks pressure in the iliac fossa was painful so that it was obvious that although appendicitis had subsided it had not got well. The appendix was not adherent, was nearly four inches long and constricted from the cæcum. A micro-photograph of the constricted part shows the mucosa beyond the constriction to possess an epithelial lining. The lumen contains pus full of streptococci. It is hardly necessary to point out the danger of this condition, but to render it clearer micro-photographs of another case were referred to. A man had had six attacks of appendicitis and was advised to have his appendix removed. The operation was deferred until after his wife had been confined. When next seen he had no signs whatever of appendicitis but was obviously suffering from hepatic abscess. An attempt was made to discover this abscess from behind but without success. A second attempt was made in front. No abscess could be discovered, but inflamed glands were felt about the cæcum. The appendix was therefore removed. The micro-photograph showed that the interior contains pus full of streptococci with a few bacteria of other types. The lymph on the surface of the appendix was also full of streptococci. The patient survived this operation, but ultimately he died from portal pyæmia with a number of abscesses in the liver. The delay in this case is evidently a matter for the keenest regret, and it would never have been permitted had the pathological condition of the appendix been accurately diagnosed.

[Some of the effects of ulceration of the mucosa and subsequent infection of the appendicular wall were next illustrated by Mr. Lockwood. Also the dangers of fæcal concretion. Fæcal concretions were shown to be bacterial masses, a point which, strangely enough, had not been demonstrated by any investigator. He then continued:—]

I regret that I have not time to demonstrate by specimens the various steps in the formation of fæcal concretion. These specimens show that fæcal concretions are always associated with general ulceration of the mucosa; that the concretion was not necessarily the cause of the ulceration; and that the concretion and the ulceration both owed their origin to the same cause, bacterial accumulation within the appendix. The presence of concretion in the appendix is evidence of extensive ulceration of the mucosa and bacterial invasion. A large concretion is in itself a mechanical peril when, owing to the application of cold to the surface of the body, the appendix becomes engorged. It may cause a perforation of the appendix in its vicinity or gangrene of the part beyond. If it be true that many of the cases of appendicitis which are said to have recovered as a matter of fact contain concretions it is easy to imagine their peril.

Of the so-called process of natural cure the accounts given by authors are fanciful. It is impossible to say when the so-called process of natural cure has been achieved. The appendix had been removed from a man who had had at least 20 attacks of appendicitis. He had twice been in large London hospitals, once under a surgeon and once under a physician. As they sent him out again without operation it is reasonable to suppose that they anticipated that the natural process of cure would eventually take place. The appendix was removed. A histological examination showed that the mucosa had been destroyed by ulceration and that the lumen was occupied by a concretion which seemed calculated to prevent any supposititious natural cure from taking place. An appendix which has once been inflamed may inflame again after long intervals. An appendix was recently removed for repeated and violent attacks of appendicitis which had recurred after a period of quiescence of nine years. In another case the patient had a violent attack of appendicitis, then an interval of 15 years of quiescence followed by another violent attack, after which the appendix was removed. It does not seem reasonable to lay down rules as to how many attacks should be suffered before the appendix is removed. I am inclined to wait for some time after the first attack of non-suppurative appendicitis to see what supervenes. But on several occasions the appendix has been removed after the first attack because it was still painful and could be felt. Under the circumstances the general health of the patient is seldom good and the functions of the alimentary tract are improperly performed, indigestion, flatulence, constipation, and diarrhœa being frequent accompaniments. After a second attack of non-suppurative appendicitis most patients prefer to part with an organ which appears to be of no physiological importance and an actual source of danger.

As to the question of diagnosis, it is usually possible to say that the appendix is inflamed, but hitherto the histology of appendicitis has hardly been sufficiently investigated for anybody to surmise with accuracy the actual pathological state of the appendix. The usual sequence of events, as shown by the histological examination of the 53 specimens, is destruction of the epithelial lining of the lumen, ulceration of the mucosa, bacterial invasion of the mucosa and submucosa, and extension of the inflammation through the muscular gaps to the peritoneum. This process may be complicated by the formation of cicatricial strictures, by inflammatory obliteration of the whole lumen after removal of the mucosa, by the presence of fæcal concretions, by perforation, by gangrene, by inflammation of the appendicular lymphatics, and by portal pyæmia. It is also important to note that, as Clado was the first to point out, the inflammation in females not infrequently spreads along the lymphatics to the right broad ligament of the uterus, so that appendicitis is sometimes mistaken for inflammation of the ovary or Fallopian tube. In three cases of this kind operations have been performed. In addition it is important to observe that appendicitis sometimes occurs as a complication of other diseases. Primary tuberculosis of the appendix is probably a rare disease; although every specimen has been carefully examined for tubercle it has only once been discovered. But on one occasion in operating for the removal of an inflamed appendix general tuberculosis of the peritoneum was discovered, the inflammation of the appendix being a complication of that disease. In another case of appendicitis a hard mass was discovered at the base of the appendix. When a portion of this was submitted to histological examination it was found to be cancerous. The cancer, which involved the ileo-cæcal valve, was removed and the intestine was united by circular enterorraphy. The patient recovered but ultimately died from a recurrence of the cancer in the pelvis. As regards cases of appendicitis in which perforation or gangrene has occurred there can be little doubt as to the propriety of evacuating and draining the abscess as soon as diagnosis can be effected. The cases show that the safety of the patient depends mainly upon the stage at which the operation is performed and the position which the appendix occupies. When the appendix is beneath the cæcum and in the iliac fossa the chances of the abscess being localised are fair; likewise when the appendix lies to the outer side of the cæcum and colon.

But, in females especially, the appendix often hangs over the brim of the pelvis into Douglas's pouch; when such an appendix perforates or becomes gangrenous the danger is vastly increased. Moreover, collections of pus at the bottom of Douglas's pouch are most difficult to drain.

As regards the operation I advocate the oblique incision parallel to the outer half of Poupart's ligament because it can be extended to reach an appendix which lies outside the cæcum, or which is adherent within the pelvis. The wound seldom exceeds three inches in length; such a length as two inches or two and a half inches is very common. The layers of the abdominal wall are split and not cut across. In non suppurative cases the appendix may be most difficult to discover. It may be laid down as an axiom that the organ is never absent except as the result of disease. Cases were mentioned in which the organ has only been discovered with the greatest difficulty because it was hidden away in either the subcæcal or the ileo-cæcal retro peritoneal fossa. Doubtless surgeons who have failed to find the appendix have not infrequently been deceived by this abnormality. In cases complicated with suppuration and peritonitis a determined endeavour should be made to remove the appendix. It is worth while to run considerable risks rather than to leave behind an appendix which is profoundly septic and which may contain concretions. In some cases in which the abscess has merely been opened and drained and the appendix has been left behind subsequent attacks of appendicitis have been known to occur. In others a septic sinus has persisted requiring a formidable and often fatal operation for the removal of the appendix. In one such fatal case the sinus led to a perforated appendix which contained a large concretion. Nevertheless the patient's condition sometimes forbids an attempt to remove the appendix. A case of this kind was under observation in which the original appendicular abscess had been followed at intervals by three others of the most formidable and dangerous type. As regards the closure of the wounds after the removal of the appendix in cases without suppuration it has been found inadvisable to insert buried sutures of silk, because infection is likely to occur when the lumen of the appendix is cut across. Good results have been obtained with a single row or fishing-gut sutures.

Operations for the removal of the appendix vary greatly in their gravity. The simple operation is comparable to the radical cure of non-strangulated inguinal hernia. But occasionally after violent appendicitis the most formidable adhesions are met with and they may test all the courage and dexterity of the operator before they are overcome. In my own operations for the removal of the vermiform appendix in which suppuration is absent the patients recover more quickly since they lie upon their side and are quickly put on solid food. In cases of appendicitis with perforation or gangrene and acute abscess the after-treatment requires the greatest skill and watchfulness.

DEATHS UNDER CHLOROFORM.

By JAMES EDMUNDS, M.D., M.R.C.P. LOND., &c.,

MEDICAL OFFICER OF HEALTH AND PUBLIC ANALYST FOR ST. JAMES'S; CONSULTING PHYSICIAN, LONDON TEMPERANCE HOSPITAL.

MANY of the readers of THE LANCET will have perused with much interest the remarks by Dr. Clayton Lane, Lieutenant I.M.S., on Deaths under Chloroform.[1] We must all agree with Dr. Clayton Lane that chloroform cannot be given with safety by any mere mechanical means, and that a man may be killed as effectively with chloroform out of a Krohne inhaler as out of any other inhaler that is capable of inducing anæsthesia. In fact, the best inhaler cannot supply the administrator with sense or with fingers. All that the inhaler can do is to become subservient truly and promptly to the highest order of professional intelligence. It can never read out for us the significance of the phenomena which occur in the progression of an anæsthesia, nor can it ever supply the administrator with skill or alertness.

Some comment upon Dr. Clayton Lane's letter has since appeared from Mr. C. H. Whiteford.[2] Unfortunately Mr. Whiteford does not state whether he still adheres to the rule-of-thumb method of administration or aims at scientific dosage. In the former case he offers us no basis for discussion. If the latter be Mr. Whiteford's aim, what we ask of him is to say whether he can show us any method of measured dosage other than the volumetric administration of air charged with chloroform vapour; and whether he can show us any apparatus by which precise and registrable dosage can be secured otherwise than by means of the improved Krohne inhaler.

To save wastage in chloroform, to save the operator's time, even to save the surgeons and nurses from being chloroformed almost as fast as the patient, are objects negligible in comparison with the conscientious fulfilment of the trust which is accepted by us when the patient submits himself to an anæsthesia. Under such a trust the administrator is bound by the most sacred ties of professional honour to see that his patient is anæsthetised with as much provision for a safe recovery as the administrator would wish for himself were he the patient. More than this cannot be asked for by the patient—less cannot be rendered by the administrator. There lie on my table newspaper reports of 83 inquests upon persons killed by anæsthetics in England in the year 1899. Of these, 68 were killed before the operation commenced. We know the inducements to have as few inquests as possible in such deaths, and we know also the inducements which lead to a suppression of the reports of such inquests. Reading between the lines it may fairly be estimated that these 83 inquests represent some 200 persons killed by anæsthetics in England during the year 1899. Can we, as a great and responsible profession, remain at rest in face of these facts? I think not. If that be so, in what direction are we to look for the remedy?

I submit that in the administration of chloroform what we must look for is the same precision of dosage as that which we ensure when we inject morphia or strychnia. Dispensers there are who could measure out a milligramme of strychnia on the end of a knife by means of the eye more closely than others could weigh it. The same is the case with 20 milligrammes of morphia. But we insist upon our hypodermic syringes being graduated, we insist upon our solutions being of a strength defined by the balance and the burette, and we do not allow pharmaceutical geniuses to play at "heads or tails" with the lives of our patients by guessing out strychnia on the end of a knife. That chloroform in vapour is a powerful poison is demonstrated by the above-mentioned deaths. Nevertheless, chloroform is, perhaps, the most beneficent of all drugs, and in order to be made safe it only needs to be administered with precision as to its dosage and not by rule-of-thumb methods, such as geniuses believe that they can safely practise. A true volumetric dosage of the vapour can now be obtained by means of the improved Krohne inhaler; it is therefore practicable always to administer anæsthetics with the same precision and security as we have long ensured for the administration of morphia or strychnia. Some of us remember the old school who used to scorn the clinical thermometer as a histrionic dodge, or as only good enough for those whose tactile sensibility was not sufficiently cultivated to recognise accurately the gradations of a patient's temperature. Yet now we all know that the clinical thermometer enables any nurse to define the patient's temperature at any moment to a tenth of a degree and that it is indispensable in clinical medicine. The same cast-iron pachydermatousness in our methods of administering anæsthetics now has to be vanquished if we are to make any true scientific progress towards bestowing upon our patients the blessings of a safe anæsthesia. Geniuses who have acquired the habit of slopping chloroform about by the ounce, and who only kill a patient now and then, will of course be disgusted at having to acquire methods of order and precision such as will ensure a comfortable and safe anæsthesia with one tenth of the chloroform now used. The volumetric dosage of anæsthetic vapours will in fact be received in the same way as the stethoscope and the clinical thermometer were sometimes received. But the volumetric dosage of anæsthetic vapours will come to stay and there is only one instrument now before us by which it can be accomplished conveniently in clinical work. That instrument is the improved Krohne inhaler—used as I have described.[3]

The deaths with cyanosis, as described by Dr. Clayton Lane, are undoubtedly due to asphyxia, more or less pure. These deaths are caused by the inspiration of air surcharged with chloroform vapour. Spasma glottidis, resistance, general *rigidity or struggling*, spasm of the respiratory muscles and diaphragm, together with spasm of the myocardium,—these are all provoked in various degrees, sequences, and combinations by the inspiration of surcharged air. The patients die from asphyxia more or less complicated by an angina which affects the heart much as cramp affects the calf of the leg. If the patients do not die suddenly as above and the chloroform be pushed there comes a paralytic relaxation of the glottis—as in drowning—and this is followed by further deep inspirations of surcharged air, just as, in some fatal cases of drowning, water and mud are drawn into the lungs. It is well known to practical men who have seen much of drowning cases that there are some cases brought to bank with the heart still beating and the chest movements still going, but which cannot be resuscitated, work as hard as we may at artificial respiration. They are these particular cases, and at the necropsy mud and water are found in the bronchial tubes. When got out of the water these cases can be distinguished by the fact that, though still breathing, foam issues from the mouth and nose. In my experience those cases are rarely resuscitated. Now in chloroform poisoning, after the paralytic relaxation of the glottis, the surcharged air re-enters the bronchi, surcharges afresh the pulmo-cardiac blood, and fills up the recesses of the air passages. Here the end organs of the whole system of respiratory nerves are poisoned by direct local soakage, while the surcharged pulmonary blood, passing on successively through the left chambers of the heart, poisons the myocardium and its local nerves in the same way. All this may be the work of half a minute in cases where chloroform is "pushed" after resistance has been provoked. If time had been given for the diffusion throughout the system of the chloroform ingested it would not even have produced anæsthesia. But it kills because it surcharges the local blood of the lungs and heart. It is not the total quantity ingested, it is the local surcharge—the concentrated action. A minim of oil of vitriol diffused through a wineglassful of water is drunk as a pleasant beverage—a minim of oil of vitriol dropped into the glottis is fatal. Then, as the lungs have had their air passages re-filled with surcharged air, the local poisoning goes on long after the inhaler has been removed, and the blood current through the chambers of the heart continues to be surcharged long enough to kill. Snow showed that 18 minims in the blood of an average man spell full surgical anæsthesia and that 32 minims spell death. But it is probable that four minims injected into the pulmonary vein would *kill* the heart nerves irretrievably. Powerfully absorbent must be the two successive chambers of the heart with all their complications of surface, in relation to blood which that organ has to receive from the lungs and to transmit under pressure to the general system. The experiment is one that could easily be tried at any slaughter-house or knacker's yard. What we want to know is what percentage of vapour-volume of chloroform serves to kill the animal heart beyond resuscitation. Waller has shown us that below 5 per cent. vapour-volume of chloroform in air arrests absolutely the function of a *nerve*, but *not* so as to prevent resuscitation. 6 per cent. *kills* the nerve. Now four minims of liquid chloroform may be regarded as four cubic inches of chloroform vapour. For a 6 per cent charge this four cubic inches of chloroform vapour would saturate the entire mass of the pulmo-cardiac blood and myocardium tissues. Hence these chloroform cases, like those particular drowning cases, are irretrievable by artificial respiration. The myocardium has been killed.

---

[1] Vide THE LANCET, Jan. 13th, 1900, p. 132.

[2] THE LANCET, Jan. 20th, 1900, p. 197.

[3] THE LANCET, Sept. [illegible]th (p. 72[illegible]) and Oct. [illegible]th, 1899 (p. 1205).

Referring to the injection of chloroform into the blood-vessels I am not unmindful of the fact that this was done under the Hyderabad Commission. But the Hyderabad report on that point is badly given and the results are inconclusive. Moreover, those injections were made into the jugular vein after the vein had been tied. Now, tying the jugular vein would stop the current through that vein, and it is not safe to surmise as to how much of that chloroform arrived in the heart or how long it required for such chloroform to arrive. Again, such chloroform as did arrive in the heart would go into its right side. Now, the right heart has always been accustomed to contact with blood charged with carbon dioxide, whereas the left heart has always contained pure oxygenated blood. The result, therefore, of the contact of chloroform with the different sides of the heart may be as different as the results of the presence of urine in the urinary bladder or in the peritoneum.

In using the improved Krohne inhaler it can be demonstrated that a full manual compression of the bellows projects four cubic inches of air saturated with chloroform vapour into the mask, which I have called the mixing-box. Taking this as giving *one* cubic inch of chloroform vapour, and assuming that the on-coming inspiration draws 25 cubic inches of air through the mixing-box, we have 1 in 25, or 4 per cent., for the vapour volume of chloroform in the *inspired air. If one full manual compression be given into* the ebb tide of each expiration (as described in my letters in THE LANCET of Sept. 30th (p. 922) and Oct. 28th (p. 1205), 1899) it follows that in *one minute* the patient will have received the vapour of some 20 minims of liquid chloroform into his lungs. Some of this 20 minims will have been exhaled by the lungs and skin, and as it requires 18 minims in the blood to induce full surgical anæsthesia this generalised effect will not be reached. But the ingested chloroform is probably a lethal dose by reason of the want of time for diffusion through the general system and the local *surcharging of the pulmo cardiac blood. For that reason a* much smaller injection for each inspiration is directed, and from the commencement of the administration to the induction of full surgical anæsthesia about six minutes is best as the least period.

The perfectly safe exhibition of chloroform is to be attained by beginning with small volumes of chloroform air for each inspiration, such as provoke neither cough nor resistance — certainly no spasm of the glottis. Here I differ somewhat from the text of the directions given by Dr. Clayton Lane, inasmuch as while I watch closely the phenomena of the anæsthesia I also cause *myself to know* where I am by regulation of the amount of chloroformed air injected for each inspiration. I thus use the two guides—observation and dead-reckoning—and I make the feather-indicator my index for the respiratory currents.

Manchester square, W.

THE USE AND ABUSE OF PRESERVATIVES.

BY SAMUEL RIDEAL, D.SC. LOND., F.I.C.

THERE are two or three points arising out of the recent papers which have appeared in THE LANCET which some experiments of mine, conducted during the last six months, seem to throw some light upon. When I was fortunate enough to secure the coöperation of Mr A. G. R. Foulerton at the end of 1898 for investigating this problem in my laboratory I realised that it was of a twofold character, and in the paper published in *Public Health* in May last by us we expressed our opinions (1) as to the quantities of preservatives necessary for preserving milk, and (2) the possibility of such quantities having injurious effects upon the consumer. In that paper we promised to extend our investigations, and as circumstances arose which necessitated our working in separate laboratories Mr. Foulerton continued the investigation into the second branch of the subject whilst I have recently confined my attention to the former. At the same time I should like to take this opportunity of saying that I fully agree with Mr. Foulerton in the conclusions which he has drawn in the very able papers published in THE LANCET of Nov. 25th (p. 1427) and Dec. 9th (p. 1577), 1899.

A good deal of the work which has recently been done on this subject has assumed the possibility of comparatively large quantities of preservative material being present in the food-supply, and there seems to be some hesitation in accepting the proposition which Mr. Foulerton and myself advanced in the paper above referred to—viz., that 1 part in 2000 of boric acid mixture and 1 in 50,000 of formaldehyde were quantities of preservatives sufficient for keeping milk sweet for a period of 24 hours even in warm weather. It is well known that at the present time these quantities are frequently exceeded, but I have been unable to find any experiments on a sufficiently large scale to warrant my believing that the milk trade necessitates higher quantities of these preservatives being added. I am assuming that the *Departmental Committee* at present dealing with this question will make it compulsory for the presence of any preservative in milk to be declared at the time of purchase, as I think that there is now a consensus of opinion that it is highly desirable that in special cases, such as in the case of invalids, it should be possible for the consumer to obtain a milk free from preservative, and that in all cases it is only fair that the consumer should be aware of the preservative if present. The views of Mr. Foulerton and myself as to the effect upon the health of adults and children of the above quantities of preservatives have already been stated in the paper referred to, and I need not go further into this matter, but the advisability of allowing greater amounts of preservatives than those mentioned to be present in "declared" milk is determined by the question whether the larger quantities are necessary for trade purposes. This point, of course, depends largely upon what is understood as "sour milk" by the consumer and this must obviously depend upon the acidity of the milk expressed in terms of lactic acid. In the following table I summarise the results obtained in a series of experiments undertaken to ascertain this point. Quantities of fresh milk containing (1) 1 in 2000 of boric acid, (2) 1 in 50,000 of formaldehyde, and (3) a control, were measured into balloon flasks and loosely plugged with cotton-wool. These sets were then incubated at the following temperatures: 13°C., 18°C., and 24°C. (as representing approximately winter, medium, and summer temperatures); and 25 cubic centimetres were taken out from each and titrated every few hours with decinormal soda, using phenol-phthalein as an indicator, the total acidity being calculated to lactic acid (one cubic centimetre N/10 soda = 0·009 gramme of lactic acid). The original milk at starting required five cubic centimetres N/10 soda per 25 cubic centimetres, corresponding to 0·18 per cent. of lactic acid.

TABLE I.

—	Per cent. lactic acid.		
	13° C. (55·4° F.)	18° C. (64° F.)	24° C. (75·2° F.)
Fifteen hours			
Blank	0·182	0·202	0·232
Boric acid	0·180	0·180	0·216
Formaldehyde	0·182	0·180	0·194
Twenty hours			
Blank	0·184	0·205	0·245
Boric acid	0·180	0·193	0·220
Formaldehyde	0·178	0·179	0·193
Twenty three hours.			
Blank	0·184	0·210	0·281
Boric acid	0·180	0·189	0·241
Formaldehyde	0·173	0·184	0·223
Thirty-nine hours			
Blank	0·191	0·332	0·799
Boric acid	0·178	0·259	0·618
Formaldehyde	0·173	0·209	0·500

From these results it will be noticed that at the lowest temperature—viz., 13° C.—even after 39 hours there is no increase in the acidity of the milk containing boric acid and formaldehyde, the actual titration recording a slightly lower amount of lactic acid. (The possible experimental error in these figures amount to ± 0·007 per cent. of lactic acid.) In these two milks at 18° C. there is no appreciable rise in the acidity till after 23 hours' incubation, whilst the unpreserved milk shows a gain of about 15 per cent. In considering the results at 24° C. the question arises as to what maximum acidity can be allowed to milk without its being pronounced sour.

Thorner[1] has investigated the acidity requisite to coagulate milk. Titrating under similar conditions to the above he found that milk coagulated on warming when the acidity reached 23° (cubic centimetres N/10 soda per 100 cubic centimetres of milk), corresponding to 0·207 per cent. of lactic acid. I have found the coagulating point somewhat higher than this. Normal milk was incubated at 22° C. and every few hours a fraction was removed and tested by heating to 100° C. for five minutes and also by pouring some of the milk into boiling water, the acidity being determined at the same time.

TABLE II.

No. of hours.	Degree of acidity	Per cent. of lactic acid.	Coagulation tests.
1	18·0	0·162	*Both tests negative.*
4	19·0	0·171	Ditto
6	19·2	0·173	Ditto.
8	19·6	0·176	Ditto
11	20·4	0·184	Ditto.
15	23·0	0·252	Coagulated at 100° C., but not by pouring into hot water

Therefore, when the acidity exceeds 0·25 per cent. lactic acid the milk would be considered sour and unfit for sale, and taking this as the maximum acidity allowable it will be seen from Table I. that in all cases the milk has been kept sweet by the 1 in 2000 of boric acid and 1 in 50,000 of formaldehyde for over 23 hours. In repeating this experiment with a milk incubated at 18° C. it was found that when the acidity was equal to 25·6°, or 0·230 per cent. of lactic acid, the milk was sufficiently acid to cause a slight coagulation on heating on the water-bath. It will therefore be seen that Thorner's limit of 0·207 per cent. of lactic acid is rather too low and that from 0·23 to 0·25 per cent. of lactic acid is the limit, which may be regarded as safe for dietetic purposes. Even if Thorner's limit of 0·207 per cent. of lactic acid be taken it will be seen that the quantity of boric acid and formaldehyde suggested are ample for keeping a milk sweet for 23 hours at 18° C. But the quantity of boric acid is insufficient for keeping it sweet for a longer period than 15 hours, and of formaldehyde for a longer period than 20 hours, when the temperature is as high as 24° C. The initial acidity of milk varies very considerably, and even in milk examined within an hour of the time of milking the quantity of acidity calculated as lactic acid may be as high as 0·1 per cent., so that, taking it generally, the work required of the preservative is to arrest the production of one-tenth per cent. of acidity calculated as lactic acid in the milk during the time which must necessarily elapse between the time of milking and the time of consumption.

As the souring of milk is due to the development of several organisms it by no means follows that the smell or taste of an unpalatable milk is measured by the amount of acidity as determined by titration. But as the coagulation of milk apparently depends upon this factor, irrespective of the nature of acidity, it seems reasonable to take it as a measure of the quality of milk. I have, however, observed slight coagulation in milk when the acidity has been as low as 0·194 per cent. of lactic acid.

Another important point to bear in mind is that a preservative is obviously more efficient if added to the milk at the time of milking so that the development of the organisms present in the milk is retarded from the very commencement, and this points to the conclusion that the legitimate use of preservatives should be restricted to its use by the farmer or cowkeeper and not by the middleman or vendor or consumer. It is urged by some that the consumer could preserve his milk if he thought it was necessary, but without entering into a discussion of Dr. M. K. Robinson's case, and dismissing for the moment Dr. O. Liebreich's reply to it, which in my opinion seems clearly to establish that the poisoning was not due to boric acid, such a method of dealing with the problem would open the way to future cases similar to that of Dr. Robinson in which excessive doses of preservatives might be taken by susceptible individuals.

It may not be generally known to readers of THE LANCET that in the case of butter the loss of flavour and the beginning of rancidity are very carefully gauged by experts, so that points or marks of value are assigned to butters which give their commercial value. In the report for the New Zealand Department of Agriculture for 1898 Mr. Sorensen shows that butter containing 3 per cent. of salt and ½ per cent. of boric acid and subjected to cold storage yields on keeping a butter having the greatest number of points, 37 out of 45, whilst butters with 1 per cent. of boric acid and only 2 or 3 per cent. of salt gave an inferior result, and those containing either more or less salt without boric acid had lost still more flavour. These results are extremely interesting as showing that in this particular case it is to the interest of the trader to keep the boric acid low, as from the commercial point of view the butter with ½ per cent. of boric acid has a better flavour and will fetch a better price than that containing 1 per cent.

---

[1] Chemische Zeitschrift, 1891, p 1139.

The last point which I wish to refer to is the value of feeding experiments in connexion with this subject. Those published by Mr. Foulerton and myself with milk containing formaldehyde were of value in establishing the fact that adult animals, notwithstanding the fact that their body weight was far less than that of man, could consume large quantities of milk preserved with moderate amounts of preservatives without apparent injurious effect. It has been pointed out by Dr. H. E. Annett and others that the cats used in these experiments were three months old, but we did not mention the fact that we had previously attempted to feed kittens three weeks old similar to those used by Dr. Annett. These attempts, however, were unsuccessful, as we found that kittens at this age, when taken directly from their mother, were not capable of assimilating their food when the food consisted only of undiluted and unpreserved cow's milk, and six kittens died under our hands. I attribute this partly to the fact that cow's milk is an unfit food for these young kittens, as it is well known that the characteristic of cat's milk is a very large percentage, amounting to 6 per cent., of albumin, a constituent which is only present in cow's milk to the extent of about ½ per cent., so that such food is as unsuitable for young kittens as undiluted cow's milk is for infants. It will be noticed in Dr. Annett's experiments that in these young kittens the results were very irregular, and that whereas the normal rate of increase per week should be from 30 to 40 grammes, or roughly 10 per cent. of the body weight, in kittens receiving untreated milk in some cases he actually obtained decrease in weight and in others only an increase of two or three grammes. The heavier and older the kittens the more reliable are the results. Another significant point in Dr. Annett's experiments is that the larger quantity of preservative—viz., 80 grains per gallon—did not seem so fatal as the milk containing half this amount, as it will be noticed that with the smaller quantity of preservative he obtained two deaths out of five in the third week, whereas with the larger quantity all of the animals survived this time. Similar irregular results were obtained by him with the milk containing formaldehyde, as he obtained three deaths with the weaker solution, none with the formaldehyde of 1 in 25,000, and two with the stronger solution. Before these experiments of Dr. Annett were published I had carried out a few feeding experiments with kittens about five weeks old, at which age they can take cow's milk freely, but I restricted the quantity to about 70 cubic centimetres per animal per day and used the preservative in the proportions already advocated, so that each kitten received about half a grain of boric acid per day. The results are summarised as follows:—

TABLE III.

—	Average weight in grammes of animal fed on—			
	Milk.	Milk + formaldehyde.	Milk + boric acid. (1)	(2)
First week	517	591	595	630
Second week	537	657	616	664
Third week	610	674	624	744*
Percentage increase in weight on first week.				
Second week	3·87	11·1	8·6	5·4
Third week	18·00	14·1	15·0	18·1

* In the third week this kitten was fed on formalised milk instead of on borated milk.

Making allowance for the difference between different animals and the irregularities always noticed in animal experiments, the natural increase cannot be said to be interfered with. All were active and healthy at the conclusion of the experiment. As pointed out by Dr. Liebreich we have in Dr. Annett's experiments no information given us as to the quantity of milk supplied to the kittens, and it is quite possible that they received a much larger quantity of preservative than the above. As a kitten weighs approximately one pound and I gave mine half a grain of boric acid per day, it would follow that a child six months old, weighing 12 lb., could take, therefore, six grains of boric acid a day, or, say, a pint and a half of preserved milk. If any value, therefore, is to be attached to animal experiments, the relation of body weight to the amount of preservative exhibited must be taken into account. Of course, this relation is recognised in the Pharmacopœia, but it is well known that the usual allowance for doses for children of some drugs does not obey any definite law. In the Pharmacopœia this quantity of six grains of boric acid per day for a child six months old would be about eight times the medicinal dose. I am, therefore, inclined to agree with Mr. Foulerton that experiments on animals have, after all, but a very slight bearing upon the problem under investigation. As Dr. Liebreich points out, even regarding Dr. Annett's experiments in their most favourable light they by no means prove that boric acid and formaldehyde are poisonous for young children, even in quantities largely in excess of those which would be possible in a milk diet when the preservatives were regulated in the way suggested.

Victoria-street, S.W.

MYOIDEMA IN PULMONARY TUBERCULOSIS.

By HUGH WALSHAM, M.A., M.D. CANTAB., M.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO THE CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.

IF in an advanced case of pulmonary tuberculosis a point on the chest wall corresponding to the clavicular origin of the pectoralis major be sharply struck with the tip of the forefinger the phenomenon usually known as "myoidema" will probably be produced. Myoidema may be divided into two varieties—viz., the fascicular and the nodular. The fascicular variety is the one most easily produced. At the point which is struck a sulcus is formed which quickly travels to the origin and insertion of the muscle, where it is lost. In the nodular variety there is formed at the point struck a small quivering tumour which, after oscillating backwards and forwards, as if uncertain of its position, for a second or two, finally comes to rest and after a few seconds gradually fades away. If the point struck be carefully watched the initial pallor produced by the blow quickly gives way to redness, reminding one forcibly of the *tache cérébrale*. This redness of the skin remains for a considerable time, occasionally for ten minutes or even longer, before it finally disappears. Both the fascicular and nodular variety may be obtained in other muscles besides the great pectoral. It is very commonly found in the deltoids and scapular muscles, especially in the infra-spinatis. After the tumour has faded away it may again be produced by another tap on the muscle, not necessarily in the same spot but near it. The phenomenon can be produced a third or even a fourth time, but not afterwards, the muscle apparently becoming fatigued and refusing to contract to the stimulus.

The phenomenon of myoidema is nothing new. The condition was described long ago by Dr. Stokes[1] of Dublin, but not under its present name. Dr. Stokes's words are as follows: "There is another highly interesting circumstance connected with percussion which we do not think has as yet been described. Some time ago on percussing a patient who had laboured under a pectoral affection with several symptoms indicative of tubercular development we were surprised to observe that after each stroke of the ends of the fingers a number of little tumours appeared answering exactly to the number and situation of the points of the fingers where they had struck the integuments of the chest. These having continued visible for a few moments subsided, but could be again made to appear on repeating the percussion." The term "myoidema" was first made use of by a surgeon, the late Mr. Lawson Tait[2], who wrote a monograph on the subject. He considered the sign to be diagnostic of pulmonary tuberculosis. Dr. Samuel West[3] in a paper on myoidema pointed out that the sign was by no means limited to cases of pulmonary tuberculosis, but that it could be obtained in a number of other wasting diseases, such as enteric fever, progressive muscular atrophy, &c. In a later paper by M. Jeanselme and M. Lermoyez[4] it is asserted that myoidema can be obtained in persons in perfect health—that it is merely a physiological phenomenon. With these authors I cannot agree. I have never been able to obtain the sign in a perfectly healthy person.

---

[1] Dublin Hospital Reports, vol. v., p. 70.
Myoidema in Phthisis, 1872.

Now as regards the value of myoidema as a sign of pulmonary tuberculosis it will be seen from the above quotations that authors are by no means agreed on the point. Dr. Stokes says: "There is nothing in this muscular irritability peculiar to phthisis, but that it is commonly connected with irritation of the lung or pleura there can be no doubt, and in this way, like other signs of irritation, it becomes available in the diagnosis of phthisis." Sir William Broadbent is reported to have said in the discussion on the preventative and remedial treatment of tuberculosis at the meeting of the British Medical Association at Portsmouth that among the physical signs of early phthisis he regarded two as of great value, viz., an occasional sibilant râle at the apex and myoidema, the latter practically being never absent in early phthisis Dr. Stokes also says that myoidema is always most evident in the earlier periods. On my appointment as an assistant physician to the City of London Hospital for Diseases of the Chest, now some four years ago, I determined to investigate the value of this sign in pulmonary tubercle. Dr. West says in his paper that he had no statistics to show its relative frequency in phthisis I have examined every case of pulmonary tuberculosis in my out-patient room with reference to the presence or absence of this sign. The total number of cases available is 1000. Firstly, I cannot agree with those physicians who maintain that myoidema is an early sign. I have never found it in an early case. It certainly only becomes well marked when the wasting has advanced beyond a certain degree. A suspicion of the fascicular variety may sometimes exist in an early case, but never the nodular. In fact, the rule that the more the wasting the more marked is the myoidema has few exceptions. The blush following the tap on the muscle is almost as characteristic as the myoidema itself. Authors differ, again, as to the question of position Some maintain that myoidema is only found on the affected side in cases of unilateral phthisis, if such a condition exists. Others, again, say that it is to be found only over softening tuberculous foci. I am sure, however, that it may always be obtained on both sides when it is carefully looked for. I do not think that the stage of the disease in which the lung may be makes any difference to its production I have often in very advanced cases with great emaciation been unable to obtain the phenomenon, the great pectoral muscle apparently being too much wasted to produce it Dr. West states that the electrical reactions have been found altered in these cases. I have made many observations with both battery and coil currents but could find no alteration in the normal electrical reactions.

I think that cases of pulmonary tuberculosis may be divided into three classes with respect to this sign, corresponding closely to the three classical stages of the disease In the first class I should say that the sign was absent in the vast majority of cases, although a faint fibrillar contraction may occasionally be obtained. In the second class the fibrillar variety can always be obtained and frequently the nodular variety, and in the third class the nodular variety may nearly always be produced, with the exception stated above. I think that myoidema is nearly valueless as an early sign of pulmonary tuberculosis. It only becomes well marked when other physical signs leave no doubt about the diagnosis of pulmonary tubercle. The sign is of value, I think, as indicating the condition of the muscular system of the patient and as showing approximately the amount of wasting that has taken place.

Harley street, W.

---

[3] St. Bartholomew's Hospital Reports, vol. xx., p. 151.

[4] Gazette Hebdomadaire, vol. xxii., 1885, p. 453.

BRISTOL MEDICAL CHARITIES.—During 1899 the employés of Messrs. J. S. Fry contributed £746 to the medical charities of Bristol.

DEPILATION BY ROENTGEN RAYS.

BY NEVILLE WOOD, M.D. DURH., M.R.C.P. LOND.

I VENTURE to hope that the following case may prove of interest as indicating the value of the treatment by the Roentgen rays and as a contribution to the study of dosage according to the result which is aimed at.

A woman, aged 22 years, consulted me in November, 1898, on account of a considerable overgrowth of hair on the face. The history given was that 14 months previously one inferior turbinate bone had been removed and that about three months subsequently the hair on her face, which was not previously excessive, took on active growth. During the two or three months before her visit it had become sufficiently conspicuous to excite frequent comment by acquaintances and strangers. At the date of her visit the following note was made: "A healthy-looking, fresh-complexioned brunette; all the bodily functions stated to be regularly performed, nothing remarkable about the hairy scalp, and the body hair said not to be in excess. Face.—On the upper lip from a point half an inch from the middle line and extending outwards on each side for three-quarters of an inch there is a moderately close growth of dark, rather thick hairs, mostly about a quarter of an inch long. In front of the ears there is a slight excess of hair, and this growth is continued on each side down to the angle of the jaws, the length of the hairs increasing as this point is reached. On the chin the hairy growth is most conspicuous and disfiguring. From the point, extending one inch upwards, three-quarters of an inch backwards, and one inch transversely, there is a groundwork of closely set down and in addition numerous thick dark hairs from one-eighth of an inch to one inch in length."

For this reason and on account of the known incidence of dermatitis it was decided to treat first this area and it was found convenient to begin with the front part of the chin, the rest of the face and neck being protected with a lead-foil mask. The sittings took place, when possible, six times a week and the duration of each sitting was 10 minutes. The distance between the anticathode and the skin was between six and seven inches. The current through the primary coil was maintained at about five ampères and the number of interruptions varied between 250 and 300 per second. After 14 exposures it was noticed that the darker hairs had lost some of their lustre and a week later there was an obvious lessening in their number. The shed hairs were brittle and pale in colour with atrophic bulbs, while microscopically the normal striation was indistinct and the medullary substance appeared to be collected into separate nodes with clear intervening spaces During this period occasional slight reddening of the skin was noticed. The treatment continued till 45 exposures had been given to the point of the chin, when the whole of the very thick downy and hairy growth had disappeared except nine hairs which remained at least a week after the total removal of the others. Mechanical interference having previously, for obvious reasons, been avoided it was now judged right to ascertain the condition of these residual hairs. On applying the gentlest traction to one it was found that it was really separated at its bulb, which was deeply placed but was held by a *more* superficial part of the root-sheath so that the rest were left untouched, and as it was now clear that the object aimed at had been attained, and as the skin was somewhat reddened a message was sent that treatment should be directed only to the under surface of the chin. This message miscarried, so that the front received a few more exposures, and a sharp attack of dermatitis ensued, which, however, speedily subsided under simple treatment. 20 exposures were also given to the under part of the chin and 10 consecutively to the cheeks. The result, *some* eight months after the cessation of treatment, can probably be safely judged, since for more than three months there has been no change in the condition. The front of the chin, which received more than 40 exposures, remains quite free from down and hair. The under surface, which had 20 exposures, is cleared of down, but within three months of suspension of treatment a few thick hairs returned. Their number, however, has not since increased, and they are so sparse that electrolysis would seem to be indicated for them. The cheeks, which had a small number of exposures, I am informed, temporarily lost all their hair, but it has now interesting as showing that in this particular case it is to the interest of the trader to keep the boric acid low, as from the commercial point of view the butter with ½ per cent. of boric acid has a better flavour and will fetch a better price than that containing 1 per cent.

The last point which I wish to refer to is the value of feeding experiments in connexion with this subject. Those published by Mr. Foulerton and myself with milk containing formaldehyde were of value in establishing the fact that adult animals, notwithstanding the fact that their body weight was far less than that of man, could consume large quantities of milk preserved with moderate amounts of preservatives without apparent injurious effect. It has been pointed out by Dr. H. E. Annett and others that the cats used in these experiments were three months old, but we did not mention the fact that we had previously attempted to feed kittens three weeks old similar to those used by Dr. Annett. These attempts, however, were unsuccessful, as we found that kittens at this age, when taken directly from their mother, were not capable of assimilating their food when the food consisted only of undiluted and unpreserved cow's milk, and six kittens died under our hands. I attribute this partly to the fact that cow's milk is an unfit food for these young kittens, as it is well known that the characteristic of cat's milk is a very large percentage, amounting to 6 per cent., of albumin, a constituent which is only present in cow's milk to the extent of about ½ per cent., so that such food is as unsuitable for young kittens as undiluted cow's milk is for infants. It will be noticed in Dr. Annett's experiments that in these young kittens the results were very irregular, and that whereas the normal rate of increase per week should be from 30 to 40 grammes, or roughly 10 per cent. of the body weight, in kittens receiving untreated milk in some cases he actually obtained decrease in weight and in others only an increase of two or three grammes. The heavier and older the kittens the more reliable are the results. Another significant point in Dr. Annett's experiments is that the larger quantity of preservative—viz., 80 grains per gallon—did not seem so fatal as the milk containing half this amount, as it will be noticed that with the smaller quantity of preservative he obtained two deaths out of five in the third week, whereas with the larger quantity all of the animals survived this time. Similar irregular results were obtained by him with the milk containing formaldehyde, as he obtained three deaths with the weaker solution, none with the formaldehyde of 1 in 25,000, and two with the stronger solution. Before these experiments of Dr. Annett were published I had carried out a few feeding experiments with kittens about five weeks old, at which age they can take cow's milk freely, but I restricted the quantity to about 70 cubic centimetres per animal per day and used the preservative in the proportions already advocated, so that each kitten received about half a grain of boric acid per day. The results are summarised as follows:—

TABLE III.

—	Average weight in grammes of animal fed on—			
	Milk.	Milk + formaldehyde.	Milk + boric acid. (1)	(2)
First week	517	591	595	630
Second week ...	537	657	646	664
Third week	610	674	684	744*
	Percentage increase in weight on first week.			
Second week ..	3·87	11·1	8·6	5·4
Third week	18·00	14·1	15·0	18·1

* In the third week this kitten was fed on formalised milk instead of on borated milk.

Making allowance for the difference between different animals and the irregularities always noticed in animal experiments, the natural increase cannot be said to be interfered with. All were active and healthy at the conclusion of the experiment. As pointed out by Dr. Liebreich we have in Dr. Annett's experiments no information given us as to the quantity of milk supplied to the kittens, and it is quite possible that they received a much larger quantity of preservative than the above. As a kitten weighs approximately one pound and I gave mine half a grain of boric acid per day, it would follow that a child six months old, weighing 12 lb., could take, therefore, six grains of boric acid a day, or, say, a pint and a half of preserved milk. If any value, therefore, is to be attached to animal experiments, the relation of body weight to the amount of preservative exhibited must be taken into account. Of course, this relation is recognised in the Pharmacopœia, but it is well known that the usual allowance for doses for children of some drugs does not obey any definite law. In the Pharmacopœia this quantity of six grains of boric acid per day for a child six months old would be about eight times the medicinal dose. I am, therefore, inclined to agree with Mr. Foulerton that experiments on animals have, after all, but a very slight bearing upon the problem under investigation. As Dr. Liebreich points out, even regarding Dr. Annett's experiments in their most favourable light they by no means prove that boric acid and formaldehyde are poisonous for young children, even in quantities largely in excess of those which would be possible in a milk diet when the preservatives were regulated in the way suggested.

Victoria street, S.W.

MYOIDEMA IN PULMONARY TUBERCULOSIS.

BY HUGH WALSHAM, M.A., M.D. CANTAB.,
M.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO THE CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.

IF in an advanced case of pulmonary tuberculosis a point on the chest wall corresponding to the clavicular origin of the pectoralis major be sharply struck with the tip of the forefinger the phenomenon usually known as "myoidema" will probably be produced. Myoidema may be divided into two varieties—viz., the fascicular and the nodular. The fascicular variety is the one most easily produced. At the point which is struck a sulcus is formed which quickly travels to the origin and insertion of the muscle, where it is lost. In the nodular variety there is formed at the point struck a small quivering tumour which, after oscillating backwards and forwards, as if uncertain of its position, for a second or two, finally comes to rest and after a few seconds gradually fades away. If the point struck be carefully watched the initial pallor produced by the blow quickly gives way to redness, reminding one forcibly of the *tache cérébrale*. This redness of the skin remains for a considerable time, occasionally for ten minutes or even longer, before it finally disappears. Both the fascicular and nodular variety may be obtained in other muscles besides the great pectoral. It is very commonly found in the deltoids and scapular muscles, especially in the infra-spinatis. After the tumour has faded away it may again be produced by another tap on the muscle, not necessarily in the same spot but near it. The phenomenon can be produced a third or even a fourth time, but not afterwards, the muscle apparently becoming fatigued and refusing to contract to the stimulus.

The phenomenon of myoidema is nothing new. The condition was described long ago by Dr. Stokes[1] of Dublin, but not under its present name. Dr. Stokes's words are as follows: "There is another highly interesting circumstance connected with percussion which we do not think has as yet been described. Some time ago on percussing a patient who had laboured under a pectoral affection with several symptoms indicative of tubercular development we were surprised to observe that after each stroke of the ends of the fingers a number of little tumours appeared answering exactly to the number and situation of the points of the fingers where they had struck the integuments of the chest. These having continued visible for a few moments subsided, but could be again made to appear on repeating the percussion." The term "myoidema" was first made use of by a surgeon, the late Mr. Lawson Tait[2], who wrote a monograph on the subject. He considered the sign to be diagnostic of pulmonary tuberculosis. Dr. Samuel West[3] in a paper on myoidema pointed out that the sign was by no means limited to cases of pulmonary tuberculosis, but that it could be obtained in a number of other wasting diseases, such as enteric fever, progressive muscular atrophy, &c. In a later paper by M. Jeanselme and M. Lermoyez[4] it is asserted that myoidema can be obtained in persons in perfect health—that it is merely a physiological phenomenon. With these authors I cannot agree. I have never been able to obtain the sign in a perfectly healthy person.

---

[1] Dublin Hospital Reports, vol. v., p 70.
[2] Myoidema in Phthisis, 1872.

Now as regards the value of myoidema as a sign of pulmonary tuberculosis it will be seen from the above quotations that authors are by no means agreed on the point. Dr. Stokes says: "There is nothing in this muscular irritability peculiar to phthisis, but that it is commonly connected with irritation of the lung or pleura there can be no doubt, and in this way, like other signs of irritation, it becomes available in the diagnosis of phthisis." Sir William Broadbent is reported to have said in the discussion on the preventative and remedial treatment of tuberculosis at the meeting of the British Medical Association at Portsmouth that among the physical signs of early phthisis he regarded two as of great value, viz., an occasional sibilant râle at the apex and myoidema, the latter practically being never absent in early phthisis. Dr. Stokes also says that myoidema is always most evident in the earlier periods. On my appointment as an assistant physician to the City of London Hospital for Diseases of the Chest, now some four years ago, I determined to investigate the value of this sign in pulmonary tubercle. Dr. West says in his paper that he had no statistics to show its relative frequency in phthisis. I have examined every case of pulmonary tuberculosis in my out-patient room with reference to the presence or absence of this sign. The total number of cases available is 1000. Firstly, I cannot agree with those physicians who maintain that myoidema is an early sign. I have never found it in an early case. It certainly only becomes well marked when the wasting has advanced beyond a certain degree. A suspicion of the fascicular variety may sometimes exist in an early case, but never the nodular. In fact, the rule that the more the wasting the more marked is the myoidema has few exceptions. The blush following the tap on the muscle is almost as characteristic as the myoidema itself. Authors differ, again, as to the question of position Some maintain that myoidema is only found on the affected side in cases of unilateral phthisis, if such a condition exists. Others, again, say that it is to be found only over softening tuberculous foci. I am sure, however, that it may always be obtained on both sides when it is carefully looked for. I do not think that the stage of the disease in which the lung may be makes any difference to its production I have often in very advanced cases with great emaciation been unable to obtain the phenomenon, the great pectoral muscle apparently being too much wasted to produce it Dr. West states that the electrical reactions have been found altered in these cases. I have made many observations with both battery and coil currents but could find no alteration in the normal electrical reactions.

I think that cases of pulmonary tuberculosis may be divided into three classes with respect to this sign, corresponding closely to the three classical stages of the disease In the first class I should say that the sign was absent in the vast majority of cases, although a faint fibrillar contraction may occasionally be obtained. In the second class the fibrillar variety can always be obtained and frequently the nodular variety, and in the third class the nodular variety may nearly always be produced, with the exception stated above. I think that myoidema is nearly valueless as an early sign of pulmonary tuberculosis. It only becomes well marked when other physical signs leave no doubt about the diagnosis of pulmonary tubercle. The sign is of value, I think, as indicating the condition of the muscular system of the patient and as showing approximately the amount of wasting that has taken place.

Harley street, W.

---

[3] St. Bartholomew's Hospital Reports, vol. xv., p. 151.
[4] Gazette Hebdomadaire, vol. xxii., 1885, p. 453.

BRISTOL MEDICAL CHARITIES.—During 1899 the employés of Messrs. J. S. Fry contributed £746 to the medical charities of Bristol.

DEPILATION BY ROENTGEN RAYS.

BY NEVILLE WOOD, M.D. DURH., M.R.C.P. LOND.

I VENTURE to hope that the following case may prove of interest as indicating the value of the treatment by the Roentgen rays and as a contribution to the study of dosage according to the result which is aimed at.

A woman, aged 22 years, consulted me in November, 1898, on account of a considerable overgrowth of hair on the face. The history given was that 14 months previously one inferior turbinate bone had been removed and that about three months subsequently the hair on her face, which was not previously excessive, took on active growth. During the two or three months before her visit it had become sufficiently conspicuous to excite frequent comment by acquaintances and strangers. At the date of her visit the following note was made: "A healthy-looking, fresh complexioned brunette; all the bodily functions stated to be regularly performed, nothing remarkable about the hairy scalp, and the body hair said not to be in excess. Face —On the upper lip from a point half an inch from the middle line and extending outwards on each side for three quarters of an inch there is a moderately close growth of dark, rather thick hairs, mostly about a quarter of an inch long. In front of the ears there is a slight excess of hair, and this growth is continued on each side down to the angle of the jaws, the length of the hairs increasing as this point is reached. On the chin the hairy growth is most conspicuous and disfiguring. From the point, extending one inch upwards, three-quarters of an inch backwards, and one inch transversely, there is a groundwork of closely set down and in addition numerous thick dark hairs from one-eighth of an inch to one inch in length."

For this reason and on account of the known incidence of dermatitis it was decided to treat first this area and it was found convenient to begin with the front part of the chin, the rest of the face and neck being protected with a lead foil mask. The sittings took place, when possible, six times a week and the duration of each sitting was 10 minutes. The distance between the anticathode and the skin was between six and seven inches. The current through the primary coil was maintained at about five ampères and the number of interruptions varied between 250 and 300 per second. After 14 exposures it was noticed that the darker hairs had lost some of their lustre and a week later there was an obvious lessening in their number. The shed hairs were brittle and pale in colour with atrophic bulbs, while microscopically the normal striation was indistinct and the medullary substance appeared to be collected into separate nodes with clear intervening spaces During this period occasional slight reddening of the skin was noticed. The treatment continued till 45 exposures had been given to the point of the chin, when the whole of the very thick downy and hairy growth had disappeared except nine hairs which remained at least a week after the total removal of the others. Mechanical interference having previously, for obvious reasons, been avoided it was now judged right to ascertain the condition of these residual hairs On applying the gentlest traction to one it was found that it was really separated at its bulb, which was deeply placed but was held by a more superficial part of the root-sheath so that the rest were left untouched, and as it was now clear that the object aimed at had been attained, and as the skin was somewhat reddened a message was sent that treatment should be directed only to the under surface of the chin. This message miscarried, so that the front received a few more exposures, and a sharp attack of dermatitis ensued, which, however, speedily subsided under simple treatment. 20 exposures were also given to the under part of the chin and 10 consecutively to the cheeks. The result, some eight months after the cessation of treatment, can probably be safely judged, since for more than three months there has been no change in the condition. The front of the chin, which received more than 40 exposures, remains quite free from down and hair. The under surface, which had 20 exposures, is cleared of down, but within three months of suspension of treatment a few thick hairs returned. Their number, however, has not since increased, and they are so sparse that electrolysis would seem to be indicated for them. The cheeks, which had a small number of exposures, I am informed, temporarily lost all their hair, but it has now re-grown as before, and this part will not be dealt with again till the patient can arrange for continuous sittings.

It would seem, if the above case can be taken as a guide, that 10 short exposures are useless, that about 20 exposures will clear the ground for electrolysis or simple traction if for any reason the ray treatment has to be suspended, while some number of exposures between 30 and 40 will probably result in permanent alopecia, though it is to be expected that with further experience this number may be reduced, so that a treatment which neither pains nor disfigures may take its proper position in practical therapeutics. It is right to state that the whole of the technical arrangements were designed and most intelligently carried out by Mr. Isenthal, to whom I wish to express my great indebtedness.

Elvaston-place, S.W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

A CASE OF RECTAL DEFORMITY.

By I. G. Modlin, M.D., B.S. Durh.,

HONORARY SURGEON TO MONKWEARMOUTH HOSPITAL.

During September, 1899, I was asked to operate on a woman for deformity in the perineal region. On examination I found a well-formed perineum and a slight dimple in the position in which the anus should be, but no opening or sphincter. The vulva to external appearances seemed to be normal, but on separating the labia a moveable septum was seen, which proved to be formed of the posterior vaginal and anterior rectal walls. It was about one-sixteenth of an inch in thickness and was freely moveable from before backwards. The condition was not one of cloaca. The vagina and rectum were, excepting at their orifices, intact, so that the urethra, vagina, and rectum all opened into one common vulva. The vaginal and rectal tubes might be compared to the two barrels of a double-barrelled gun, the muzzles of which were seen on separating the labia. The patient was 24 years of age, had been married four years, and had had two abortions. The condition described had evidently existed from birth. It had given rise to no symptoms beyond an obstinate constipation and the unpleasantness due to the abnormality. The constipation was extremely troublesome and had probably been to some extent caused by the patient putting off the act of defecation as long as possible owing to the pain and discomfort produced. An aperient and generally an enema were necessary to procure relief. The act usually took about half an hour and caused such severe pain that the patient nearly always fainted, and it always caused hæmorrhage.

After the usual preparation I operated, the patient being anæsthetised with chloroform. I first cut through the perineum in the middle line *from* the posterior angle of the vulva to the normal situation of the anus. I continued the incision upwards through the fibrous tissue filling in the space between the rectum and the coccyx. I then separated the posterior wall of the rectum for *about two inches*. The next step was to dissect up the recto-vaginal septum, thus separating the two passages. The sides of the rectum were then separated from the surrounding tissue and the lower end of the rectum was freely moveable. I brought it backwards through the opening I had made for it in the fibrous tissue to its normal situation and sutured it with fine silk sutures posteriorly and laterally to the skin of my first perineal incision. I then again brought to the middle line the two flaps produced by the first incision to form the new perineum and sutured them together with silk sutures, deep and superficial. The *posterior border* of this new perineum was sutured to the anterior wall of the rectum, this completing the new anus; and the anterior border of the new perineum was sutured to the raw surface of the posterior vaginal wall, thus completing the vagina.

The case went on very promisingly, the temperature never rising above 99·8° F. for 12 days after the operation, when constipation proved very troublesome; there had been a motion every day, but scybalous masses formed, so that chloroform was again administered and the scybala were broken down with a Volkmann's spoon. From this time the patient made an uninterrupted recovery. The present condition is most satisfactory. There is a good, firm perineum one and a half inches long and the vagina is perfectly normal. The constipation is greatly improved and is still improving under treatment by cascara, strychnine, belladonna, and aloes. There is no hæmorrhage with defecation and the act is easily performed. There is perfect control over the bowel, so that I believe the muscular fibres of the rectum have accommodated themselves to circumstances and have undertaken the functions of a sphincter.

I publish this case as I have never seen reported, or heard of, one in which the condition of the parts was precisely similar.

Sunderland.

SOME REMARKS ON THE DIAPHRAGM.

By Robert Lee, M.D. Cantab., F.R.C.P. Lond.

One of the symptoms that occur frequently in influenza is pain in the back and round the lower part of the thorax. Having made observations from personal experience I have come to the conclusion that this symptom is due to some trouble affecting the diaphragm and that probably some of the symptoms which we find difficult to explain may be referred to the peculiar characters of the diaphragm and the important part which it plays in the physics of respiration. The line of pain round the thorax is that of the insertion of the diaphragm tendon, while that in the back is due probably to its connexion with the two lowest ribs and the transverse processes of the two first lumbar vertebræ. The question of interest when we are considering *the diaphragm* is how far the sympathetic nervous system regulates its action. The two ganglia diaphragmatica lying just above the suprarenal capsules connect the phrenic nerve with the solar plexus, and as the diaphragm is in action at all times and to a great extent independently of the will we may conclude that it differs from the muscles which are supplied only with voluntary nerves.

Another peculiar symptom of influenza is the dry and somewhat spasmodic cough, which is apparently due to a spasm of the diaphragm, and it has occurred to me that the *cases of collapse or sudden death* which we have been accustomed to attribute to heart-disease, though we find nothing clearly to account for them, may be due to some cramp or spasm of the diaphragm.

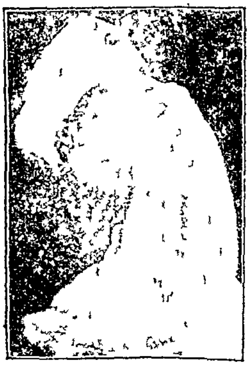
When we consider how vomiting, hiccough, and certain other disturbances of the thoracic and abdominal organs are apparently caused by the action of the diaphragm we may give more attention to this very important muscle than it has yet received. Some years ago, when the subject of sudden death required my attention and I had opportunities of making many post-mortem examinations for Mr. Bedford and others of Her Majesty's coroners, it was not by any means unusual to find no definite cause to account for death. Whether the diaphragm is liable to cramp and consequently respiration may be arrested suggests itself as a question worth reflecting upon, and though it is not in any way proper to theorise on such a matter we may do well to make inquiry by observation or otherwise when reason induces us.

West Kensington, W.

POTT'S DISEASE OR FRACTURE OF VERTEBRÆ?

By W. R. Townsend, M.D.

The *patient, a girl, six years* of age, had an obscure history. Two years ago, when living with her grandmother, after an accident in which she fell down a flight of stairs, striking the back of her neck, a bony prominence was noticed. This was accompanied by difficult respiration and a habit of supporting her head with the hand placed under the chin. Kyphosis was marked, as shown by the accompanying illustration, the sixth and seventh cervical and the first and second dorsal vertebræ being involved. There was a depression of the upper cervical vertebræ. Dr. A. B. Judson, when the case was shown at the Section of Orthopædic Surgery at the New York Academy of Medicine, thought that the number of the involved vertebræ pointed away from fracture and towards Pott's disease Dr Sayre said that although a forward position of the head in cervical Pott's disease was frequently attended by difficult breathing, he thought that the child had suffered a fracture and recalled the case of a man who had fallen downstairs striking the back of his head, when partial paralysis of the arm developed from pressure



Pott's disease or vertebral fracture?

The treatment was not doubtful even if the diagnosis was not clear The affected vertebræ should be given complete rest This must be effected either by a plaster jacket and head spring or by a posterior spinal support and chin piece The latter would be less conspicuous and give better support, with or without the addition of supports going up the back of the head, as might be determined by the progress of treatment, which should be prolonged until the disappearance of all signs of an acute condition Ultimately the patient should carry the head erect without much deformity, as is the rule in cervical disease thus treated

New York

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN

> Nulla autem est alia pro certo noscendi via nisi quamplurimas et morborum et dissectionum historias tum aliorum tum proprias collectas habere et inter se comparare —MORGAGNI *De Sed. et Caus. Morb.*, lib iv Proœmium

ROYAL FREE HOSPITAL

A CASE OF COMPOUND SEPARATION OF THE LOWER EPIPHYSIS OF THE FEMUR RECOVERY WITH USEFUL LIMB

(Under the care of Mr E W ROUGHTON)

THE valuable suggestion made by Mr Jonathan Hutchinson, jun as to the treatment of separation of the lower epiphysis of the femur is not equally applicable to all cases The complete replacement of the separated epiphysis effected by flexion is in part dependent on the integrity of the periosteum, if this is extensively separated or if it sloughs then the *forced flexion of the knee* will not suffice to bring into apposition the displaced surfaces and this is probably the explanation of the difficulty met with in the case recorded below Compound separations also are less suited for this method of treatment which is however, highly ingenious and of the greatest service in suitable cases For the notes of the case we are indebted to Mr C Sprawson, late house surgeon

A boy aged five and three-quarter years was taken to the Royal Free Hospital in a collapsed state on July 23th, 1899 *He had been riding on the back of a cab* and had caught first his right and then his left leg between the spokes of one of the wheels *On examination* there was on the left side a simple fracture in the upper third of the femur, on the right side the diaphysis of the femur was protruding to a distance of three inches through a popliteal wound about five inches in vertical length The periosteum was stripped from this part whilst the lower end presented the roughly stellated facet which is characteristic of an epiphyseal junction The patient in addition was slightly concussed The wound was purified as far as possible and the boy was admitted into the ward Two hours later chloroform was administered in order that a more thorough examination might be made The popliteal artery was now found to be uninjured and the arteria dorsalis pedis could be felt pulsating With a finger in the wound the lower epiphysis could be felt to be rotated backwards as is usual whilst the displacement could be reduced in the manner recently described by Mr J Hutchinson, jun —i e, by right angled traction on the leg with complete flexion of the knee After purification of the wound and its surroundings two tubes were inserted for drainage into the wound a dressing was applied, and the leg was bandaged in a completely flexed position hot water bottles and sand bags being used to assist in propping it up The fracture of the left femur was treated by being placed on a Mackintyre splint On the next day (July 29th) the leg was found to have slipped from its completely flexed position to an angle of about 45 degrees with the thigh The temperature was 102° F and the child was slightly delirious At this time the urine was found readily to reduce Fehling's solution, possibly an after effect of the anæsthetic On the 30th the temperature being 103 6° and the patient very delirious Mr *Roughton ordered the head to be shaved* and an ice bag to be applied On the 31st it was evident that the wound was very septic and numerous periosteal sloughs could be seen The child was still delirious and the leg was kept at an angle of about from 45 to 60 degrees The flexed condition of the limb was painful if beyond 60 degrees and was difficult to maintain even at this, the displacement of the epiphysis recurred, however acute the angle The dorsalis pedis artery could still be easily felt pulsating

On August 1st an anæsthetic was given The sloughs were removed as far as possible and the wound was syringed out with a 1 in 40 carbolic lotion, one drainage tube was left in and the limb was fixed upon a posterior right angled *splint, intended originally for an anterior arm splint* The left leg was now put up upon a long Liston splint and extension was applied in *order to* keep the boy more steady in the bed On the 3rd the delirium ceased although the evening temperature was still 102° For the next few days the limb did not improve, the smell from the wound was very foul the position of the epiphysis was not good and the daily dressings caused the child great pain His general condition was feeble although he took his food very well It was evident that drainage was imperfect On the 11th, therefore Mr Roughton examined the limb under an anæsthetic with a view to determine the question of amputation Deciding to give the limb a further chance Mr Roughton sawed off the lower half inch of the shaft of the femur which was necrosed, and chipped off other fragments up to the line of demarcation between the dead and living bone Much periosteal slough was removed and it was now *found* that the knee joint was *affected and* full of pus The whole wound was syringed out, the posterior wound was enlarged *and two anterior* vertical incisions were made one on either side of the patella, drainage tubes being passed through from these to the posterior wound The limb was now put up in a straight position and on the next day, for the sake of convenience in dressing the wound a long Liston splint with a bracketed interruption at the knee joint was applied and an extension of six pound weight was put on below the knee

For the next week the boy seemed to be rather better, although there was still much purulent and foul discharge On August 23rd, however his temperature at last came down to normal beyond which it did not rise at any later date On Sept 11th he was much better and smaller drainage tubes were used These were omitted altogether a week later, when also the extension was removed from both legs and the splint was removed *from the left* side The left femur was found to have united There was half an inch shortening of [illegible] slight flexion making an angle of [illegible] knee joint. A very small the articulation. On Oct. 10th the limb was put up in plaster-of-Paris casing, the knee being still slightly flexed and the foot being put up at a right angle as it had acquired a position of partial decubitus. On the 28th the plaster-of Paris was removed and a Mackintyre splint was used with the idea of affecting a complete straightening. This was so far successful that at the present time the flexion is very slight. The wounds are now all healed and the patient's general condition is very good.

Remarks by Mr. SPRAWSON.—Recovery from an accident of the above nature with a useful limb is uncommon. Out of 13 cases of compound separation recorded in detail in Poland's book on "Traumatic Separation of Epiphyses" two were fatal, six suffered amputation, whilst the remaining five recovered with their limbs. In all but one of these five a piece of the diaphysis was sawn away, either at the time to effect reduction or subsequently, as in the above case. In the one exception there was one inch of shortening at the time of recovery, so that there must be some doubt here as to the position of the parts, since in the case above recorded there is but half an inch shortening and this is the exact length of bone removed at the operation. In Mr. J. Hutchinson, jun.'s, recent paper 30 cases are referred to with six cases of recovery with useful limb. The most important factor in the result is the condition of the popliteal artery; in a case admitted to the Royal Free Hospital under the care of Mr. J. Berry, otherwise similar to the above, the artery being torn across, primary amputation was performed. As is seen, the method recommended in the paper of Mr. J. Hutchinson, jun., and Mr. H. L. Barnard in THE LANCET of May 13th, 1899, p. 1275, was adopted in the case now published. Having regard to this the following criticism may be offered. Anything like complete flexion was very painful; it was difficult to maintain owing to the slipping of the bandage; it did not prevent the recurrence of the displacement; and, above all, it put the wound under bad conditions as regards drainage. Hitherto there has been no account given of the subsequent history of the limb in these cases. Most of the accidents occur in boys of from five to ten years of age. It would be of great interest to know the comparative length of the leg ten years later.

EDEN HOSPITAL, CALCUTTA.

A CASE OF ECTOPIC GESTATION; ABDOMINAL SECTION AND REMOVAL OF UNRUPTURED TUBE; RECOVERY.

(Under the care of Captain H. M. EARLE, I.M.S , late resident surgeon.)

THE prognosis in cases of tubal gestation is chiefly dependent on an early recognition of the condition, for when the pregnancy is diagnosed before rupture has occurred the operation for removal of the tube with its contents is comparatively easy and safe. A case in many ways similar to that described below was reported in THE LANCET of July 2nd, 1898, p. 26. Hofmeier[1] gives the results of 14 cases of extra-uterine pregnancy; in nine of these an operation was performed and only one patient died; of the five remaining cases in which no operation was done one patient died from hæmorrhage and one from septicæmia, and three patients recovered; in two of the cases there was spontaneous atrophy of the swelling and in one a lithopædion formed. Mr. J. W. Taylor in his Ingleby Lectures, delivered at Mason College, Birmingham, in 1898[2] mentioned that in his own series of 37 cases in which an operation was performed there was only one death, and in Mr. Mayo Robson's 23 cases there was also only one death. Probably the mortality in all cases of extra-uterine gestation in which an operation is performed, is less than 5 per cent.

A married woman, aged 34 years, was admitted into the Eden Hospital, Calcutta, on Oct. 7th, 1899, with a previous history of having had five children and one abortion. The last child was born two years previously. The patient stated that she had been regular up to August last when she missed a period. About Sept. 9th, when her period was due, she felt very ill suddenly and this was followed by great pain shooting up from the left side over the abdomen. Two or three days later she passed a big clot. She had a second attack of faintness and pain a few days after this. Prior to the first attack she noticed that the breasts were somewhat fuller than usual. Ever since the first attack she had suffered from slight irregular discharges of blood from the vagina and paroxysmal pain in the left side. Morning sickness and ptyalism had been present both before and since the first attack. On examination the uterus was found to be retroverted and somewhat enlarged, with a soft cervix and patulous os. Lying high up and to the left of the uterus and pushing it somewhat over to the right was felt an elastic mass which was very tender on pressure.

Ectopic gestation having been diagnosed operative interference was decided on. The abdomen was opened by a three-inch incision in the median line below the umbilicus. The incision was afterwards extended upwards another inch. The left Fallopian tube, dilated to about the size of a goose's egg, was found to be lying in a bed of intestinal and omental adhesions. At first it looked as if removal of the tube would be impossible without causing some serious damage; separation of the adhesions was, however, effected. The pedicle was then clamped and ligatured as quickly as possible and the tube was removed. The pedicle was then dropped back into the pelvic cavity. During separation of the adhesions a small rupture of the tube with smart hæmorrhage occurred (no previous leaking had taken place). A finger was placed over this to prevent blood escaping into the abdominal cavity until the clamping of the pedicle could be effected, when the bleeding ceased. The cavity left by the removal of the tube was now sponged dry and the abdominal wound was sewn up with silkworm-gut sutures. No drainage was employed. The sutures were removed on the eighth day. The recovery was uneventful with the exception that the subcutaneous tissue did not unite by first intention. This was no doubt due to the extreme nervous restlessness of the patient.

Remarks by Captain EARLE.—On examination of the tube, the fœtus, which appeared to be of from six to eight weeks' development, was found embedded in recent blood-clot and lying inside a membranous sac of the size of a small hen's egg. The sac was surrounded by recent blood-clot about a quarter of an inch in thickness. The wall of the tube was somewhat thickened for the most part, but was becoming very thin at certain points where, no doubt, rupture would very soon have occurred in the ordinary course of events. I am indebted to Captain Bird, I.M.S., for his valuable assistance during the operation.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Mastoid Operation for the Cure of Chronic Purulent Otorrhœa: Methods and Indications.

A MEETING of this society was held on Jan. 23rd, Mr. THOMAS BRYANT, the President, being in the chair.

Mr. CHARLES A. BALLANCE made a communication on the Mastoid Operation for the Cure of Chronic Purulent Otorrhœa, with special reference to the immediate healing of the cavity in the bone by means of epithelial grafts. It was pointed out in the first place that the progress in the surgical treatment of suppurations in the temporal bone during the last 20 years was due both to an increase in anatomical and pathological knowledge and to the adoption of true surgical principles, such as were applicable in all operations on bone. The peculiarity of these operations depended on the importance of the structures around. The selection of cases for the complete mastoid operation was surrounded with difficulty, and large experience rather than rigid rule was the best safeguard against, on the one hand, the risk of delay and, on the other, the performance of an unnecessary operation. The cure of chronic otorrhœa could not be effected by a simple opening into the antrum. The complete mastoid operation which involved surgical damage to the tympanic structures was inapplicable to and unjustifiable in acute cases. Mr. Ballance proposed that typical intractable cases of chronic otorrhœa should be treated by two operations: first, the operation for the removal of the disease—namely, the complete mastoid operation, and, secondly, the operation for the healing of the wound—namely by the epithelial grafting of the raw bone cavity The operations were very fully described and notes of 20 cases were appended Six patients were exhibited showing the successful results of the operation The systematic employment of epithelial grafts was advocated

---

[1] Centralblatt für Gynäkologie, No. 51, 1895.
[2] THE LANCET, June 25th, 1898, p. 1739.

Sir WILLIAM DALBY contributed a paper on Cases of Chronic Purulent Otorrhœa suitable for the Mastoid Operation His remarks dealt chiefly with the selection of cases of long standing for the complete operation with skin grafting Those in which the operation was undoubtedly necessary were first cases in which septicæmia had commenced, secondly cases in which there was dead or carious bone in the tympanic cavity accompanied by ominous symptoms often repeated, and thirdly whenever there was evidence of mastoid disease of long or short standing On the other hand, the question of operation was an open one in a certain proportion of cases where although there was evidence of dead or diseased bone there was no reliable history of ominous symptoms Similarly in patients with intractable otorrhœa without bone disease or ominous symptoms each case must be treated on its own merits Cases were also described in which a less complete operation (which however, included free posterior drainage) was necessary In discussing this question of operation it should be remembered that a large number of people went through long lives with perforations which at times discharged slightly, and at other times arrived by careful treatment at a dry or apparently healed state This healed state might last for years and then on some trifling cause suppuration might begin again and continue for another period of months or even years During the whole time beyond more or less deafness and discharge they experienced no inconvenience Many of them heard very well notwithstanding the suppuration and perforation while some of these patients regained excellent hearing and they were enabled to follow their business or profession by the use of an artificial pad of cotton It became a very serious question whether this class should be submitted to this extensive operation and up to quite recently it had not been suggested to interfere further with these

Mr A F CUMBERBATCH read a paper on the Selection of Suitable Cases for the Complete Mastoid Operation for the Cure of Chronic Suppurative Disease of the Middle Ear It was now he said much easier than it was some time ago to decide when it was advisable to expose the mastoid antrum and throw the iter attici and tympanum into one cavity for the cure of chronic suppurative disease of the middle ear Theoretically the operation should be performed in every case of chronic discharge in which all simpler means of treatment had been fairly tried and had failed For what length of time these simpler means should first be tried would depend largely on the temperament and experience of the surgeon and on the special conditions of the individual ear But although theoretically the question of an operation seemed easy enough to answer yet practically it was not so easy Hence in the present state of our knowledge it might be useful to mention certain groups of cases in which it appeared to him speaking generally that radical measures were either inexpedient or should not be undertaken too hastily First there was a group where the whole or greater part of the membrana tympani had been destroyed and the mucous lining of the tympanic cavity was greatly hypertrophied (polypoid in fact) but there was no obvious bone disease Secondly, there was another group in which there was frequent recurrence of the discharge on slight provocation although the discharge was on each occasion readily arrested Sometimes there was a permanent perforation of the membrana, in others the perforation closed as soon as the discharge ceased Thirdly there was another group where the question for or against an operation was a difficult one to decide and should not be too hastily answered in the affirmative These were cases of discharge from both ears in which the hearing was excellent and there were no symptoms calling for operative interference beyond the discharge There were on the other hand four groups of cases in which a complete mastoid operation should be performed (1) In cases of the second group in which the onset of the discharge was invariably preceded by malaise slight headache and rise of temperature and occasionally mastoid tenderness or discomfort (2) [illegible] ears which having given no trouble for many years comparatively suddenly developed marked symptoms of labyrinthine vertigo from which it was evident that either inflammation was spreading to the labyrinth or some accumulation was exerting undue pressure in that region, (3) cases of intermittent discharge where inspection of the meatus revealed masses of sodden epidermis, often hiding the presence of small granulations and where syringing constantly removed white shreddy patches the usual methods of treatment having failed to effect a cure and (4) cases of periodic attacks of mastoid pain commencing some time after all signs of active mischief in the ear had ceased and where, by excluding superficial neuralgia it was possible to determine that sclerosing ostitis existed The operation performed by Mr Ballance was so nearly perfect it seemed so easy in skilled hands it was so safe and the results were altogether so admirable that it was certain to widen the area of cases suitable for operation

The discussion on the subject was then adjourned to the next meeting of the society

MEDICAL SOCIETY OF LONDON

The Pathology and Treatment of Appendicitis

A MEETING of this society was held on Jan 22nd Dr F T ROBERTS the President being in the chair

A discussion on the Pathology and Treatment of Appendicitis was opened by a paper by Mr C B LOCKWOOD an abstract of which will be found on page 225

Dr W H ALLCHIN approached the subject from the aspect of treatment He referred to the time when the peritoneum was looked on with the greatest awe and the consequences of interfering with it were thought to be terrible At that time treatment consisted of an ill regulated expectancy in which the surgeon had very little or no part Now they had gone rather to the other extreme and the position taken by some was that the physician had little or no part in the management of appendicitis There were he thought four groups of such cases from a clinical point of view 1 There were the acute severe or fulminant cases attended by very little preliminary ill health The patient was suddenly taken ill with inflammatory symptoms and might die in a few hours These cases naturally came under the notice of the surgeon 2 Acute cases but less acute than the preceding First there were inflammatory symptoms lasting some days and then symptoms of abscess appeared These also came naturally within the domain of the surgeon 3 Subacute cases These came more commonly within the knowledge of the physician He had seen more of these cases in females The course of such cases lasted some 12 or 14 days In these there were pain, tenderness, and might be a swelling in the inguinal region, and vomiting general disturbance of health and some elevation of temperature These cases formed by far the largest group Their natural tendency was to comparative cure At least the patients went out and passed away from observation These were the cases which called for medical treatment and he thought immediate operation was a mistake A notable feature of these cases was the variation from day to day in the symptoms and in the size of the swelling 4 There were the relapsing cases cases with recurring attacks of varying severity at varying intervals In any case they must make up their minds that it was impossible to lay down hard and fast rules In the first two groups and whenever unmistakeable signs of suppuration were present the treatment must be surgical but the third group might or might not be handed over to the surgeon Of the various symptoms Dr Allchin attached most importance to an increase in the rate of the pulse both for the purposes of prognosis and the diagnosis of the actual process which was going on As to the treatment of this group rest and relief of the bowels by simple enemas or salines were the chief points He had found no occasion to regret the administration of small quantities of opium in such cases This statement was perhaps heretical but he regarded it as beneficial to the patient and indicated by the pulse and other symptoms This might be supplemented by belladonna and perhaps hot fomentations to the iliac fossa The relapsing cases offered considerable difficulty in treatment and in such cases the greatest good might be done by the surgeon though he did not [illegible] rules had been laid down Each case must merits. Many of these cases also benefited by rest and medical treatment.

Mr. **ARTHUR BARKER** referred to the transfer of the septic organisms through the lymphatic spaces to other parts. Mr. Lockwood had offered an explanation of those difficult cases in which although they appeared to be non-suppurative an abscess would be found behind the cæcum. The appendix in such cases appeared normal to the naked eye. Other cases of extensive cellulitis and even subphrenic abscess following appendicitis might be similarly explained. He would like to draw attention to the power of the peritoneum to control what he might call the ravages of the bacteria. They ought to bear this in mind in surgical treatment, especially in dealing with the omentum and in connexion with the question of washing out His view was that the peritoneum had more bactericidal power than was generally believed. Consequently he was not in the habit of washing out the abdomen excepting in rare cases. He was inclined to agree with Dr. Allchin in his use of opium He believed it was, in small doses, very beneficial. He thought a good many cases could be left to the physician. He had seen many cases where conservative measures had been attended by the best results, but, on the other hand, he remembered one case with very few symptoms in which he found a large concretion loose in the abdominal cavity.

Dr. **F. J. SMITH** remarked that perforation of the appendix was strictly comparable with certain cases of perforating ulcer of the stomach. In both diseases perforation might not be preceded by any notable symptoms. A gangrenous appendix might be found without any preceding pains or other symptoms. As to washing out the peritoneum, he thought it was very difficult to cleanse the peritoneum by washing it. If there were obvious signs of suppuration the surgeon must be called in, but the difficulty often was to make out for certain whether there was pus or not. The rapidity of the pulse was useful and he had been accustomed to rely also on the occurrence of night-sweats. He thought that the commonest anatomical position of the appendix was that of being tucked up at the back of the ascending colon.

The discussion was then adjourned until the meeting of the society on Feb. 24th.

EPIDEMIOLOGICAL SOCIETY OF LONDON.

Bacteriological Diagnosis in School Epidemics of Diphtheria.

A MEETING of this society was held on Jan. 19th, Dr. **H. F. PARSONS**, the President, being in the chair.

Mr. **KENNETH W. GOADBY** read a paper upon the Utility of Bacteriological Diagnosis in a Diphtheria Epidemic in a School. In the winter of 1898–99 an outbreak of sore-throat culminating in diphtheria occurred in the Poplar Union Schools at Forest-gate. The schools belonged to the class known as "barrack schools" and were occupied by some 600 children. From March to October, 1898, 27 cases of scarlet fever occurred, and 17 between Nov. 27th and Dec. 31st. On Dec. 15th an epidemic of sore-throat commenced, following three cases of diphtheria in November, and five more appeared during December. On Jan. 21st a bacteriological examination was undertaken and the whole of the 586 children present in the school were examined in the course of six days. The method adopted was the usual one of cultures in tubes of coagulated blood serum from sterile cotton-wool swabs which had been passed over the pharynx and fauces. These were incubated at 37 5° C. for 24 hours and the resulting growths examined by means of coverslip preparations stained with methylene blue. Of the 586 children examined 190 showed the bacillus of diphtheria and 99 that of Hofmann, giving a percentage of 34 1 per cent. of children with the Klebs-Loffler and 16 9 with Hofmann's bacillus. The morphology was relied upon for diagnosis as it was obviously impossible to inoculate animals with all the cultures. The microscopical appearance of the bacillus diphtheriæ as given by Washbourn and Garratt[1] and Eyre[2] was that accepted. Meade Bolton[3] had stated that of 214 healthy persons previously exposed to infection from diphtheria 45 5 per cent showed the Klebs-Loffler bacillus. Park and Beebe examined the throats of 48 apparently healthy children in 14 families in which diphtheria was present, and in 50 per cent. found the bacillus diphtheriæ. Müller examined bacteriologically 100 children in the general wards of the Charité in Berlin; of these six on entry had the bacillus in their throats without exhibiting any of the signs of the disease. Two days later the bacillus had appeared in 14 others. Many other observers had made similar observations and in most cases the number of infected individuals was large. From November, 1898, to the time the examination was made 21 cases of clinical diphtheria occurred in the schools. After the examination the children were isolated; those showing the diphtheria bacillus were kept in one part of the school, the unaffected ones being confined to another part. School was stopped and all indoor gatherings except at meal-times were also suspended. The two classes of children were kept at opposite ends of the dining hall; all the plates, knives, &c., were boiled after use. Owing to the structural arrangements of the school, its many intercommunicating passages, and other practical difficulties, the isolation broke down, notwithstanding which the number of cases of clinical diphtheria, as well as those of sore-throat, at once declined, so that in February there were only five cases of diphtheria. In March another examination of 50 children, taken at random from the presumably unaffected, was made, with the result that some 30 per cent. were found to have the diphtheria bacillus in their throats. Under these circumstances the school committee decided to again mix the children so that the suspended school duties could be resumed. 18 children were examined before the mixing took place and found to be free from the specific bacillus. 10 days after the resumption of school work the same 18 children were re-examined and it was found in six of them. At the same time the number of sore-throats, as well as cases of clinical diphtheria, again increased for a time. Thus in March there was only one fresh case of true diphtheria but in April nine, and of sore-throats nine were observed during March, whereas in April there were 19. In February seven children who had been at a convalescent home were re-admitted to the school and placed among those supposed to be healthy; of these, three developed diphtheria in a severe form—in fact, these three were the most serious in the whole epidemic. On June 21st 90 children were again examined and 27 7 per cent. presented the diphtheria bacillus, whilst on Sept. 29th 50 children examined showed a percentage of 30 with bacilli in their throats. Another school was also examined for control purposes. In this school no diphtheria had been observed for two years. Of 100 children examined 18 showed diphtheria bacilli. The clinical condition of the throats was also noted when the examinations were made, and in the infected school the number of unhealthy throats was found to be very large; at the infected school out of 586 children 262 had enlarged tonsils, 161 some grade of hyperæmia, and 35 some exudation on the fauces. At the control school in 100 children 31 showed enlarged tonsils and 11 hyperæmia, but none of them had exudation. Of the several classes the children with enlarged tonsils showed the largest number affected with the bacillus diphtheriæ; thus in the Forest Gate School 148 out of a total of 190 children in which the bacillus was found were suffering from some throat affection and 90 of the 148 had enlarged tonsils. In the control school 41 had some unhealthy condition of throat, and of the 18 in which the bacillus was found 14 belonged to the children with unhealthy throats, nine of these having enlarged tonsils. With regard to the source of infection the milk was examined and found to contain virulent diphtheria bacilli, the organisms isolated in pure culture killing guinea-pigs in 48 hours. The water was also examined but with a negative result. The treatment of the children adopted was the spraying of the throats with a 2 per cent. solution of lysol night and morning, any suspicious throats being sprayed with a 0 5 per cent. solution of formalin. The school had been free from diphtheria from September, 1899. A large Aymard's steriliser had been put up and working since June with excellent results, and it was an interesting fact that since the milk-supply had been sterilised there had been no cases of summer diarrhœa in the school, though there was a considerable amount in the district around. The conclusions arrived at were that bacteriological examination of the children followed b rigid isolation of those shown to have the specific bacillus in their throats was the proper method to adopt in scho epidemics of diphtheria; that milk sterilisation should always be carried out with the whole of the supply, no portion being retained for the use of anyone in the institution (at Forest Gate the officers' portion was taken before the milk was boiled); that the method of sampling probably gave a sufficiently reliable result to determine the progress of the epidemic; and that the unhealthy conditions, especially hypertrophy of the faucial mucous membrane, was a very large factor in the persistence of the diphtheria bacillus in the throat.

---

[1] Brit. Med. Jour., April 16th, 1898.
[2] Annual of Microscopy, 1899.
[3] Medical and Surgical Reporter, 1896.

The SECRETARY, in the absence of Dr. F. H. BERRY (Watford), read a paper narrating a similar experience at the London Orphan Asylum. Here the 350 boys and 200 girls had little intercourse with the outer world except during the Christmas and midsummer holidays and were kept entirely apart, never seeing one another but in the dining hall and the chapel, where they were separated by wide gangways. The cases occurred among the girls only, though the milk-supply was the same. There had been no outbreak of diphtheria, and few if any cases for many years, when in January, 1898, after the holidays several cases of feverish follicular tonsillitis appeared. On Feb. 25th a case of diphtheria was noticed so typical that antitoxin was at once used before the Klebs-Löffler bacillus had been demonstrated. A series of mild sore-throats was followed on March 27th by a case of diphtheria (clinical and bacteriological) and three sore-throats with the Klebs-Löffler bacillus which were at once isolated. A succession of "throats" lasted until April 30th when after an interval of a week four cases of typical diphtheria and three suspicious throats, one of which developed into diphtheria, occurred between May 7th and 10th. All the cases were of a severe type, but being treated promptly with antitoxin made rapid recoveries. It was then resolved to isolate all children with sore-throats in a vacant house in the grounds, but since these numbered 76 and the accommodation was not sufficient for more than 50 they were divided into dark red and pale red throats; the former, as presumably the worst, were isolated and the latter were sent back to the school. Dr. Washbourn was then asked to examine the whole of the girls and the resident mistresses whose throats presented anything amiss. These were 142 in number, eight being mistresses. Diphtheria bacilli were found in those of three mistresses and 14 girls and Hoffmann's in 33. Two of the mistresses were teachers of music who gave their lessons in glass-walled compartments just large enough to hold the piano, teacher, and pupil, which might have assisted in the spread of the infection. All who, though not ill enough for the infirmary, presented the Klebs-Löffler bacillus were detained in the isolation building for a fortnight, their throats being sprayed with a disinfectant night and morning. A fresh examination showed that only two—one mistress and one girl—were still infective, and these after another week's treatment were pronounced free and no more sore-throats appeared in the school from that time or indeed from the exclusion of those in whom the Klebs-Löffler bacillus was found.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Fœtid Expectoration.—Removal of a Submucous Fibroid by Section of the Uterus.—Volvulus associated with Hernia.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Jan. 12th, Dr. A. G. BARRS, the Vice-President, being in the chair.

Dr. STANLEY DODGSON related the case of a woman, aged 30 years, who had Cough, Fœtid Expectoration, and Occasional Hæmoptysis. The disease was of seven months' duration and dated from an extraction of teeth under ether. The patient had a temperature of 102° F. and was expectorating about 20 ounces of fœtid sputum daily. The only physical sign was impairment of resonance at the left base. Creasote inhalations on alternate days were given for two months, at the end of which time the temperature was normal and the cough and foul expectoration had disappeared, while the patient had put on weight. The patient had remained in good health during the three succeeding months.—A discussion followed in which Dr. H. J. CAMPBELL, Dr. C. M. CHADWICK, Dr. E. SOLLY, Dr. E. F. TREVELYAN, and Dr. A. G. BARRS took part. The chief points raised were (1) the value of creasote given by the mouth as against the so-called creasote chamber; and (2) the difficulties of diagnosis in some cases of fœtid expectoration.—Dr. STANLEY DODGSON replied.

Dr. J. BRAITHWAITE read a paper on the Removal of a Sub-mucous Fibroid by Section of the Uterus. As the case was possibly the first in this country in which the uterus had been opened by what might almost be called Cæsarean section for the removal of a contained tumour it was of some interest. The patient was 41 years of age, a nullipara, and had suffered from exhausting hæmorrhage. The cervix was extraordinarily rigid and could only be dilated by means of Reid's screw dilators under ether. It was then possible to reach an internal fibroid near the fundus. The fibroid was probably not larger than a big horse chestnut, but it was impossible to remove it even *morcellement* as the vagina was very small and the cervix was rigid and undilatable. On Dec. 29th last it was removed by making a central incision in the anterior wall of the uterus, hæmorrhage being prevented by a rubber tourniquet round the cervical end. The tumour was easily turned out of the uterine cavity with its mucous covering entire. The cavity was drained by a tube into the vagina. The wound in the uterine wall was brought accurately together with catgut sutures, about three to the inch. The abdominal wound was closed with sutures in three layers as usual, the peritoneal and middle layers with catgut, and the skin with silkworm gut. The patient made an uninterrupted recovery. It would be noticed that this was not abdominal section and enucleation of fibroids in or on the uterine wall—a subject upon which various papers of great interest had been published.—Dr. E. O. CROFT and Dr. J. B. HELLIER made some remarks and Dr. BRAITHWAITE replied.

Mr. LAWFORD KNAGGS read a paper upon Volvulus in Association with Hernia. Four distinct groups could be recognised: (1) cases in which the neck of the volvulus was within the sac or close to the ring; (2) cases in which the hernial contents were implicated in the volvulus but where the neck and some of the affected coils lay within the abdomen; (3) cases in which the volvulus was produced within the abdomen upon the reduction of the hernia; and (4) cases in which a volvulus occurred within the abdomen from some predisposing condition more or less directly connected with a hernia. All these groups possessed features of much interest, but Mr. Knaggs only dealt with the second group in which the cases were of unusual gravity and importance.—Mr. H. LITTLEWOOD discussed the paper and Mr. KNAGGS replied.

The following cases and specimens were exhibited:—

Dr. EDWARD WARD: (1) Ruptured Spleen and Kidney; and (2) Ovarian Tumour.

Dr. A. G. BARRS: (1) Specimen of Amyotrophic Lateral Sclerosis; (2) Cancer of the Liver; and (3) a case of Hydro-pneumothorax with Typical Succussion Splash.

Mr. W. H. BROWN: (1) Mediastinal Growth; (2) Unusual Fracture of the Clavicle; and (3) Rupture of the Common Femoral. The patient in this case was shown.

Dr. J. B. HELLIER: Carcinomatous Uterus removed per vaginam.

Mr. H. LITTLEWOOD: (1) A case of Suprapubic Lithotomy with Prostatectomy in a patient, aged 70 years; (2) a case of Compound Depressed Fracture of the Skull in which the patient had been violent and delirious for a month; and (3) Tonsil and Glands removed for Squamous Epithelioma.

Dr. GORDON SHARP: Four cases illustrating the After-effects of Diphtheria.

Mr. B. G. A. MOYNIHAN: A case of Extensive Tuberculous Disease of the Ankle and Foot treated by Iodoform Injection.

Dr. E. F. TREVELYAN: Specimen of Hæmorrhage into the Pons causing sudden death.

Mr. MAYO ROBSON: (1) Adenoma of the Small Intestine causing Intestinal Obstruction; (2) Sarcoma of the Soleus Muscle; and (3) Tuberculous Kidney.

Mr. LAWFORD KNAGGS: Case of Erasion of the Ankle for Tuberculous Disease by Four Vertical Incisions (Clutton's Method).

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—Salol in the Treatment of Small-pox.—Permanent Dislocation of the Patella.—Murder and Suicide by Cut Throat.

THE fourth ordinary meeting of this society was held on Jan. 17th, Mr. ALEXANDER MILLER, the President, being in the chair.

Dr. Norman Walker showed a man suffering from Acne Varioliformis which had lasted for two years. The disease, as it has been described, extended into the hair as true acne very rarely did. The scarring was exactly like that seen after small-pox. The patient had no syphilitic lesions and though the condition had improved under the administration of iodide of potassium Dr. Walker did not think that that disease was due to syphilis.

Dr. C. W. MacGillivray showed a boy who had been Struck over the Left Parietal Bone by a piece of lead piping which had fallen from a height of about 30 feet. The wound was examined five hours after the injury and a piece of the left parietal bone of about the size of a small oyster-shell was found entirely loose in the wound; this was removed, leaving an area of about two and a half square inches of the dura mater exposed. The boy was never insensible and the wound healed perfectly without any febrile disturbance.

Dr. Charles Begg communicated a paper on Clinical Experience with Salol in the Treatment of Small-pox. He narrated his experience of the disease in China and thought that an explanation of the value which salol had had in his hands might be of value in view of the late spread of the disease in England. Dr. Begg was not aware of any similar observations to his own. The following case led him to think of the use of salol in small-pox. A patient who suffered from cystitis was taking a drachm of the drug daily. This individual had previously suffered intensely from the bites of mosquitoes. When taking salol a slight mental depression showed itself and the man did not even notice the mosquitoes. He had hundreds of bites, yet none of these showed the least appearance of swelling, redness, or irritation. This led Dr. Begg to think that salol might be useful in other irritating skin affections and on trying the drug its anæsthetic action was confirmed. Dr. Begg did not think that the mental depression which salol produced had anything to do with this sedative action on the skin. The drug was next tried in cases of small-pox and was found to keep the patient free from all irritation. There was no desire to scratch the skin and so the danger to the eyes was greatly avoided. This freedom from cutaneous irritation allowed of the patient sleeping and consequently exhaustion was prevented. Salol also almost always prevented the vesicles from maturing into pustules. Nearly all vesicles ended as such. In one case, that of a European, who had only been once vaccinated in infancy, confluent small-pox occurred and only two groups of vesicles ended as pustules. In almost every case the lymph dried up and the eruption so ended. No dangerous effects from the use of the drug in daily doses of one drachm continued for a long period manifested themselves. The cases should be brought at an early period fully under the action of the drug, and when properly so treated little scarring resulted. The foul odour which small-pox patients exhibited was entirely masked by the fruity odour which the drug manifested during its elimination by the skin.—Dr. Norman Walker stated that his experience in the treatment of skin diseases by salicine agreed with the observations of Dr. Begg and he thought that the absence of scarring was due to the non-formation of a hard scab and that the prevention of suppuration in the pocks accounted for this.

Mr. Shaw McLaren communicated a paper on Permanent Dislocation of the Patella. He said that the dislocation was a displacement of the patella outwards so that it lay even in extension generally to the outside of the median line, while in flexion it slipped outwards and backwards until it lay on the outer surface of the external condyle, its anterior surface being directed to a certain extent outwards The gait was thus rendered most insecure and the patient frequently fell, and attacks of synovitis were not infrequent. Mr. McLaren agreed with Appel that the condition was really a congenital defect, a deformity of the external condyle and trochlea of the femur, though a fall might first call attention to the malformation. In most of the recorded cases it had been noted either (1) that the deformity was actually present at birth; (2) that the child learnt to walk at a late period or walked insecurely during later years; (3) that there was rickets; (4) or genu valgum; (5) or outward rotation of the leg; (6) or ill-developed patella; or (7) abnormal shape of the external condyle and patella fossa of the femur. A case which he had met with was briefly as follows. It was that of a woman, aged 19 years, who had never walked securely and did not really walk alone until the age of seven years. She could never run, was always falling, and had knock knee on the left side. She had presented evidences of rickets in childhood. On the left side there was marked genu valgum, the leg being rotated outwards. When the knee was extended the patella lay to the outside of the normal position; when the joint was flexed it passed further and further out until it lay on the outer side of the external condyle. The fossa patellæ of the trochlear surface of the femur could be felt to be partially filled up on its outer side as if the external condyle projected into it, while the outer edge of that condyle seemed to be entirely wanting. Mr. McLaren related the notes of Appel's two cases and also several other cases which were not noted by him. The quadriceps, in passing from its origin to its insertion, formed an obtuse angle at the point of which the patella lay. During action the patella would be pulled outwards unless this were prevented by the prominence of the external condyle, which kept the patella in the middle line. If the fossa patellæ were too shallow or the ridge of the external condyle was not prominent enough the patella would lie dangerously far out on the trochlea. A slight accident or a severe contraction of the quadriceps was only necessary to shoot the patella off the front of the condyle altogether. In those cases where the condyle was markedly deficient the complete dislocation might exist from birth or very early life. In any case, the structures on the outer side of the patella contract eventually and prevent the bone retaining its proper position. As regards treatment, various methods which had been adopted by different operators were related. The method which Mr. Shaw McLaren adopted in his case consisted in liberating the patella by dividing on the outside whatever contracted structures prevented it from assuming its normal position and then mooring it there by sutures passed through its inner border. Four years after the operation the patella had retained its position slightly external to and higher up than normal, and the patient walked and went up and downstairs easily and could also now run. This method of treatment seemed rational and effective and in most cases ought to be successful. The severer operation of opening the joint and enlarging the groove for the patella might be necessary in some cases, whilst transplanting the ligamentum patellæ inwards should be reserved for those cases where there was a high degree of outward rotation of the leg.—The President, Dr. MacGillivray, and Mr. Caird having spoken, Mr. McLaren replied.

Dr. Harvey Littlejohn narrated an interesting case of Murder and Suicide by Cut Throat, showing how such cases ought to be investigated and the difficulties to be encountered in their elucidation.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Obstetrics.

Deciduoma Malignum.—Ulceration in the Female Urethra.

A meeting of this section was held on Jan. 5th, Dr. A. V. Macan, the President, being in the chair.

Dr. W. J. Smyly read a paper on Deciduoma Malignum. Having reviewed the literature of the subject he said that observers were now almost unanimous in believing that this was a disease sufficiently distinct to merit separate consideration. They also agreed as to its clinical features, pathological appearances, and treatment; also as to its connexion with pregnancy, and differed only as to their views concerning its histogenesis. He inclined to Veit's opinion that the disease was a sarcoma, modified by pregnancy. He also described a case which had come under his own observation. The patient, a pluripara, was delivered of a hydatiform mole in December, 1898. She had repeated hæmorrhages until May 10th when she had so profuse a hæmorrhage that she was reduced to a condition of profound anæmia. The uterus was dilated and a quantity of material resembling placenta was removed which on microscopical examination proved to be deciduoma malignum. Putrefaction and septic fever followed with pulmonary symptoms and empyema preceding radical measures. She lingered two months and then died. There was no post-mortem examination. Dr. Smyly showed the microscopical specimens at the Edinburgh meeting of the British Medical Association, when they were pronounced by Dr. Sänger to be typical examples of the disease which he had described.—Dr. R. D. Purefoy, Dr Smith, and the President discussed the case.

Dr. PUREFOY read a paper on a case illustrative of a rare form of Ulceration in the Female Urethra. He said that the close resemblance in aspect and clinical history between some forms of chronic syphilitic disease and others of a malignant nature had long been recognised—indeed, sometimes the effect of treatment by drugs must be observed before the differential diagnosis could be safely established. Especially was this observable in regions where cutaneous and mucous structures coalesced and hence the external female genitals, as might be expected, furnished some of the best illustrations of this fact. A young woman who recently was under treatment in the gynæcological wing of the Rotunda Hospital complained of pain and soreness in the vagina and on examination the following conditions were observed. The greater labia were of normal size and healthy. On the inner surface of the left nympha a circular excavation existed, the edges were sharp-cut and overhanging; the base, white cicatricial tissue. The entrance of the vaginal canal was closed by a morbid growth with nodulated surface of a deep red colour which on close examination proved to be an outgrowth hanging from the edge of an enormously dilated urethra; indeed, the lower third of this passage was so widened and distorted that considerable difficulty was experienced in passing a catheter into the bladder. Strange to say, the patient in spite of this did not suffer from incontinence of urine. In the vestibule and adjoining parts an indolent shallow ulceration was observed, alternating with patches of white cicatricial tissue marking its former course. In the writings of the late Dr. West cases closely resembling, if not identical with, the one under consideration were recorded. He said: "The affection has come six times under my observation—twice in married women who acknowledge to having suffered from venereal disease and four times in women of unchaste life, one of whom was at the time suffering from a secondary syphilitic eruption. The ulceration appears to begin at the orifice of the urethra, extending thence inwards towards the bladder, producing in its course a great widening of the canal and a patulous condition of its orifice, so that the finger-tip can easily enter it." Dr. Purefoy said that in its earlier stages this distressing affection admitted of some amelioration by local measures—the application, for instance, of oxide of zinc in the form of ointment, or lotion with liquor plumbi; and, even in the advanced stage, attended with widening of the urethra, the use of strong nitric acid, or the actual cautery, might bring about such cicatrisation and attendant contraction of the diseased parts that control of the bladder might be regained. Some facts in the history of his patient, as well as some scaly patches on the face and neck, afforded such presumptive evidence of a syphilitic taint that a combination of bichloride of mercury and iron in mixture was prescribed for her, and its use was followed by improvement. In many points these cases bore a close resemblance to that formidable disease of the female genitals first described in 1849 by M. Huguier, and to which he gave the name "lupus hypertrophicus or perforans." This affection was very rare; medical literature did not afford records of more than about 40 cases in all. Illustrations of some of them would be found in Dr McClintock's "Memoirs on Diseases of Women."—Dr SMITH and the PRESIDENT discussed the paper.

Dr. PUREFOY showed a case of Ectopic Gestation removed by Vaginal Cœliotomy.

FORFARSHIRE MEDICAL ASSOCIATION.—A clinical evening of this association was held in University College, Dundee, on Jan. 10th, Dr C. Templeman, the Vice President, being in the chair.—Professor J. A. C. Kynoch showed a child from whom he had removed a Renal Sarcoma three years before by Laparo-nephrectomy. Six other cases of laparo nephrectomy on children under two years of age had been reported as alive and well three years after operation. There was still considerable difference of opinion in regard to the pathology of these renal tumours. Although only 5 per cent. of all reported cases had recovered the chance of a cure ought to be offered.—Dr. R. C. Buist and Dr C. McVicar also spoke.—Dr. A. McGillivray showed (1) a boy with Rupture of the Choroid and (2) a patient who after injury had suffered from a Dilatation of One Pupil which he was inclined to consider as due to irritation—an irritation mydriasis.—Dr. McVicar showed a patient with a large Cystic Swelling which extended from the anterior border of the sterno-mastoid to the middle line with branching processes under the same muscle and up into the floor of the mouth. The fluid was viscid and clear and when it escaped by the mouth had a sweetish taste. It appeared to be a bronchial cyst and was of interest as such cases had been known to assume an epitheliomatous character.—Dr. J. Gray showed for Professor McEwan specimens of (1) Fracture, Base of the Skull; (2) Epithelioma, Tongue; and (3) Limb from a case of Senile Gangrene.—Dr. Gray showed a cast of an Arm with Lipomata.—Professor Kynoch illustrated by a painting an unusual Pigmentation of the Central Linear Cicatrix as well as the Stitch Scars of a case of Ovariotomy which he had performed during pregnancy. A scar of two years' duration on the breast had remained unaffected. He asked whether the condition was due to the ovariotomy or to the delicate skin, and in relation to this mentioned that Bloxall had reported a case in which the scar left after removal of a dermoid had become pigmented during a subsequent pregnancy.—Dr. Buist had seen a like scar pigmentation during a pregnancy following immediately after the removal of one ovary.—Professor Kynoch showed a Multilocular Ovarian Cyst and remarked on the few adhesions present notwithstanding the fact that part of the cyst had been ruptured by an accident some time previously.—Professor Marshall and Dr. Buist added some comments.—Dr. McVicar showed (1) an Ovarian Cyst which in view of the clinical history and the naked-eye and microscopic appearance seemed to be an abscess of the ovary; and (2) a Vermiform Appendix with the Lumen practically Occluded.—Dr Buist and Dr. Kynoch discussed some of the points raised.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on Jan. 17th, Mr. W. Thorburn, the President, being in the chair.—Mr. F. A. Southam showed two specimens of Papilloma of the Bladder which had been removed by suprapubic cystotomy from male patients, aged 45 and 64 years respectively. In both cases the only symptom was a painless hæmaturia, in one instance continuous and in the other intermittent. The patients made a good recovery from the operation and in both instances the removal of the growth was followed by a complete cessation of the hæmaturia.—Dr. Warrington described the case of a man, aged 60 years, who had suffered from Anæmia. His condition gradually got worse and he developed kyphosis of the vertebral column; spontaneous fracture of the ribs also occurred. The urine contained large quantities of the body known as albumose which was first described by Bence Jones in 1848. The necropsy showed that the ribs were remarkably affected, the bony substance being reduced in thickness to about that of a sheet of notepaper, while their lumen was filled with a reddish mass similar in appearance to splenic pulp. The sternum and vertebræ showed a similar condition; the substance present in the bones of the thorax also gave the reaction of albumose.—Dr. Craven Moore showed a series of specimens illustrating the various types of Lymphadenoma and briefly referred to their morbid relations.—Dr. W. E. Fothergill described examples of Exomphalos and Pseudo anencephalus.—Other preparations were shown as Card Specimens.

HARVEIAN SOCIETY OF LONDON.—The annual meeting of this society was held on Jan. 18th.—Mr Thomas Bryant was elected an honorary member of the society to fill the vacancy caused by the death of the late Sir James Paget.—The report of the council and the treasurer's statement were read and adopted.—The election by ballot of the officers for the ensuing year resulted as follows:—President: Dr. W. H. Lamb. Vice Presidents: Mr. Peyton Beale, Dr. W. J. Gow, Mr. Alban Doran, and Dr. Winslow Hall. Treasurer: Mr. Edmund Roughton. Council: Mr. Buckstone Browne, Dr. H. A. Caley, Mr. Jackson Clarke, Dr. A. Eddowes, Dr. J. F. Goodhart, Dr. Leonard Guthrie, Mr. H. E. Juler, Dr. H. J. Macevoy, Mr. Sefton Sewill, Dr. G. A. Sutherland, Dr. Herbert Spencer, and Dr. Atwood Thorne.—The retiring President (Mr. H. E. Juler) delivered an address on the Value of the Observation of Eye Symptoms in relation to General Medicine and Surgery.—A vote of thanks to the retiring President for his address and for his services to the society was proposed in very genial terms by Mr. Henry Power and carried with acclamation.—Votes of thanks [illegible] retiring Vice-President (Dr. Ernest Gi [illegible] and to the retiring Secr [illegible] proposed by Mr. Edward B [illegible] The meeting [illegible] largely attended. Instrumental music was provided by the string band of the Royal Horse Guards.

MANCHESTER MEDICAL SOCIETY.—The following gentlemen were elected office-bearers for the year 1900:—President: Dr. T. C. Railton. Vice-Presidents: Mr. W. Coates, Dr. A. Donald, Dr. W Milligan, and Dr. R. Wild. Treasurer: Dr. C. E. Glascott. Secretary: Dr. E. S Reynolds. Committee: Dr. W. H. Brazil, Dr. E. M. Brockbank, Dr. J. G. Clegg, Dr. J. J. Cox, Dr. T. Harris, Dr. M. P. Ledward, Dr. F. C. Moore, Dr. J. E. Platt, Dr. C. Skinner, Dr. G. Thomson, Dr. R. T. Williamson, and Mr. A. Wilson. Library Committee: Dr. T. N. Kelynack, Dr. A. Lea, and Mr. J. W. Smith. Auditors: Mr. J. H. Ray and Dr. W. K. Walls.

BRADFORD AND DISTRICT MEDICO-ETHICAL SOCIETY.—The annual general meeting of this society was held on Jan. 17th. The officers elected for the ensuing year were as follows:—President: Dr. J. H. Bell. Vice-President: Dr. D. Goyder. Honorary treasurer: Dr. F. K. March. Honorary secretaries: Dr. W. Horrocks and Dr. A. Manknell. Committee: Mr. I. Mossop, Dr. W. Parkinson, Dr. A. Bronner, Mr. J. Harrison, Mr. W. Handcock, and Dr. J. Metcalfe. Auditors: Dr. W. Arnold Evans and Dr. E. G. Peck.

Reviews and Notices of Books.

The Pathologist's Handbook; a Manual for the Post-mortem Room. By T. N. KELYNACK, M.D. Vict, M R.O.P. Lond. 126 Illustrations. London: J. & A. Churchill. 1899. Pp. 186. Price *4s 6d.*

THIS is an excellent little book, although possibly its title conveys the idea that the work deals with more than it actually does, but, as Dr. Kelynack states in his preface, "My main object has been to indicate methods. Reference to special lesions has, to a very great extent, been omitted. For descriptions of these the student will naturally refer to his text-books on Morbid Anatomy." Dr. Kelynack also claims to have merely "attempted to furnish a concise guide for students acting as clerks in the post-mortem room and a suggestive manual for junior practitioners." These excerpts from the preface give a very fair idea both of what the book is and of what it is not.

Chapter II., "General Considerations," deals in a very clear and sensible manner with such subjects as the prevention of post-mortem wounds, the cleansing of the hands, and the question of permission from the relatives. With regard to this latter point Dr. Kelynack remarks: "If what may be termed the æsthetic or sentimental side of the question were more generally attended to it is very probable the public would soon show less repugnance to the holding of pathological examinations. The care of a mortuary is a matter of real importance. Every hospital should have a mortuary chapel with suitable arrangements for the viewing of the corpse by the friends." In this we quite agree, and the strictures upon the condition of mortuaries apply not only to those attached to hospitals but to many parochial buildings, though there are honourable exceptions, notably in the case of Westminster, Chelsea, and Kensington. Dr. Kelynack gives a caution as to the taking of notes in a post-mortem examination for medico-legal purposes. These notes, he says, should indicate pathological facts and give full descriptions of lesions observed, but no opinions or inferences should be expressed. This is an important point which is often neglected. Another practice to which Dr. Kelynack alludes is noteworthy. "In cases likely to lead to litigation I have generally found it wise to ask all the medical men present to sign the report in evidence of their agreement with the facts therein stated. Their opinion as to the cause, nature, and general bearing of the case is thereby not interfered with, and much of the quibbling as to the facts which tend to make medical men ridiculous in the eyes of the public may be avoided." It is always as well in a medico-legal case for a second medical man to be present, and if this precaution were taken such lamentable errors as occurred in a recent case would never happen.

Chapter III. deals with Instruments, and Chapter IV. with the External Examination. The latter chapter contains a useful table indicating the differences between post-mortem staining and ante-mortem contusions.

Chapter V. contains the consideration of the Internal Examination, and here again a useful note of warning is sounded against the confounding of post-mortem changes with true morbid conditions.

Chapter VI. deals with the Thorax and Neck, Chapter VII. with the Abdomen, and Chapter VIII. with the Head and Spine. Chapter IX. deals with Special Examinations, including a note upon examinations conducted in private houses, and Chapter X. is concerned with medico-legal matters, such as exhumation, poisoning cases, death certificates, inquests, and the like.

Chapter XI., entitled Miscellaneous Considerations, treats of the "restitution" of the body, post-mortem records, and one or two other points. There is only one point on which we would make a suggestion and that is that in a future edition the operator should be advised, if the costal cartilages are calcified, to fold the soft tissue of the chest wall over them before putting his hands into the thorax. Such a procedure will save many a troublesome scratch. It is a small point but one which we have often seen neglected and Dr. Kelynack does not mention it. The book certainly on the whole is worthy of great praise.

Lehmann's Medicinische Hand Atlanten, Band IX. *Atlas of the Nervous System in Health and in Disease, exhibiting the Groundwork of its Anatomy, Pathology, and Therapeutics.* By Dr. CHRISTFRIED JAKOB, of the University of Buenos Ayres, with a Preface by Professor Dr. A. von STRUMPELL. Second Edition, thoroughly revised, with 84 Plates and 208 pages of Letterpress. München: J. J. Lehmann. 1900. Small octavo. Price *14s.*

THOSE who purchase this work must not expect to obtain a series of plates giving the distribution of the cranial or spinal nerves. It does not contain any account of the fifth or seventh nerves, nor are there any drawings of the branches of the brachial or lumbar plexus, but to those who know how to use it it will prove, we are assured, a very valuable treatise and book of reference. It commences with ten excellent coloured plates of the brain exhibiting its superior, lateral, median, and inferior aspects, the appearances presented on transverse sections of the brain at successive planes, and different views of the cerebellum. The plates are not spoiled by figures, lines, or letterpress, but an outline drawing is placed on the opposite page, which is lettered, and there is a page of references. The next plates show the relation of the white and grey substances on section of the crus cerebri and medulla oblongata and in photographs of the cord in the cervical and lumbar regions. Two plates are devoted to the embryology of the nervous system. The glia and ganglion cells and the production of the neurons as processes from the cells are next depicted. Then follow a drawing showing the arrangement of the cells in the cortex cerebri, a plate with the disposition of the convolutions, others showing the position of the nuclei in the medulla oblongata, and the structure of nerve fibres and their appearances in health and disease. The twenty-sixth plate exhibits in different colours the columns of the cord. The general arrangement of the cerebro-spinal nerves is next illustrated. Many plates follow with for the most part two and three figures on each plate, which are coloured and show the arrangement of the fibres in different parts of the brain, medulla oblongata, and spinal cord, as in sections made through the corpus callosum, the corpus striatum, optic thalamus, and olive. Anyone who will study these drawings carefully will make himself master of the structure of the brain and the course of the fibres in the spinal cord in a way that would require many dissections and the consumption of much time to accomplish. The last 20 plates are chiefly occupied with illustrations of the effects of disease on the nerves and nerve-centres; such, for example, as neuritis multiplex, tabes dorsalis, syringomyelia, and various forms of ascending and descending degeneration. There are between two and three hundred drawings altogether, and they are very instructive. In the text which accompanies the plates no attempt is made to give a description of the nervous system as a whole, but those who are able to read German will find that the author has been able to condense into a small space much useful information in regard to the functions of the several parts of the nerve centres and the effects of disease. The work is very well produced, and considering the number and excellence of the illustrations its cost is surprisingly small.

Recherches Cliniques et Thérapeutiques sur l'Epilepsie, l'Hystérie, et l'Idiotie. Par BOURNEVILLE, avec la collaboration de MM. CESTAN, CHAPOTIN, KATZ, NOIR, PHILIPPE, SEBILLEAU, et BOYER. (*Clinical and Therapeutical Researches on Epilepsy, Hysteria, and Idiocy.*) Vol. XIX. Large 8vo. *Paris: Aux Bureaux du Progrès Médical et Félix Alcan.* 1899. Pp. 236, with 13 Figures in the text, and 13 Plates. Price 5 francs.

THIS volume contains an account of the administration of, and arrangements at, the Bicêtre for the care and treatment of epileptic and defective children, and this is followed by chapters on clinical and pathological observations carried out at the institution. An excellent account is given of the classification of patients—various types of idiots, imbeciles, and "defectives"—for purposes of instruction and training. Thus at the end of 1898 there were 462 children at the institution, 45 of these being classed as non-insane epileptics. Gymnastics, fencing, dancing, &c., are taught to suitable patients, and school classes of various grades are available for teaching and manual training. During the year 74 patients were admitted, 19 died, and 54 were discharged. Among the deaths eight were attributed to epilepsy, five to enteric fever, and four to tuberculosis. At the Fondation Vallée, a tributary institution attached to the above, there were at the end of 1898 189 patients (epileptic, imbecile, and hysterical girls). The admissions amounted to 62, and there were 13 deaths, and 44 discharges and transfers. Tuberculosis seems to have been the cause of seven deaths. Dr. Bourneville emphasises the importance of the provision of special classes for feeble-minded children in connexion with the primary schools in Paris, and points to satisfactory results already achieved in England, Switzerland, and Belgium.

The clinical and pathological section teems with useful information. Chorea and its treatment by bromide of camphor form the subject of a very instructive article, and very good results are chronicled of this mode of treatment. Careful accounts of hydrocephalic idiocy and imbecility with athetosis are given. Chronic meningitis with idiocy, mania of adolescence, alcoholism and its treatment in children, febrile diseases and their treatment in idiots and imbeciles, and a valuable study of an epidemic of typhoid fever, all find appropriate mention and description.

A number of chapters of exceptional interest deal with the hereditary conditions and antecedents of patients, a subject which the French school have cultivated with especially good results. A graphic account of a case of adolescent mania with nymphomania cured after seven months' treatment and one of a boy aged 13 years, a juvenile drunkard of shockingly depraved morals, arrest attention; the latter patient having improved remarkably under treatment at the "Institut Médico pédagogique." Several excellent plates and photographs illustrate the work and add to its usefulness; they deal with such subjects as hydrocephalic and meningitic idiocy, and cerebral sclerosis, and are well executed. The volume is a worthy continuation of the series, and will be read with interest, especially by those who are concerned with the cerebral and mental affections of children, including cerebral pathology, or are attached to institutions having the care and treatment of such patients.

LIBRARY TABLE.

Dermato-histologische Technik. By Dr. MAX JOSEPH (Berlin) and Dr. GEORG LOEWENBACH (Vienna). Berlin: L. Marcus. 1900. Price 3 marks.—This is a laboratory manual of 110 pages for those who desire to study the histology of the skin and its diseases. The best idea of its scope may be gathered from the headings of its chapters: (1) Investigation of Skin in its Fresh Condition (*a*) in Sections, (*b*) not in Sections; (2) Ditto Preserved, Fixing and Hardening; (3) Embedding; (4) Cutting and Handling Sections; (5) Staining in General; (6) Special Staining; (7) Parasites; (8) Special Staining of Epidermic Structures; (9) Hairs; (10) Nails; (11) Coil and Sebaceous Glands; and (12) Special Stains for Components of Cutis. The directions are concise and the authors being well-known workers in this field their advice may be relied on, while the wealth of formulæ for the various media required makes the work a manual valuable to every student of this branch.

A Pocket Medical Dictionary. By W. A. NEWMAN DORLAND, A.M., M.D. London: The Rebman Publishing Co. Philadelphia: W. B Saunders. Pp. 518. Price 10*s*—This is a very handy and, so far as we have been able to test it, a very complete and accurate little book. It is printed on thin but opaque paper in clear type and though comprising over 500 pages is of a convenient size for the pocket. Although every practitioner should possess Dr. George Gould's incomparable dictionary it is a book which is too bulky to carry about and for this purpose Dr. Dorland's modest volume is admirably suited. There are several useful tables, such as those of the muscles, arteries, and nerves. The only point with which we are inclined to find fault is the phonetic representation of the pronunciation of French words. Thus, "abouchment," which surely should be "débouchment," is represented phonetically by "ah-boosh-maw," with an acute accent after the "w." The nasal French "n," is certainly not easy to represent phonetically, but we cannot think that the method illustrated above will aid the student.

Who's Who? for 1900. London: Adam and Charles Black. Pp. 1092. Price 3*s.* 6*d.*—This useful work has increased in size by some 80 pages since its last appearance. The general information is of great value, and in most cases, being autobiographical, can be relied upon. We expect that there are few newspaper offices unprovided with a copy of this book of reference, and its influence can be traced in one gloomy direction with great regularity—we refer to the accurate nature of the obituary notices of comparatively unimportant men in the general press. We notice that a list of the chief naval and military medical officers which appeared last year has been omitted this year, which we think is a rather untimely variation in contents.

JOURNALS.

The Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, D. J. CUNNINGHAM, F.R.S., G. H. HUNTINGTON, M.D., A. MACALISTER, F.R.S., and J. G.

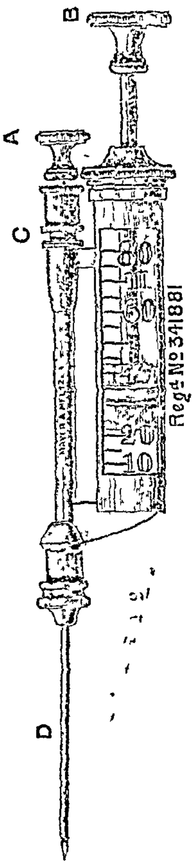
M'KENDRICK, F.R.S. Vol. xxxiv., Part II. London: Charles Griffin and Co., Limited. January, 1900. Price 6s.—The articles contained in this number of the *Journal of Anatomy and Physiology* are:—1. The Stomach and Pylorus, giving the results of an investigation undertaken with a view to determine the actual movements of the stomach during the process of distension, by Richard J. A. Berry, M.D., F.R.S. Edin., and John Crawford, M.B. Edin., with four plates. The authors show that the length of the stomach bears certain very definite relations to its transverse diameter, the exact ratio being as 1000 to 463; also that the shape of the pylorus is practically always oval, the longest axis being most frequently directed from above downwards and backwards, and that the stomach of the female is more tubular than that of the male. 2 Duplicity of the Cervix Uteri in Trichecus and Otaria, by Professor Cleland, F.R.S., with a plate. 3. On the Vitality of the Ova and Spermatozoa of Certain Animals, by James F. Gemmill, M.B. Glasg. He shows that the life of an unfertilised sea-urchin egg in sea water is comparatively short, certainly under 24 and probably under 12 hours. The eggs of the limpet may remain fertilisable up to 40 hours after extrusion. The vitality of spermatozoa of the sea-urchin may endure for 72 hours. 4. The Form of the Empty Bladder and its connexions with the Peritoneum, together with a Note on the Form of the Prostate, by A. Francis Dixon, M.B. Dub., with three plates. A valuable contribution to a field of anatomy that has been well worked over. 5. On the Structure and Functions of Hæmolymph Glands, by W. B. Drummond, M.B. Edin., with three plates, an interesting article on a subject that has received but little attention at the hands of histologists. 6. Note on the presence of Ciliated Cells in the Human Adult Kidney, by E. Wace Carlier, M.D. Edin. Ciliated cells are found living in the proximal and distal convoluted tubes and the spiral tubes. 7. A Note on the Thymus Gland in the Koala (Phascolarctos cinereus), by Johnson Symington, M.D. Edin., with two plates. 8. Symmetrical Perforations of the Parietal Bones, by A. M. Paterson, M.D. Edin., and F. T. Lovegrove, M.R.C.S. Eng., with four plates. 9 The Causes of the Entrance of Oxygen into the Blood in the Lungs, by J. J. Charles, M.D. Irel. 10. The Topography of the Facial Nerve in its Relation to Mastoid Operations, by Robert Dwyer Joyce, F.R.C.S. Irel. 11. Craniometric Observations in the Post-mortem Room, by David Waterston, M.B. Edin. 12 Ninth Report of the Committee of Collective Investigation of the Anatomical Society of Great Britain for the Year 1898–99; reported by F. G. Parsons. This report has reference to the circumflex (femoris) arteries and the perforating arteries. 13. An Australian Skull with three Supernumerary Upper Molar Teeth, by Professor Sir William Turner. 14. Archæologia Anatomica, by E. Barclay Smith, M.D. Cantab. The subject of the article is John Halle, a sixteenth-century anatomist. Lastly, the Proceedings of the Anatomical Society of Great Britain and Ireland.

Revue d'Hygiène et de Police Sanitaire. Tome xxi., No. 12, Decembre, 1899. Paris: Masson et Cie.—The interest excited during recent years in the subject of contamination of oysters and the evil results which may accrue therefrom has prompted the French Government to undertake an extensive inquiry into the topographical relation of the oyster layings on the French littoral. Dr. Mosny has been entrusted with the investigation, and the bulk of the current number of the *Revue d'Hygiène* is taken up with the first portion of Dr. Mosny's report, which is confined in the main to a historical account of the chief events connected with mussel and oyster poisoning of one or another variety. The author of the report apparently sees little difficulty in effecting the closure of certain layings, the removal to another site of others, and the suppression of the sources of pollution in others. The result of Dr. Mosny's topographical investigations, which will presumably appear in the next number of the *Revue d'Hygiène,* will be of interest to English consumers of French oysters, although in the main French oysters are introduced into this country when quite young.

The Journal of State Medicine. Vol. viii., No. 1. January, 1900. London: Baillière, Tindall, and Cox. Price 2s.—Dr. W. R. Smith's first Harben lecture on Diphtheria is published in full in this number. He treats of the history and distribution of the disease in space and time and of the conditions with which it is at times associated. He traces the varying degrees of diphtheria incidence upon the several counties and groups of counties in England and Wales during several decades, and contrasts it with the behaviour of measles and scarlet fever. The tables and maps which appeared in Dr. Smith's report to the London School Board in 1896 have been brought up to date, and additional matter with regard to the bacteriology of the disease has been introduced. Dr. William Thomson's paper on the Pollution of the Atmosphere of Large Towns which was read at the Blackpool Congress of the Royal Institute of Public Health is embodied in the volume before us, as also is Mr. Casmey's paper on the Ventilation of Industrial Buildings.

New Inventions.

AN IMPROVED EXPLORING SYRINGE.



IN designing this syringe an attempt has been made to overcome an inconvenience which is too often experienced when using the ordinary apparatus—viz., the blocking of the needle, either during its insertion or by particles in the fluid which it is intended to withdraw. It will be seen from the sketch that the construction consists of a hollow needle D, fitted with a pointed trocar which passes through an air-tight stuffing box C, and is provided with a head A. This part of the apparatus, which is similar to that supplied with some aspirators, is fixed parallel to an ordinary cylinder and piston, the needle D having a clear way through to the lower end of the cylinder. When it is required to use the syringe for exploring purposes both the trocar and the piston are pushed right in by means of the heads A and B respectively. The needle is then inserted and the trocar pulled out a few inches by means of the head A so as to leave the needle open to the cylinder. The piston can now be gradually drawn out. If when the piston is part way up the cylinder the needle should become stopped up the trocar can be pushed down to clean it. The apparatus is so designed that it can be taken to pieces for sterilising and cleaning. Messrs. Mayer and Meltzer of Great Portland-street are the makers.

CHRISTOPHER MAYHEW.

Portsmouth.

THE LANCET.

LONDON: SATURDAY, JANUARY 27, 1900.

THE second and final report of Lord LLANDAFF's Commission on the London Water Supply has just been issued The Commissioners were appointed as long ago as May, 1897, and, as our readers may remember, they held no less than 64 public sittings, at which an enormous amount of evidence was given by a large number of witnesses, full reports of which appeared at the time in our columns. The subjects on which the Commissioners were asked to report were, briefly, whether it was advisable from a financial point of view that the undertakings of the metropolitan water companies should be purchased, and if so, whether by one authority or by several authorities; secondly, if such purchase were not made, whether any additional powers of control should be vested in local or other authorities. A third point on which the Commissioners were asked to give an opinion was as to whether any system of intercommunication between the mains of the existing metropolitan water companies was practicable and advisable It will be remembered that in consequence of a failure on the part of the East London Water Company to supply their customers adequately during the summer of 1897 it became a pressing matter to see whether anything could be done to prevent such a catastrophe from happening during the next summer. The Commissioners were therefore asked to give their immediate attention to this subject, and they proceeded to receive evidence bearing on this matter from the engineers of the metropolitan water companies. No less than three schemes were submitted and the Commissioners in their first report advised that some temporary measures should be taken by which a water famine in the East end of the metropolis might probably be prevented. We dealt fully with this first report at the time of its issue and were glad to be able to record that the Government acted up to their duties and quickly passed a measure which obviated a water famine in East London. The Bill by which this work was to be made possible was opposed by the London County Council—a fact which we point out because the different actions of the London County Council in regard to the work of reforming the methods of the water-supply of London must be borne in mind by all who would understand an intricate subject

The Commissioners, having issued a report on one of the subjects of their inquiry, returned to the other issues which were presented to them They completed the reception of evidence and heard counsel's speeches and have now finally issued a report on the matters in their reference. The report is an exhaustive one The Commissioners have come to the following conclusions (1) that it is expedient that the undertakings of the metropolitan water companies should be purchased; (2) that it is advisable that the purchase should not be effected by the London County Council, but that (3) a Water Board should be established to purchase and to control the undertakings necessary for the supply of London with water; (4) that for some years the basins of the Thames and Lee will afford sufficient water for the needs of the area to be supplied; and (5) that it would cost less to put up the necessary reservoirs for the storage of Thames water than it would cost to obtain a new supply from Wales The London County Council will doubtless not agree with this report, but in the face of it it will be necessary for them to consider whether they are justified in the interests of the London ratepayers in proceeding with the Bill which they are promoting to obtain water from Wales. For many London ratepayers are doubly interested in the procedure of the Council Not only do the costs incurred by the Council with regard to their own Bills fall on the ratepayers of London as a whole, but some of the expenses incurred by the companies practically come out of the pockets of some of the London water consumers In these circumstances the London County Council should, we think, in the interests of the London ratepayers, forbear from unnecessary Parliamentary expenditure. There are many ways in which the London County Council can be useful to the water consumers of London without straining for the absolute control which the Commissioners advise Parliament not to confer upon them They have not always used the powers which are already in their possession for the protection of water consumers. We trust that they will now find time to attend to this work and we may be able to point out various directions in which their energy can be usefully expended It may be urged, from a medical point of view, that the body having charge of the public health of the metropolis ought to have charge of the water-supply. But the London County Council must justify their ability to discharge the enormous trust that would thus be confided to them.

We are by no means inclined to agree in its entirety with Lord LLANDAFF's report. We cannot refrain from noticing the fact that the Commissioners have expressed an opinion with regard to the amount of water which the basins of the Thames and Lee supply and are likely to yield. We are strongly of opinion that the Commissioners would have done a greater service to London water consumers had they collected accurate information with regard to the amount of water which the area can produce. As it is, they have relied on the authority of Lord BALFOUR's previous report—a report which it has been contended by Sir JOHN EVANS and other competent authorities has already proved fallacious.

◆

THE electorate of the University of London will do well to disregard all the partisans who try to make them believe that there is nothing worthy or distinctive in university representation, and that in the exercise of their academic franchise in the course of a few weeks they are discharging a mere humdrum political duty. The legislature of the country has given to the electorates of universities a special representation over and above that which they enjoy as citizens. The natural inference is that the privilege of selecting a university candidate or representative is special. At any rate it is additional to that enjoyed by the elector in his non-academic capacity. And the legislature has certainly meant him to bring to the task of selecting a candidate and supporting him more than the conventional set of considerations which influence the ordinary voter, as well as to encourage the choice of men as Parliamentary candidates who would not be selected by other constituencies. In saying this we in no wise disparage the ordinary constituencies and the average elector. Neither the tradition of this journal nor the spirit of the age permits us to do so. If we have representatives who do not always do what we think they should for the health and welfare of the people—which are the real end and purpose of all legislation—we have others who spare no pains towards these ends. Our legislators will compare favourably with those of other countries, and the choice of representatives by large sections of the people secures one inestimable advantage—the free discussion of all subjects both by the constituencies and by Parliament. Mistakes are made and crude and ill-formed judgments are expressed sometimes even in Acts of Parliament. But these faults are always liable to exposure and correction. All classes are made to see their fallibility and thus learn to respect the opinions of others. The more informed are the first to recognise the honesty and fairness of those from whom they differ and whose information they may know to be inferior to their own. The less informed are not slow to perceive the force of facts when made plain to them by those who know.

The Constitution that gives all classes the chance of having their views expressed in Parliament surely expects the special representation of universities to facilitate the election of men of special knowledge or authority. We believe that if the adversaries of such representation—and there are not a few—ever succeed in abolishing the university franchise it will be the fault of members of universities themselves in not protecting their privilege by selecting as representatives their most capable and distinguished men. We do not mean that the elector of a university representative is to ignore or go against his political principles in the use of his academic franchise, but we mean that he is to do his best to secure for his university an ideal representative whose qualities shall be distinctive, whose reputation shall be such as to secure deference, and whose support shall count in the House for more than his mere individual vote. We do not expect infallibility in such a member any more than in the ordinary member. Still less do we expect any assumption of airs of superiority. The ideal university member should have a record which must secure his being heard and which is likely to conciliate his hearers. His political past need not be pronounced, but there should be something in his history and in his *personnel* which would be a guarantee for liberality of sentiment in the estimation of political forces and questions. In matters of science and education it is important that he should be clear and in line with the best opinion of his time.

The University of London is about to assume the character of a teaching university and all expect for it as a teaching centre the eminence which hitherto it has well maintained as an examining body. But just at this juncture it is immensely important that no mistake should be made in the election of a representative of the University in Parliament. Somewhat undue haste has been used in putting forward candidates who, with great merits, yet do not possess the ideal qualities; but we have learned with great pleasure that Sir MICHAEL FOSTER has now allowed himself to be nominated. We have no hesitation in saying that we think his election ought to follow as a matter of course. It may not so turn out, for there are parties within this particular constituency over and above the ordinary political divisions everywhere to be found; but we are clear that Sir MICHAEL FOSTER is exactly the man who ought to sit in Parliament as a university representative. He is a candidate whose name and work and writings stand for much in the world of science and of educational literature. He speaks humorously, robustly, and well. He is secretary of the Royal Society. He is said to be Conservative, but he can have no Conservatism inconsistent with truth, which he loves, whether in politics, science, or morals.

THE discussion of medical relief for those who cannot afford to pay affords a fertile subject for controversial pens. In a country like England where so much is left to the free efforts of individuals or irregular collections of individuals, where the finger of the State is withheld, so to speak, from many a pie into which on the continent it would be pushed without dispute—in such a country it is perfectly natural that medical charity dispensed in a hundred different ways should be subjected to the free disussion of a thousand different people who for one reason or another interest themselves particularly in the matter. Such discussion is not only natural and in the circumstances unavoidable but also for the most part beneficial. It would, no doubt, be more useful still if the various critics of our system (or lack of system) of hospitals, infirmaries, and dispensaries, were to confine themselves to those particular branches of the subject with which they have had special experience. In this respect it is the lay critic who is more often at fault than the medical writer, and an article entitled "Hospital Chaos" in the current number of the *National Review* affords an illustration of this regrettable lack of discretion. The writer has collected much information upon the disposition and administration of hospitals and other places of medical charity in this and other countries and she contributes weighty arguments towards her attack upon our arrangements in England, but she seriously jeopardises the value of her opinions when she introduces discursive and fragmentary criticisms upon subjects of such purely medical and scientific interest as serum-therapy and Coley's fluid. Hers is a case of rushing in—an unguided mortal—where the angel of scientific knowledge still fears to tread save with the most wary steps. In short when Miss MORTEN descants rashly and loosely of the uses of the "stale blood of diseased horses," which possibly she imagines to be an allied product to Coley's fluid, and under the title of "professionalism" discusses with fervour and assurance the subjects of "experiment" and "empiricism," she comes near to destroying the value of the rest of her words.

Miss MORTEN is an opponent of the voluntary system of medical charity and argues in favour of the municipalisation or of the State control of hospitals. With very much of what she writes most medical men will cordially agree, and in fact similar opinions have been promulgated often enough in the columns of THE LANCET, where, as is well known, we have never advocated the establishment of State hospitals. Nobody doubts that the foundation of numerous small hospitals may lead to the deception of the public who may be induced to subscribe to undertakings apparently of public benefit which are really more in the nature of schemes for the private emolument of a few medical men. Again, Miss MORTEN puts her finger upon a weak spot when she describes the lack of coöperation existing between the various London hospitals and the difficulties besetting a patient who, finding no room in one, wishes to seek admission into another. In Paris, for instance, Miss MORTEN points out how the State control and consequent coöperation of the hospitals leads to the saving of much time, inconvenience, and even danger, ambulances having full information as to where there are empty beds. Here the writer touches upon defects existing particularly in London to which THE LANCET has already more than once given close attention. Similarly we can only acquiesce in her strictures upon the very deficient provision for hospital patients south of the Thames as compared with the comparatively excessive supply of accommodation in a small area of the west and south-west of London within which a large proportion of our general hospitals have been located

Although we agree with many of Miss MORTEN'S opinions that are derogatory to our present hospital arrangements and would support her condemnation of many small special institutions, yet we cannot accept her remedy as either desirable or as in the least likely to be brought to bear upon the management of medical charity in this country. State control—or at least municiplisation—is the reform that she suggests Now, hospitals and similar institutions exist primarily, as Miss MORTEN insists, for the welfare of their patients, and our judgment as to the success with which they are administered should be given to some extent in accordance with the satisfaction that we find among the patients. Patients may not always know what is best for their pathological conditions, but they do know when they are comfortable and well cared for. What, then, do we find if we compare hospital patients as a class in the towns of Germany and France, where there is complete State or municipal control, with members of the same class in our own towns? Is the Berlin hospital patient more ready than his London congener to enter hospital? The exact reverse is the case. Is he happier there or in receipt of greater skill or closer attention? Again the answer is, No. We have been very much deceived by our personal experiences if the hospital patient in England is not better off in all respects than the subject of medical charity in institutions where State control is paramount and where the opportunities for voluntary and individual effort are entirely obviated. The remedy for most of our hospital abuses lies not in the invocation of State or municipal aid, but in the enlightenment of public opinion and the awakening of the public conscience as to what class of person is the fit recipient of medical charity; and in the determination of the whole body of medical pr tioners to work together for the discouragement hospital abuse in all forms.

THE paper which we published in THE LANCET o Jan. 20th, "On the Results which have been Obtained by the Anti typhoid Inoculations," by Professor A. E. WRIGHT of the Army Medical School, Netley, is certain to have been read with an unusual amount of interest, more especially as this prophylactic measure is at present being submitted to most critical trial amongst our troops on active service in South Africa. We trust, by the way, that the medical officers in charge of our men will find time amongst their many other duties to make records of cases of typhoid fever occurring amongst inoculated and uninoculated men respectively, together with the mortality and severity of the cases. Such observations will be of the first value.

On Sept 19th, 1896, Professor WRIGHT, in a paper in THE LANCET dealing with the Relation of Serous Hæmorrhage to Certain Conditions of Defective Coagulability of the Blood, published his first experiments in what he termed "typhoid vaccination." On Jan. 30th, 1897, a paper appeared in the *British Medical Journal* by Professor WRIGHT and Surgeon-Major D. SEMPLE, entitled "Remarks on Vaccination against Typhoid Fever," in which it was pointed out that the object of all vaccination processes is, firstly, to achieve a degree of immunity which shall be equal to, or greater than, that which accrues to a patient who undergoes and recovers from an actual attack of the disease; and, secondly, to achieve that immunity without any risk to life or health. The first of these objects, the authors proceeded to state, can, as far as is known, only be satisfactorily accomplished by inoculating the patient with the micro-organisms (or the products of the micro-organisms) of the particular disease. The second object can be carried out in several ways. The patient may be inoculated with micro organisms which have lost their virulence for man by being passed through a whole series of appropriately chosen animals; or, as in the Pasteurian method of vaccinating against anthrax, artificially attenuated micro-organisms may be employed in the inoculations; or, lastly, the patient may be inoculated with measured quantities of dead, but still poisonous, micro-organisms. The advantages claimed for the last-named method are that there is absolutely no risk of producing the actual disease—in the case that we are considering, typhoid fever—by the inoculations; secondly, that the vaccines may be handled without incurring any risk of disseminating the germs of the disease—a matter of the greatest importance when it is considered under what conditions the inoculation of troops may have to take place; and, thirdly, that dead vaccines are probably less subject to undergo alterations in their strength than living vaccines. With reference to the second of the above objects of vaccination—namely, that there should be no risk to life or health—we *may* merely say that a considerable experience has shown that but little inconvenience results from anti-typhoid inoculation. The men inoculated suffer slight pain and tenderness on the site of inoculation and there is fever and general malaise lasting from a few hours to two or three days, rarely longer, when all of the symptoms subside.

The points which we now will consider, however, are the results which have been obtained, as shown by Professor WRIGHT'S last contribution. We fear that we cannot speak in enthusiastic terms of the statistics he has been able to quote, as a much larger number of cases will be required before any definite conclusion can be arrived at. But at the same time the results as shown in the table on page 152 of our issue last week are distinctly encouraging, quite sufficiently so to justify the medical officers in strongly advising officers and men to submit to the operation, and, as we believe has been often the case, in setting the example by themselves submitting to be vaccinated. The actual figures show that altogether 11,295 men were under observation, of whom 2835 had been inoculated and 8460 had not. The percentage of cases of typhoid fever amongst the uninoculated was 2·5, and amongst the inoculated 0·95, a difference sufficiently great to warrant further extensive trials taking place. With regard to the mortality the results are not so marked. Amongst the uninoculated the percentage of deaths was 0·34, and amongst the inoculated 0·2. We agree, therefore, with Professor WRIGHT that a certain measure of protection seems to have been conferred by the inoculation of the quantities of dead typhoid culture, and when his remarks on the conditions under which the inoculations were carried out are considered this conviction becomes intensified. For instance, Professor WRIGHT points out that the inoculated men were, taken as a whole, men who were much more liable to contract typhoid fever than the uninoculated men, for the inoculated consisted to a large, and sometimes to a preponderating, extent of young men who had only recently come out to India, while the uninoculated consisted mainly of older and more seasoned—in other words, of less susceptible—individuals. Read in the light of the above facts it is suggested that many of the results appear under a more favourable aspect than that which they present on a mere inspection of the figures given in the table. Professor WRIGHT further urges that it must be borne in mind in connexion with certain of the figures which he gives that the inoculations were sometimes undertaken in the actual presence of a typhoid fever epidemic. In conformity with this fact it was only to be expected that some of the inoculated would prove to have been incubating typhoid fever at the time of the inoculation, and in certain instances this turned out to be so. These cases are distinguished by italics in the table, and they have not been reckoned in the general summary of cases where the disease is known to have been contracted subsequently to inoculation. Professor WRIGHT points out that the results given in the table apply to men as distinguished from officers; as to the latter, no accurate statistical materials are available. It is satisfactory to learn, however, that among a number of inoculated officers who, counting only the subalterns, must now amount to several hundreds, there have been, so far as Professor WRIGHT has been able to ascertain, only five cases of enteric fever.

It is an old, but unfortunately only too true, maxim that in war many more men succumb to disease than to bullets. Typhoid fever has hitherto been the most prominent factor in increasing the death-roll of British soldiers in peace or war, and if a prophylactic measure can be found that even in some way tends to diminish the risk of infection without damaging the general health of the inoculated it should undoubtedly be employed as largely as is possible. The results so far cannot be said to be more than encouraging, hence the importance of careful observation in the present campaign is very great. Typhoid fever is so prevalent in many of our foreign possessions where large numbers of British troops have to be stationed that if the anti-typhoid inoculations should prove to be of use the discovery would be one of the most valuable to our Imperial interests that has been made during the present century. In order that the immunity conferred by the inoculation should be of full value to those seeking protection it is necessary that the effects should last for a considerable period. On this point we have as yet little information. Mr. A. G. R. FOULERTON[1] had the opportunity of examining the blood of nine people who had been vaccinated two years previously at the Kent County Asylum at Barming Heath. It was found that in four cases out of nine a definite agglutinative reaction was obtained after an interval of two years. These numbers are small, but they would tend to show that the benefits obtained are prolonged for some time. Further investigations must be made before definite results can be arrived at.

Annotations.

"Ne quid nimis."

THE WAR AND THE NATIONAL TEMPER.

WHATEVER condemnation and satire may have been heaped deservedly, and undeservedly, on our generals by foreign critics—who, as a rule, have little knowledge and no experience of South Africa, our enemy, or the circumstances with which we are dealing—these critics are, we believe, agreed that the British nation and the units who compose it have taken their reverses with fortitude and faced the changes in the situation with courage and without excitement. At the same time, they no doubt are aware—and we do not wish them to think otherwise—that the nation is feeling deeply the checks it has received, and has resolved sternly to inquire into the causes of them when the right time comes. We are, on the whole, a pleasure loving people, even if we place pleasure after business as a rule, and we have a large "leisured" class, although even these have the reputation among some of our continental neighbours of enjoying themselves sadly. At the present moment our pursuit of pleasure is for the time at an end and those who purvey pleasure for profit will during the present season suffer financially. This is not only because thousands in all classes do not know from day to day when they may hear of the death of a near and dear relative. Balls and similar entertainments are not taking place, theatres are doing badly, dressmakers are idle, and publishers are unable to sell their wares, because men and women are alike absorbed in the topic of the day; and welcome as distraction might be it could be forced upon them in an acceptable form, they have no inclination to seek it Undoubtedly the newspapers contain a great deal of matter that is widely read concerning the present campaign, but the meagre telegrams that announce the movements which are of vital importance to the nation s future welfare and the belated and curtailed letters of special correspondents, can not be held to banish the novel by simply supplying an equal quantity of reading matter to take its place If publishers are holding over books that would otherwise be in the press, and works not bearing on the topic of the day are at a discount, it must be because the attention once fixed on sterner subjects is not to be diverted to lighter ones The foreign journalist who expected to find us wailing in the streets after one of our early mishaps would not even now see any great difference in the attitude of the British public out of doors whether in the metropolis or in some country town or village He would find, however, if he had the advantage of personal acquaintance with individuals, that in all classes, but especially among those persons who have enough education to read widely and criticise intelligently, there were plain signs of the tension which has for some time existed and a considerable increase in the sternness and gravity of demeanour with which our French neighbours at all events, credit us He would also find that although the attitude of individuals towards him as a foreigner would be either polite or indifferent the English nation as a whole is very deeply resenting the attacks which foreign nations have made on us or have permitted the inferior organs in their press to make After all we reason the organs may be inferior, but they are all the more dependent on the sympathy of their readers and all the more anxious to publish what they know will increase the number of their subscribers because it expresses their views The effect of the war upon the national temper has been shown most in the desire it has aroused in all to take some part in the drama that is being enacted Among those who have tendered themselves for active service, and some of whom, we fear, have been accepted are hundreds who are probably in no way, either physically or by previous training, fitted for what they have offered to do Many of them, if it had been suggested to them that they should try six months 'roughing it on a hunting or exploring expedition at the Cape would have had no inclination to face the hardships Many would have pleaded family or business ties as altogether insurmountable objections And yet these men have voluntarily offered to endure far worse experiences than the worst they need have encountered in any private expedition for sport or pleasure, simply because the situation has evoked in them a craving to which they were strangers before It is a patriotic feeling consisting to a great extent as it seems to us in a distinctly national desire to be up and doing a genuine anxiety to take part in working out a great episode in the nation s history The craving, or whatever we may call it is to be found even in those who admit regretfully that the barriers imposed by age and incapacity are insurmountable It is the same feeling that has prompted thousands who have the poor always with them in peace as well as in war to organise work and contribute on behalf of those left behind and in need of assistance There is an element of charity in what they do but a still more powerful element is the desire to take part in what the nation is doing It is to be hoped that we are now through our misfortunes, but it is possible that we may have worse before us We trust that as a nation we shall meet either sequel with the quietness of demeanour that has won us the respect of our rivals in the world and which has nothing to do with stolidity for if we are a quiet nation and a stern one the last two months have proved that we are not a [illegible] one

---

[1] Middlesex Hospital Journal, vol. ii, p 141.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON THE OFFICIAL LECTURES AND THE MURCHISON SCHOLARSHIP

THE forthcoming official lectures will be delivered as follows the Milroy, the Goulstonian, the Lumleian and the Croonian lectures will be delivered respectively by Dr F J Waldo, Dr P Horton Smith, Dr W B Cheadle, and Dr F W Mott For the Milroy lectures Dr Waldo will take as his subject "Summer Diarrhœa with Special Reference to Causation and Prevention,' and March 8th, 13th, and 15th will be the days of delivery On the 20th, 22nd, and 27th of the same month Dr Horton Smith will deliver the Goulstonian lectures, and on March 29th and April 3rd and 5th Dr Cheadle will deliver the Lumleian lectures June 19th, 21st, 26th, and 28th are the dates fixed for the Croonian lectures which will be delivered by Dr Mott The lectures will be delivered at 5 P M We are informed by the Registrar of the Royal College of Physicians of London that the next examination for the Murchison scholarship will be held at the College on Monday, April 2nd, 1900, and two following days The scholarship is open to any student of medicine who has been a registered medical student during a period of not less than five, and not more than seven, years at a hospital in London or Edinburgh recognised by the Royal College of Physicians of London or by the medical faculty of the University of Edinburgh, and whether holding a medical qualification or not The examination will be conducted both orally and in writing and will include (1) examination of patients with reports on their cases, (2) questions on pathology and treatment, and (3) examination on specimens The scholarship is of the value of 20 guineas and is tenable for one year Intending candidates are required to send in their names to the Registrar of the Royal College of Physicians of London Pall Mall East, London, not later than March 19th with evidence of the duration of their medical studies from the deans of their respective schools

THE NEW MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD

THE appointment of Mr William Henry Power, F R S, to the important post of medical officer of the Local Government Board will, we feel sure, be hailed with satisfaction by the medical staff of the Board by the other departments, and by those many persons outside the Board who have had occasion at one or another time to seek counsel from Mr Power and to experience the mentally stimulating effect of his personal influence As a worker in epidemiology Mr Power occupies a very distinguished position his knowledge and love of natural history being associated with an insight into epidemiological problems in a way the value of which has been duly recognised by the Royal Society and which led his former chief the late Sir Richard Thorne to speak of him on more than one occasion as the prince of epidemiologists Mr Power has long since reminded the thinking world that infectious disease may not always be confined to one species, and that phenomena connected with its distribution cannot for all time be adequately or profitably explained by reference to the text books With the original attributes which Mr Power possesses we may rest assured that the work of the medical department will not stand still and that many of the epidemiological problems which are at present pressing for solution or at least for more light will be faced and taken in hand We expect too, that Mr Power will not be altogether content with the knowledge to be obtained from this country alone but that he will as necessity demands despatch one or other of his staff to different parts of the Continent, there to study the behaviour of disease and the methods adopted for its prevention or control. There is much to be done in this direction, as was shown by Sir John Simon as early as 1866 when he despatched Dr. (now Sir John) Burdon Sanderson and Dr. Whitley to study the nature and behaviour of what was locally regarded as "Siberian Plague" at St. Petersburg and in the country of the lower Vistula, and quite recently by Sir Richard Thorne. As his lieutenants Mr. Power has been given Dr. Franklin Parsons as first assistant medical officer and Dr. Bruce Low as second assistant medical officer. The work of both these gentlemen has for many years been before the profession and the public, and no doubt can be felt but that in them the newly-appointed medical officer will find able coadjutors. The investigations of Dr. Parsons in connexion with influenza, disinfection, and manure nuisances are too well known to need more than a passing notice, while his knowledge upon all matters connected with public health must have struck sanitary authorities and others who have been called upon to interview him officially as very thorough. Dr. Bruce Low has on numerous occasions in the past portrayed for us in commendable detail the behaviour of local outbreaks of disease, and the manner in which sundry so-called sanitary authorities have neglected all that part of their duties which could possibly come under the head of "sanitary"; and more recently his work on the diffusion of such diseases as cholera and plague have shown how well he is fitted for detailed epidemiological studies of this character.

THE ROD OR THE PRISON FOR JUVENILE OFFENDERS?

At the autumnal meeting of the Society for the Prevention of Cruelty to Children Mr. J. Allanson Picton suggested some noteworthy amendments to the proposed Youthful Offenders Bill. This measure, it will be remembered, has already passed the House of Lords and is to be discussed in the House of Commons during next session. It provides for the imprisonment of young persons under 14 years of age, but allows the substitution of corporal punishment at the option of the delinquent—a truly remarkable concession. A child capable of obtaining his release on these terms must surely be gifted with a moral strength which is rare indeed among juvenile offenders. Mr. Allanson Picton is of this opinion. He desires, therefore, that the corporal punishment clause should possess a more definite and reliable authority than it has at present. He would place the decision respecting its exercise where it naturally ought to be placed—in the hands of magistrates. Furthermore, he would substitute it without option for the clause relating to imprisonment. He maintains that the "ignoble smart" of a birching, which could be judiciously combined with educative detention in a truant or industrial school, is much to be preferred to the demoralising associations of prison life. He points to the fact that flagrant misbehaviour among the sons of well-to do people is scarcely ever corrected otherwise than on the lines which he advises, and the result is on the whole as satisfactory as could be expected. Another detail of his scheme requires that the age of a so-called "young person" should be raised to 17 years. Public opinion will, we hope, take careful note of these proposed amendments. We confess that they commend themselves to our judgment as eminently judicious.

ISOLATING THE PHTHISICAL INSANE.

The *Journal of Mental Science* (January, 1900) publishes a paper on the necessity of isolating the phthisical insane read at a recent meeting of the Medico-Psychological Association by Dr. Eric France of Claybury Asylum. The paper shows from the post-mortem records of the London County Asylums at Claybury, Colney Hatch, and Cane Hill that while 67 deaths were certified as due to tubercle, active tubercle was found post mortem in 112 cases, this last figure not including 10 doubtful cases. "It will thus be seen," he says, "that at these three asylums the number of patients dying with active tubercle, as compared with those certified as dying from this cause, practically stand in the proportion of two to one." A number of valuable tables of mortality follow and the conclusion urged is that cases of phthisis in asylums should be isolated in the early stage of the disease before they begin to disseminate the bacillus to the detriment of others. The tuberculin test is now generally admitted to be the most valuable diagnostic measure for indications of early mischief. Of 55 suspected cases injected with tuberculin 45 reacted and 10 did not react. Of the latter five were alive and healthy in July, 1899; the other five died and the post-mortem examinations made disclosed no trace of tubercle. In the discussion which followed the paper Sir William Broadbent, Sir James Crichton Browne, and Professor Clifford Allbutt strongly urged the needs of special provision for the isolation and open-air treatment of such cases.

THE LAW AND THE LEICESTER GUARDIANS.

The curtain has at length been rung down upon the comedy which the guardians of Leicester have been good enough to place upon the stage. The scene was the Court of Queen's Bench. In the previous acts certain of the guardians, with considerable "slimness" (to use the now so popular word), had thought to soothe the hard-hearted Local Government Board by appointing a vaccination officer who was himself opposed to vaccination. Even a Government Department, however, will turn at the last and the Local Government Board refused to recognise the appointment. The Divisional Court thereupon made a rule absolute for attachment of the recalcitrant guardians, only, not wishing to be brutal towards them, they were informed that if by a certain date a vaccination officer agreeable to the Local Government Board were appointed nothing further would happen. On Jan. 21st it was represented to Mr. Justice Channell in the Court of Queen's Bench that the 22 guardians had filed affidavits to the effect that a vaccination officer, Mr. H. E. Keyte, had been appointed, of whom the Local Government Board approved. The writs of attachment were therefore discharged and the 22 guardians were told that they would have to pay the costs. Surely a very silly comedy.

EXTENSIVE RESECTION OF THE BOWEL.

It is very remarkable how little the general working of the body is affected by the ablation of even extensive portions of its substance. One or more of the limbs may be amputated, yet the man may be none the worse, and this might be expected; but even a highly specialised organ like the kidney may be removed without harmful effect provided that its fellow is in a condition to carry on double duty. Strange is it that an unpaired organ like the spleen can be excised without, so far as we can tell, any effect on the bodily economy, and in order to explain so curious a fact we have to resort to the theory that some other part of the body has taken on the work of the portion removed. Yet more strange, however, are the cases in which important portions of the organs of digestion and absorption are excised, for these are the very foundation of all animal life. In The Lancet of Jan. 15th, 1898, we published an account of Dr. Carl Schlatter's case of complete extirpation of the stomach, the first instance of the successful performance of this operation, and later we printed a description of the physiological results of this severe procedure, in which it was shown that wonderfully little effect had been produced on the function of digestion After the event we feel able to explain such a result by saying that the digestive power of the stomach after all is not very great, and that its action is really preparatory to the action of the pancreatic secretion The stomach moreover, has but little power of absorption and therefore it is not so likely to be missed as would be a portion of the alimentary canal to which this function more especially belongs A paper which we publish in this issue goes far to answer this argument It has been specially translated for THE LANCET and gives a full account of another operation by Dr Carl Schlatter An Italian stabbed in a brawl, was found to have protrusion of more than six feet of the small intestine, and when fully examined some nine hours after the infliction of the injury the prolapsed bowel was already dying The only possible treatment was resection of the affected gut This was done and the two ends were sutured together In spite of the removal of so large a piece of intestine the man rapidly rallied and steadily improved in health and weight so that when he left the hospital he weighed 165 pounds Careful chemical estimations of his diet and of his excretions showed that the percentage of absorption of nitrogen was fully up to the normal limit but that there was a greater loss in the fat of the food than should have occurred in health His subsequent history was not quite so favourable for eight months after the operation it was found that his weight had decreased by about six and a half pounds and that he was unable to tolerate the solid food to which he had previously been accustomed He felt unequal to much work but on the whole he was in very fair condition Opinions differ widely as to the length of the normal small intestine, and there is still greater diversity as to the amount of bowel which may be removed without interference with the alimentary functions For a full account of the experiments and cases bearing on this point we must refer our readers to Dr Schlatter's important and instructive paper where they are detailed Suffice it to say that probably one third of the small intestine may be removed without any or any material interference with the processes of digestion and absorption, but that if more than this amount be taken away malnutrition, often with diarrhœa will in most cases follow As the average length of the small bowel is about 18 or 20 feet then six feet or two metres may be said to be the greatest amount of the small intestine which may be removed with impunity The nearer the ileo cæcal valve the less the effect of the removal of large portions of gut, for before the ileum is reached *most of the* important elements of the food have been absorbed The only explanation we can give of the immunity from harm shown in these extensive operations is that the human body has wonderful powers of adaptation, it can accommodate itself to its surroundings, its diet and its own conditions, but this adaptability has its limits and when those limits are passed failure in the working of the body must result

THE SANITARY INSTITUTE

THE twenty ninth course of lectures and demonstrations for sanitary officers which commences to day (Friday) at the Parkes Museum Margaret street W, will be divided into three parts Part I will comprise Elementary Physics and Chemistry in relation to Water Soil, Air and Ventilation, Elementary Statistics, Meteorology, &c., Part II will deal with Public Health Statutes By laws, Municipal Hygiene &c, and Part III will include Meat and Food Inspection The fee for the complete course is £3 3s but either course may be taken separately the fee for the first and third being £1 1s and for the second £1 11s 6d Among the lecturers are the names of Dr Edward I Willoughby, *Professor J* Lane Notter, Dr Herbert Manley Dr Louis Parkes *Dr* J I J Sykes Professor A Bostock Hill, Dr Philip Boobbyer, Dr H R Kenwood Dr Joseph Priestley, Dr J C Thresh Dr George Reid, Dr T O Dudfield, and Dr. Sydney Marsden In connexion with the lectures arrangements have been made to inspect sewage farms night shelters, and other places where practical demonstration in sanitary matters can be given, and those attending the lectures will also have an opportunity of inspecting food of various kinds unfit for human consumption

THE OFFICIAL LECTURES OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND

THE Erasmus Wilson lectures and the Arris and Gale lectures will be delivered respectively by Mr E Treacher Collins and Mr B G A Moynihan The first named lectures, which will deal with the "Anatomy and Pathology of the Eye are announced to be delivered on Feb 12th, 14th, and 16th and the second named lectures which will deal with the "Anatomy and Pathology of some rarer forms of Hernia,' on Feb 19th, 21st, and 23rd On Feb 26th and 28th and March 2nd Dr Arthur Keith will take for his subject "The Results of an Investigation of the Anatomy of Man and High Primates to determine more accurately the Relationship of Man to Living and Extinct Forms", on March 5th 7th, and 9th Professor A W Mayo Robson will deal with "The Surgery of the Stomach', and on March 12th 14th, 16th 19th 21st and 23rd Professor C Stewart, LL D, F R S, will deliver a series of lectures on the "Protection and Nourishment of the Young in Plants and Animals The lectures will be delivered at 4 P M

DR CONAN DOYLE ON THE WAR

DR CONAN DOYLE who is about to start for South Africa as one of the staff of the Langman Hospital, was the guest of the evening at the dinner of the Authors Club on Monday night last In responding to the toast of his health Dr Doyle remarked that

> He was very optimistic about this war and the effect of it To all who had any heart in their bodies it marked a turning point in their lives as well as in the life of Great Britain Some six or eight months ago he took the chair at a peace meeting He could only say from his heart that he abjured that error He had seen more positive virtue in this country during the last three months than during the whole of the 40 years of his life He saw more alertness more self sacrifice in his own country, which had been prone to grow fat and obese and to think of nothing higher than a bank book and an arm chair Such a rousing in a nation was a grand thing and one which England peculiarly needed at this time There was not only a moral advantage in this but he saw a material one as well Why, for instance, should they punish Kruger? That man had solved a question which every statesman had found insoluble He would build a monument to Kruger the size of St Paul's—putting him under it—and he would inscribe across it "*To the* memory of the man who federated the British Empire' Kruger was the man in all the world who had made the British Columbian feel that he was blood brother with the Queenslander

ENDEMIC HÆMATURIA

IT is now universally acknowledged that the endemic hæmaturia of South Africa is due to the presence in the blood vessels of the bilharzia hæmatobia, but there is still much diversity of opinion as to the route by which this parasite gains entrance According to one theory the organism is taken in with the drinking water, perhaps freely swimming, or more probably as a parasite in some intermediate host In favour of this theory is the fact that in no small proportion of the cases the adult bilharzia has been found in the portal vein and its tributaries, pointing to the idea that it has entered by the alimentary canal There is, however, another theory which claims that the parasite enters the meatus urinarius during bathing or gets under the prepuce and subsequently passes into the urethra. The fact that males are much more frequently attacked than females, that the veins of the urinary apparatus, especially of the bladder, are the seat of the organism, and, further, that the Kaffirs of Natal are said to tie a string round the penis while bathing, are decidedly in favour of this mode of ingress. The Kaffirs claim that in this way they are able to prevent the disease. It is by no means improbable that the parasite may enter the body by both of these methods, though hæmaturia would probably only follow the invasion by the urinary route. In any case it would be well for our army medical officers in South Africa to bear in mind this danger to our troops.

THE QUESTION OF INDECENT LITERATURE.

MR. HAVELOCK ELLIS writes to us upon this difficult subject. After referring to the recent destruction by order of a bench of magistrates of a number of copies of "Studies in the Psychology of Sex" he continues—

> "I should like to be allowed to state that, so far as I am concerned, I can have no quarrel with the police on this matter. After the unsatisfactory conclusion of the Bedborough prosecution I resolved not to issue my work in this country, and I have strictly adhered to that resolution. The University Press, Limited, so far as they had the handling of my work, were under engagement to issue it only from Germany and not to advertise it without consulting me. They have, however, evaded the spirit if not the letter of their agreement by stocking a certain number of copies in England, and they have issued a circular which, though, as I understood, it was only sent out to the profession, I emphatically disapproved of. I addressed repeated protests to the publishers, and I cannot complain if the police have now enforced my protests. I am content to issue my work in America, where a medical publisher is unhampered in distributing a medical work to the profession. The wider question, unfortunately, still remains where the Bedborough prosecution left it. A work which (both before and since that prosecution) has met with the approval—without a single dissentient voice, so far as I am aware—of competent authorities and medical organs, not in this country only but throughout Europe and America, cannot here be sold even to members of the medical profession. It is perhaps significant of the feeble influence which medical opinion possesses in this country. In any case, however, I have no intention of fighting for that recognition which the law, as embodied in the police, refuses to grant. I must be content to devote my energies to doing my own work and leave the next step to others."

In our issue of Nov. 19th, 1898 (p. 1344) we commented in a leading article upon the results of the Bedborough trial and pointed out that the moral for scientific authors was obvious—namely, be careful about the publisher. Mr. Havelock Ellis appears to feel that he has neglected exactly this precaution. We have every sympathy with him in the position in which he was placed by the Bedborough trial.

DUTIES OF SCOTCH MEDICAL OFFICERS OF HEALTH AND SANITARY INSPECTORS.

THE Local Government Board for Scotland has by means of an order dated Jan. 18th, 1900, recalled the regulations as to the duties of medical officers of health and sanitary inspectors which were issued by the Board of Supervision in 1890. They have in place thereof, and largely by virtue of the fact that certain local authorities have failed to themselves make the regulations incumbent upon them by the statutes, issued draft regulations which may be adopted by the local authorities and which relate to the duties of both medical officers of health and sanitary inspectors. The Local Government Board has in addition called upon each of these officers to make a report to the Board for the year ending Dec. 31st upon the sanitary *conditions of his district* during 1899. The report of the medical officer of health is to contain a detailed account of what has been done during the year, very much in the same manner as is required of medical officers of health south of the Tweed, while the sanitary inspector, amongst other things, is to forward a general account of the sanitary state of the district as regards water-supply, drainage, scavenging, nuisances, &c. This duty of reporting upon the water-supply of the district—that is if the instruction implies an account of the source, storage, and filtration of the water-supply—seems to us a little outside of the province of the inspector and rather calculated to give rise to some misunderstanding between this official and the medical officer of health. With regard, however, to the relation of these two officials to one another we are glad to see that in the regulations relative to the duties of each the local authority, if they wish the medical officer of health to superintend the work of the sanitary inspector, are to introduce a special clause for the purpose; although, be it noted, the draft regulations are not without unmistakeable indications that such control is in large part contemplated by the Board, at any rate in so far as the management of infectious disease is concerned. In the regulations as to the duties of both of the officers here referred to, the instructions are in certain instances less general and more specific than is the case with those in force for English officials. For instance, the sanitary inspector is instructed to visit the common lodging-houses and the houses let in lodgings at least once every calendar month. There is much to be said for these precise instructions and later they may perhaps be introduced into the English regulations.

"A LIVING CENTAUR."

UNDER this fantastic title a curious example of genu recurvatum congenitale is on exhibition at the present time at the Royal Aquarium. The freak in question is a negro, 23 years of age, who gives an exhibition of his equine attainments by running, trotting, and pacing on all fours. He is able to assume this position with considerable ease owing to the condition of his knee-joints. These are over-extended to such a degree that the legs form a very obtuse angle with the thighs, while the backward projection of the condyle of the femur gives the joints a superficial resemblance to the hock of a horse. The amount of movement possible in the joints is extremely limited, there being practically no power of flexion. When sitting with the body vertical and the thighs in contact with the ground the feet are elevated to a height of about six inches from the floor. According to the showman the patellæ are entirely absent. After such a superficial examination as was possible in a showroom the left patella appeared to us to be present although atrophied, while the right could not be certainly felt. Mr. Shattock[1] has pointed out that the patellæ are often thought to be absent in these cases owing to the fact that they lie in contact with the concave anterior surface of the femur just above the trochlear surface and are therefore difficult to detect. The movements of the lower limb in running upon all fours take place mainly at the hip-joints, the feet being brought forwards by a movement of circumduction. The hip-joints are capable of flexion to a sufficient extent to allow of the anterior surface of the thighs being brought in contact with the trunk and the feet being placed over the shoulders, so that the man is able to scratch the back of his head with his toes. When running on all fours and viewed from the side the gait bears a curious resemblance to that of a trotting horse, although when seen from behind the movement of circumduction at the hips is very evident. The influence of a maternal impression is, of course, forthcoming as an explanation of the condition, the story being that his mother was bitten in the left arm by a vicious horse when five months pregnant. Further colour is given to this tale by the condition of the man's left arm This is kept extended and somewhat rotated in, and there is complete loss of movement at the elbow joint although no definite signs of disease of the joint are present. The biceps muscle is somewhat atrophied, probably as the result of the absence of movement, and this fact is made use of by the showman as a ground for his assertion that the muscle is placed upon the wrong aspect of the limb. The claim of the "living centaur" to be a descendant of Ixion and Nephele will, we fear, not stand investigation, but he is at any rate an interesting and marked example of a somewhat uncommon congenital deformity.

---

[1] Transactions of the Pathological Society of London, vol. xlii., 1891.

GALL-STONE CREPITUS AND FRICTION IN DIAGNOSIS.

IN the *International Medical Magazine* (New York) for December, 1899, Dr J. M. Anders calls attention to the value of gall stone crepitus and friction in diagnosis—signs which appear to have received very little notice and which are not looked for as much as they should be. Dr. E. M. Brockbank, in speaking of latent calculi, refers to cases in which they were felt like nuts in a bag Frequent and patient practice has taught Dr. Anders that when calculi can be felt crepitus is rarely absent. The following case illustrates the value of gall-stone crepitus in diagnosis A woman, aged 52 years, was seized with severe pains in the right hypochondrium which at times extended to the right shoulder and the back, and were accompanied by nausea. The attack lasted a day and then disappeared, but returned in a couple of days There was no jaundice but the stools were somewhat deficient in bile. The liver was slightly enlarged and the gall-bladder was slightly distended. Analysis of the urine showed that bile was absent. While a suspicion of cholelithiasis was aroused the absence of jaundice and chills or febrile disturbance threw doubt on the diagnosis. The patient was then examined carefully for calculi in the gall-bladder Deep palpation, combined with a gentle lateral up-and-down movement of the finger-tips, elicited a distinct, fine, grating sensation (crepitus). On operation 150 calculi were found in the gall bladder. In a second case there were symptoms of indigestion for two years with from time to time pain in the lower epigastric region and only occasionally in the hypochondrium. The epigastrium and region of the gall-bladder were very tender. The gall bladder was somewhat distended and the liver was slightly enlarged. On deep palpation during inspiration crepitus was felt. In a third case the patient was a woman, aged 60 years, who came under treatment in November 1897. What appeared to be attacks of indigestion began in August, 1896, and recurred at intervals of several days. After two months jaundice supervened. Slight pain was constant and paroxysms of colicky pains were experienced at times. They were not severe and according to the patient were not accompanied by deepening of the icteroid tint. Examination showed enlargement of the liver and a dense mass of the size of a hen's egg in the region of the gall bladder. Carcinoma of the liver or its appendages had been diagnosed by several physicians but the duration of the jaundice for more than a year and the absence of cachexia were opposed to this view. Palpation gave a negative result, the patient being rather stout, but on combining auscultation with palpation a faint grating sound was heard Treatment by olive oil was followed by the passage of large numbers of calculi. In obese subjects (in whom calculi are common) crepitus cannot be felt on palpation. The writer suggests that the combined method of palpation and auscultation should be used when crepitus cannot be elicited by palpation or friction heard on auscultation. In examining for crepitus the patient should be in the dorsal decubitus position with the legs flexed. The area of the gall-bladder is then deeply palpated. If crepitus is not obtained the finger-tips should be dipped into the abdominal wall just below the fundus of the gall-bladder and then drawn upward over the organ as though attempting to roll the fundus forward and upward. If this fails the patient should inspire deeply but slowly, during which gentle counter-pressure should be made with the finger-tips. The tactile sense may be increased by pressing on the fingers with the disengaged hand so as to put the muscles of the examining hand at rest. When palpation fails auscultation should be practised

PRIVATE LABORATORY LEGISLATION.

THOSE who carry on the work of scientific research in private laboratories may well be dismayed at the prospect of State interference, yet it has been proposed in Germany to introduce a Bill which will provide some sort of public control. According to our Berlin correspondent it is said that the Bill will contain provisions by which investigators will be compelled to take precautions against the escape of pathogenic germs. There is little doubt that the contemplation of such a measure has been inspired by the unfortunate outbreak of plague which occurred in a hospital in Vienna and which was traced to the escape of infective material from a bacteriological laboratory. We agree that excessive care must be exercised by all bacteriological investigators when they are dealing with the cultivation of highly pathogenic organisms. In most of the capitals of Europe there are many laboratories of the kind which are, so to speak, nurseries of the seeds of disease, and it is right that some effectual barrier should be placed round these centres of just possible infection. Nevertheless, it would be a sad thing for the future of bacteriological research if it can only be carried out in State laboratories. We do not hesitate to say that the brilliant results of bacteriological researches, and chemical and physical researches too, during the past decade have had their origin in private laboratories. It will be interesting to learn the exact terms of the proposed Bill. It is to be hoped that it will not interfere with clinical practice in its relation, for instance, to the examination of sputa and other pathological products. The bacteriological investigator knows well the danger of careless practice in his researches with pathogenic organisms. The outbreak of plague was of a very exceptional kind, and the fact that there are scores of laboratories in this and other countries in which diligent work has been prosecuted without the slightest hitch is a forcible argument that State interference is not needed. Indeed, we venture to say that it would hardly be brooked in this country, but would be held as unduly meddling with the liberties of the individual and as constituting a distinct obstacle to the advance of scientific knowledge.

PLASTIC ACTIVITY OF THE ANIMAL CELL.

M. L. RANVIER under this title gives in the January number of the *Comptes Rendus* for the present year the details of a curious observation which he has recently had the opportunity of making. He states that having gradually heated to 36° C. the peritoneal serum of a rat which contained some air-bubbles he noticed that the lymphocytes of the fluid moved towards the bullæ and on arriving at their surface became flattened just as the cells would have done if they had impinged against a solid substance. If the temperature was allowed to fall to 21° C. the cells again assumed the spheroidal form. On increasing the temperature they once more became flattened. M. Ranvier suggests the term "plastic activity" to denote this phenomenon, for he regards the change of form as the consequence of the activity of the cell or, in other words, considers it to be a vital phenomenon. He was, he believes, the first to notice the flattening of lymphocytes against solid bodies, but acknowledges that he should not have expected such flattening to take place against an air-bubble. It seems to show, he thinks, that cells are highly sensitive and possess extremely delicate motor reactions. The best mode of performing the experiment is to dust a little starch on a slide, then to permit a drop or two of the peritoneal fluid to fall amongst the grains, and gently to lower the cover which thus comes to be supported by the larger grains of starch. A few bubbles of air are then introduced into the fluid. The heat may be applied by approximating a fifty-candle power electric light or by using the ordinary warm-stage.

OPENING OF THE NEW BATHS AT HELOUAN.

The little town of Helouan, situated in the desert about 15 miles south of Cairo and three miles from the Nile, has been for many years a resort of invalids, especially rheumatic invalids, on account of the natural waters which are abundant there. Some years ago the place became fashionable on account of the fact that the Khedive Tewfik found much benefit from the waters, but after his death Helouan to some extent suffered an eclipse. Lately, however, its virtues would appear to have been re-discovered, for an installation of baths and bathing appliances, embodying all the most recent forms of apparatus in use, has taken place. The new bathing establishment has been formally opened by his Highness the Khedive.

THYROID EXTRACT IN THE TREATMENT OF TUBERCULOSIS.

Professor Edwin Klebs reports in the *Berliner Klinische Wochenschrift* (Dec. 11th, 1899) the results of trials and studies made by him on the above subject, as he announced at the meeting of the Tuberculosis Commission at Munich. He used the juice of the thyroid as obtained by pressure and administered it to the subjects of phthisis in an early stage, all of whom were markedly suffering from gastric symptoms (achylia gastrica), while the changes in the lungs were but slight. The drug was not given empirically or in haphazard manner, but in accordance with the results of experiments carefully carried out previously on animals, in which Klebs had found that when the thyroid gland had been removed the same gastric conditions resulted as was the case in the patients alluded to above. It must also be noted that these patients were found to present a noticeable atrophy of the thyroid gland. The gastric juice in dogs experimented on after ablation of half of the thyroid gland and simultaneously subjected to injections of tuberculin was found to be almost entirely devoid of hydrochloric acid and of pepsin, while the intact half of the dog's thyroid was found to be undergoing atrophy with a total disappearance of its colloid substance. It thus appeared as though the action of tuberculin was inimical to the thyroid function and that as a net result there supervened after awhile the gastric conditions referred to above. Concluding from these experiments that the feeding of tuberculous patients who suffered from severe achylia gastrica with fresh thyroid secretion might have a beneficial effect, the theory was carried out into practice with the result that much benefit was obtained by this method of treatment. Klebs records the clinical history of two phthisical patients thus treated and points out that in both cases a marked improvement of bodily condition and an increase of weight followed the treatment. Other improvements in respiratory capacity and in respiration generally are also recorded and a marked increase in appetite which before had been very feeble.

A NEW FONT FOR HOLY WATER.

We have received from Mr. J. J. Bruns, jun., of Arnhem in Holland, several pamphlets on the possible danger of various infections being communicated through the medium of the holy water contained in the ordinary font in the vestibule of a Roman Catholic church. Mr. Bruns had his attention first directed to this subject by the serious illness of his son, a boy seven years of age. One day in 1892 the father and son went to one of the churches in Arnhem and soon after their entry the boy complained of his left eye, saying that something had got into it from the holy water. Medical advice was at once obtained and in two days the boy was taken to Utrecht to Professor Snellen, under whose care he remained for three months. The state of the eye was very serious but eventually it was saved. Mr. Bruns at first doubted whether the holy water had really been the cause of this misfortune, and to throw some light on the question he had a great many samples from churches in different towns in Holland submitted to microscopical examination. The result was the discovery in most cases of abundant bacterial growth with occasional presence of staphylococci and other pathogenic forms. Two guinea-pigs injected intra-peritoneally with sediment from the holy water of a church in Amsterdam died in 30 hours from peritonitis, and two others injected subcutaneously with the same suffered from purulent inflammation at the place of insertion. In November, 1896, Mr. Bruns devised a means of completely avoiding this contamination. The holy water is stored in a narrow-necked jar inverted in a shallow basin so that the outflow from the jar ceases as soon as the water in the basin covers the neck of the jar. One end of a bent tube filled with hair is immersed in the water in the basin and the other end, overhanging the edge, delivers a constant stream of small drops raised by the capillarity of the hair. All these parts are enclosed in an ornamental oaken case somewhat resembling that of a timepiece. This case projects from the wall, and the stream of drops falls through an opening in the bottom of the case into a receptacle which at once carries away the excess, and the congregation on entering the church have merely to hold their fingers for an instant in the stream. The apparatus was submitted to Monseigneur van de Wetering, Archbishop of Utrecht, who expressed his approval of it, and by his secretary wrote to Mr. Bruns authorising the mention of his name in connexion with it.

PUBLIC VACCINATORS AND REVACCINATION.

It appears from a Hull newspaper that the Patrington Board of Guardians are in some mental confusion as to their duty with regard to the payment to their public vaccinators of fees for revaccinations. One member "contended that revaccination fees were not legal and would not be passed by the auditor," and he referred to the inspector as having held that such fees should only be paid under protest. After discussion it was decided not to pay the bills in the meantime. The attitude of the guardians is difficult to understand in presence of the plain provisions of the Vaccination Acts, of the Local Government Board order, and of the contract entered into by the Patrington Board of Guardians and quoted at their meeting. Section 8 of the Vaccination Act of 1867 gave power to the Privy Council to issue regulations as to the revaccination of persons applying to be revaccinated. A later Act transferred these powers to the Local Government Board. Article 3 of the Vaccination Order of 1898 deals quite clearly and specifically with revaccination, fixing the minimum fee for every successful revaccination at 5s or 2s 6d, according as the operation is performed at the home of the vaccinee or elsewhere The only reservation is that no payment shall be made where the person revaccinated is under 10 years old, or has been revaccinated within 10 years Subject to this proviso and to their own contract made in terms of the Board s order, the guardians have no choice but to pay, unless indeed they propose to repudiate their debts and to trust that fear of dismissal may prevent their officers from taking legal proceedings to enforce payment Of course, all this has nothing to do with compulsory revaccination Most unfortunately for the public safety and by no means to the credit of the present Government there is no pressure or compulsion in the matter; but even under the existing law anyone who chooses has a right to demand revaccination at the hands of the public vaccinator, and that official has a right to insist on the guardians paying him for such revaccination

THE RECENT EPIDEMIC OF PLAGUE IN PORTUGUESE INDIA

FROM the report on the plague in Daman by Dr Viriato João Pinto, the special commissioner of the sanitary authority of Portuguese India, which has recently reached us, we learn that during the continuance of the epidemic from September, 1898 to October, 1899, 504 persons were attacked, of whom 303 died—a mortality of 60 1 per cent A copy of the correspondence which passed between the Portuguese and the British sanitary authorities is appended, as also are a number of statistical tables and charts

THE arbitrators, Sir James N Dick, K.C B, Colonel C Bowdler, and Inspector General Belgrave Ninnis, M D, R N, who were appointed to decide upon the difficulties which had arisen at Stockport with regard to the local branch of the St John Ambulance Association have delivered their opinion They find that the Stockport Centre has not discharged its duties in a satisfactory manner, but no blame attaches to the chairman, that the chairman of the centre should summon a meeting of those gentlemen whose names are on the list as members of the committee and consult with them as to the best method of reviving the committee, and that Mr Ferns should be re appointed secretary provided that he can satisfy the committee as to satisfactory relations being preserved with the medical profession in Stockport

WE learn that a draft memorial is to be presented to the Local Government Board by the Central Hospital Council for London with a view of obtaining for hospitals exemption from local rates This has been submitted to the Council of the Metropolitan Hospital Sunday Fund for their support The Council of the Metropolitan Hospital Sunday Fund, while giving their general assent to the principle advocated in the memorial, have asked their General Purposes Committee to consider and report upon it

THE annual general meeting of the Neurological Society of London will be held on Thursday, Feb 8th, 1900, at 8 30 P M, at the rooms of the Medical Society of London, 11 Chandos street, Cavendish square, W, when the President-Elect, Dr A D Waller, F R.S, will deliver an address on the Excitability of Nervous Matter with Special Reference to the Retina

DR. BURNEY YEO has been appointed by the Council of King s College, on his resignation of the chair of Medicine, Professor Emeritus and Consulting Physician to King s College Hospital

THE annual discussion of the West London Medico Chirurgical Society will take place on Friday, Feb 2nd, commencing at 8 30 P M The subject, The Treatment of Primary and Secondary Syphilis,' will be opened by Mr Alfred Cooper, and visitors are invited to be present to take part in the discussion

SIR HUGH REEVE BEEVOR, Bart, M.D, F.R C P Lond, has been elected the representative of the Society of Apothecaries on the General Medical Council for one year from Feb 6th

THE man Hopwood, to whose committal we referred in our issue of Jan 20th (p 182) has been sentenced at the Birmingham Quarter Sessions to 15 months' hard labour

THE treasurer of the Metropolitan Hospital Sunday Fund has received the sum of £1090 3s 3d from a bequest of the late Mr Thomas King of Tisbury

THE ROYAL COMMISSION ON THE METROPOLITAN WATER SUPPLY.

THE Royal Commissioners who were appointed to inquire into the subject of the water supply within the limits of the metropolitan water companies have just issued their final report The Commissioners, it may be remembered, were appointed on May 1st, 1897, and the Commission originally consisted of Lord Llandaff, the Right Hon John William Mellor, Sir John Dorington, Sir George Barclay Bruce, Mr Cripps, Q C, Mr A de Bock Porter, and Major General A de Courcy Scott, the water examiner appointed by the Local Government Board The secretary was Mr Cecil Owen The terms of the Commission embraced three chief issues (1) whether having regard to financial considerations the present metropolitan water companies should be purchased and in case of purchase whether they should be acquired and managed by one authority or by several authorities, (2) whether if the under takings were not purchased it was advisable that additional powers of control should be exercised over them, and (3) whether it was practicable to connect two or more different systems of supply in the administration of the metropolitan water companies and if so by whom and in what proportion the cost of connecting them should be borne and what legal powers would be necessary to give effect to any such arrangement

In consequence of the failure of the water supply in the East of London and a fear that such a misfortune might again take place the Commissioners were requested to obtain evidence and report as quickly as possible on the third issue which was presented to them The Government realised that a water famine in the East end might cause great distress to the inhabitants and it was hoped that if some practical scheme could be immediately devised and carried out this deplorable state of things might be obviated, at any rate for a time Evidence was therefore taken by the Commissioners, three schemes were submitted to them and as a result of their inquiry they issued their first report of which a full digest was given in THE LANCET[1] As the result of this report the Government introduced a Bill which made it legal that inter communication between the mains of the various companies should be at once carried out under the supervision of the Local Government Board and inter sale of water between the different companies was permitted As the result of this Bill a considerable quantity of water was supplied to the East London Waterworks Company and the East end of London was fairly well supplied with water during last summer

The first report was signed by all the Commissioners Since that time two of their number have died—Mr Cripps Q C, and Major General Scott. The second and final report is therefore signed only by the six surviving Commissioners

---

[1] THE LANCET Jan 28th (p 241) Feb 4th (p [illegible]) and Feb 11th (p 383 1899

The intimate knowledge possessed by Major-General Scott of the whole of the works of the companies which supply London with water, his knowledge of engineering, and his thorough acquaintance with the whole of the details of this complicated subject must have made his advice to the other Commissioners of the greatest possible value. It was evident in many of the 64 public meetings which were held that Major-General Scott was able to direct the evidence to points of the greatest importance which might otherwise have escaped notice, and that his help, always given quietly and unostentatiously, was appreciated by some at least of those Commissioners who were naturally not so fully informed as he was as to the nature of the technical evidence which was given. The Commissioners state in their report that they met on 84 days and there were therefore many private sittings on which Major-General Scott's knowledge must have been of service to the Commissioners, and when he had naturally an opportunity of speaking with greater freedom than was possible at a public meeting. It is a pleasure to point out that the Commissioners have recorded their sense of obligation to Major-General Scott, who they say was able to supply them in October last with a full statement of his opinions on the subjects of their inquiry, and they add that they have largely availed themselves of the valuable assistance he thus afforded in framing their report.

We have mentioned that on one issue the Commissioners' report has already been given, and the practical results which have been gained. It remained for the Commissioners to report on the two first issues which were submitted to them, and it may be well to give exactly the terms of reference. The Commissioners were instructed to inquire and report:—

> 1. Whether having regard to financial considerations and to present and prospective requirements as regards water-supply in the districts within the limits of supply of the metropolitan water companies, it is desirable in the interests of the ratepayers and water consumers in those districts that the undertakings of the water companies should be acquired and managed either (*a*) by one authority, or (*b*) by several authorities; and, if so, what should be such authority or authorities
>
> To what extent physical severance of the works and other property and sources of supply of the several companies and the division thereof etween different local authorities within the limits of supply, are cticable and desirable; and what are the legal powers necessary to effect to any such arrangements
>
> If the undertakings are not so acquired, whether additional powers ontrol should be exercised by local or other authorities; and, if so, hat those powers should be.

At their first meeting which was held on May 29th, 1897, the Commissioners decided that their sittings for the reception of evidence should be open to the public and to representatives of the press, and that the parties concerned in the inquiry should not be represented by counsel. Pressing applications were, however, received from the metropolitan water companies and from the London County Council to reverse their ruling in that respect, and having regard to the vast pecuniary interests involved the Commissioners decided to allow counsel to appear on the understanding that they should only examine witnesses or address the Commissioners on points which were in the opinion of the Commissioners desirable. The metropolitan water companies, the London County Council, the Corporation of London, the county councils of Middlesex, Surrey, Kent, Essex, and Hertfordshire were then invited to give evidence. Of these bodies the London County Council tendered the evidence of many witnesses and occupied no less than 17 days of their sittings. Amongst other witnesses were Sir Alexander Binnie, their chief engineer; Mr. H. E. Haward, their comptroller; Mr. G. L. Gomme, their statistical officer; Mr. H. L. Cripps, their Parliamentary agent; Mr. Shirley Murphy, their medical officer of health; and Mr. W. H. Dickinson, the chairman of the Water Committee. Three other members of the council gave evidence—Sir John Lubbock, Sir Arthur Arnold, and Mr. C. A. Whitmore. The Corporation of London appeared through their Remembrancer, Mr. Gabriel P Goldney. The vestries and district boards of works within the county of London were invited to tender evidence either by sending witnesses or by giving their opinions in writing, and of 42 authorities 28 replied. Evidence was also given on behalf of the county councils of Middlesex, Surrey, Essex, Hertfordshire, of the county borough of Croydon, the borough of Richmond, and the Croydon District Council.

The Commissioners state that the information which they desired to obtain from the water companies was very readily given, and they examined at length Mr. Middleton (one of the engineers of the Staines reservoir scheme), Mr Hunter Sir Frederick Bramwell, Mr. Charles Hawksley, and Mr. E. W. Eaton. Sir William Crookes and Professor Dewar gave evidence as to the quality of the water supplied. The late Sir Edward Frankland (the official analyst), Mr. Allen Stoneham (the auditor appointed by the Local Government Board to examine the accounts of the water companies), the chairman and engineer of the Thames Conservancy, and the clerk of the Lee Conservancy Board were also examined. Reports of the evidence given by these witnesses have already appeared in THE LANCET, and it will doubtless be shortly published *in extenso* from the shorthand notes taken for the Royal Commissioners.

At the commencement of their report the Commissioners point out that there were some considerations of great weight on the question of the advisability of purchase of the London water undertakings which seem to them to be excluded from their inquiry. For example, the Duke of Richmond's Commission in 1869 gave it as their opinion that the control of the water companies of London should not be in the hands of trading companies, but that on grounds of public policy the water companies should be under public control and entrusted to a responsible body. With regard to the question of public policy the Commissioners come to the conclusion that they were not asked to pronounce an opinion. In the course of their inquiries it was, they point out, contended, on the one hand, that various legal enactments which had been already made, as, for example, the sinking fund clauses which regulate the raising of new capital by the metropolitan water companies, expressly contemplated the ultimate purchase of the companies' undertakings. It was urged, moreover, that the connexion between public health and the water-supply strengthened the feeling in favour of its municipalisation. On the other hand, it was contended that it was inexpedient from a financial point of view that any representative body largely elected by the working classes should by the purchase of such an undertaking as the supply of water become a large employer of labour. The Commissioners decided that the real question which they had to determine was the expediency of purchase in the interests of the ratepayers and water-consumers on financial grounds alone and with regard to the future as well as the present requirements of Water London. This, however, they insist is one only of the considerations which have to be taken into account before a policy of purchase is adopted or rejected, but it appeared to them to be the only question which they were instructed to advise upon. Early in the course of their inquiry the Commissioners found it necessary to consider whether or not it was their duty to re-open questions which had been reported upon by the Commission presided over by Lord Balfour. They came to the conclusion that they were not empowered to reconsider the matters which had been so recently decided, and at their second public meeting, which was held on Dec. 6th, 1897, they gave a public intimation to the effect that the questions on which Lord Balfour had reported would not be re-considered, and that speaking generally they accepted the findings given in the Balfour Report.[1] In consequence of this decision much evidence which the county council of Hertfordshire and the London County Council wished to bring before the Commissioners was necessarily excluded. This evidence dealt with the actual amount of water which can be obtained from the present sources of supply. The London County Council then contended that on financial grounds alone it would be better for the people of London to obtain as quickly as possible a new supply of water from Wales. The Commissioners therefore felt bound to consider evidence tendered on this subject and they found it "voluminous and conflicting" The estimates given were of so technical a character that it became necessary to appoint an assistant commissioner, Colonel W H Rathbone, whose services they found of great value in assisting and helping them to form some opinion as to the comparative cost of bringing a new supply of water from Wales and of making additional storage reservoirs in the valley of the Thames so that more water could be obtained from that source.

The Commissioners considered in detail the financial position of the metropolitan water companies and the terms of arbitration on which the water companies should be bought; they give a digest of the contentions of the London County

---

[1] Report of the Royal Commission appointed to inquire into the Water supply of the Metropolis, 1893.

Council on this matter and then go on to inquire what the financial results of such an arbitration would be likely to be. The opinions of local authorities with regard to the expediency of purchase are summarised and an account is given of cases in which water supplies have been purchased by provincial corporations. The Commissioners then give their views of the present and prospective requirements of Water London and their opinion as to the expediency of purchase. Stated generally, say the Commissioners, the requirements of the population are: a supply of pure and wholesome water constantly laid on at such a pressure as to make the water reach the top storey of the highest house and in quantity sufficient from time to time to meet the needs of the growing number of inhabitants. In order to obtain such a supply it is not necessary at present to go far afield for the water, but they think that, having regard to the prospective requirements of supply in Water London, it is desirable that the undertakings of the water companies should be acquired and managed by a public authority. They then pass on to consider by what authority the purchase should be effected. On this point they insist on the fact that only one public body has manifested a desire to buy the undertakings of the metropolitan water companies and that it is admitted that if such a purchase were made the undertakings would have to be divided in such a way as to give the outlying authorities their share of them. This severance would be a costly proceeding. Inasmuch, then, as all the metropolitan counties except Hertfordshire are bent on demanding what the London County Council are pledged to concede—that is to say, their own share of the undertakings—they think that a purchase by the London County Council must necessarily be followed by a severance and division of the works of supply, and this course appears open to so much objection that it is practically inadmissible. The supplies of water which can be obtained from basins of the Thames and Lee are, the Commissioners believe, sufficient to supply London for many years to come, and should efficient conservancy of the rivers be maintained and the river water be adequately treated, the wholesomeness of the supply can, they believe, be maintained. The undertakings should in the public interest be placed under the control of a permanent Water Body and not of a fluctuating body. They suggest that a Water Board should consist of not more than 30 members, that these should be selected on account of their business capacity and knowledge of matters connected with water-supply, and that the Board should be so constituted as not to give a preponderance to any one of the conflicting interests concerned. The size and importance of the area affected make the matter one as much of national as of local concern and for that reason the Commissioners think that the proceedings of the Board should be brought automatically and periodically under the observation of Parliament, and that it should include delegates of the Local Government Board in order to ensure that the influence of the Executive Government should be continuously felt The Commissioners then go on to suggest what the composition of the Water Board should be and what powers it should have. The latter part of the report is occupied by the question of the powers of control which might be exercised over the existing water undertakings and this important subject is considered in some detail. The report has evidently been drawn up with very great care and it deserves study. We have been able here only to describe its more salient features, and in concluding this brief notice we may mention the fact that the report is provided with a careful index consisting of no less than 10 folio pages. The Balfour report issued on its first publication contained no such index and we must highly commend this innovation, which is doubtless due to Mr Cecil Owen, who, we are glad to see, receives in the last paragraph of the report an appreciative note on the excellence of his services.

VITAL STATISTICS OF THE DUTCH NAVY IN 1897.

AT the present moment the vital statistics of the naval and military forces of any European nation are important to us, for when the Boer war is over there is no doubt that considerable reorganisation of our defences will take place, when all reliable hygienic information will be welcomed. The admissions to hospital per 1000 of strength in the Dutch Marine Service during the year 1897 were as follows: Europeans, 1975; Asiatics, 1325; Africans, 1461; the average strength in the three categories having been 17,254, 32 833, and 80 respectively. By far the larger proportion of the disability was due to what are collectively termed "palustral fevers," the admissions under this heading being set down at 20,904, thus apportioned: Europeans, 10,978; Asiatics, 9906; Africans, 20. During the four preceding years, with an average strength stated to have been about the same as in 1897, the admissions were as given below:—

1893	.. admissions for "palustral fever" ...	17,447
1894	... " " " " ...	13,496
1895	... " " " " ...	16,970
1896	... " " " " ...	16 416
1897	... " " " " ...	20,904

Apparently, therefore, the year under report was an exceptionally unhealthy one with regard to malarial affections. In 1897 cholera caused 161 admissions with 106 deaths among the Europeans, and 69 admissions with 52 deaths among the natives, but with the exception of beri-beri the ravages committed by the other general diseases were inconsiderable. Small-pox, chicken-pox, and measles were each represented by a case or two, chiefly among the Asiatics, the type being invariably extremely mild. Diphtheria was entirely unrepresented, and only 37 cases in all of enteric fever were treated, with five deaths, 29 of the cases occurring among the white troops and eight among the blacks. 283 Europeans and 1955 natives were under treatment for beri beri during the twelvemonth, the casualties among the former being eight deaths and 40 invalidings, and among the latter 84 deaths and 402 invalidings. The following statement showing the admissions to hospital on account of beri-beri during the preceding quinquennium would appear to point to a satisfactory diminution in the incidence of this terribly fatal disease:—

1893	.. ... admissions for beri-beri	6174
1894	... ... " " "	4994
1895	... ... " " "	5676
1896	.. ... " " "	5780
1897	.. ... " " "	2238

On the other hand, syphilis seems to be increasing considerably, the admissions which it caused having risen from 790 in 1893 to 1061 in 1897, when 11 Europeans and eight natives were invalided on account of it. In the section dealing with mortality no fewer than 25 deaths are ascribed to venereal disease, amongst the fatal causes being mentioned acute nephritis and blenorrhagic conjunctivitis (!), but in the latter instance no doubt the fatal affection supervened while the patient was in hospital for his eye complaint. Two cases of leprosy were treated during the year, both occurring in Asiatics. There was one fatal case of tetanus, the subject being a European. 35 white patients suffered from acute rheumatism, and also 16 natives; the disease must have been exceptionally mild as it gave rise to neither death nor invaliding. Three fatal cases of "tropical" dysentery occurred among the European troops. Turning to local diseases some of the entries are rather remarkable. 192 Europeans and 193 Asiatics were admitted to hospital for neuralgia; and for neurasthenia 97 and five respectively. The incidence of epilepsy was more even, the figures in this case being 24 and 22 For delirium tremens the natives show a clean sheet, but the white troops furnished 10 cases, as well as 21 of chronic alcoholism. Insolation and apoplexy were vastly more frequent among the strangers to the climate; but with regard to mental affections there was equilibrium, in either case the admissions numbering 34.

Under the head of respiratory and circulatory diseases are to be found no fewer than 947 cases of palpitation of the heart in Europeans and 1077 in natives. 101 of the former were invalided through it and also 94 natives. In each class there would seem to have been a high mortality ascribed to this symptom. According to an authority whose name is not given palpitation of the heart is but a synonym for beri-beri in an early stage of that little understood affection. Hepatic hyperæmia was treated in 115 Europeans against 19 natives, abscess following 23 times and twice respectively Finally, venereal diseases (other than syphilis) are, like the major affection, largely on the increase. In 1893 the number of cases treated was 8261; in the year under report it had risen to 10,862.

THE ANNUAL REPORT (1898) OF THE MEDICAL OFFICER OF HEALTH OF LONDON.

I.

WE announced last week that the annual report of the medical officer of health of the Administrative County of London had been published, and we referred to the pregnant remarks that were made therein in regard to the better provision of slaughter-houses in London, and the desirability of a more efficient system of meat inspection being established. We now return to this valuable report, selecting a few more equally important subjects in relation to the well-being of the metropolis.

BACTERIOLOGY AS AN AID TO DIAGNOSIS.

It is interesting to record the fact that the employment of bacteriological methods for the purpose of diagnosis is increasing in London, and Mr. Shirley Murphy writes that it is probable that these methods will in the future be more largely resorted to when doubt may exist as to the precise nature of a malady. Many of the vestries have made arrangements for the bacteriological examination of material from suspected cases of diphtheria and enteric fever. In the case of Westminster the vestry have provided at the town hall an incubator, steriliser, and microscope for the use of medical practitioners.

TRADE AND OTHER NUISANCES.

We are glad to note that a sharp look-out is maintained over trade nuisances, and under this heading, of course, comes the intolerable nuisance attributable to smoke. As will be remembered the smoke nuisance was very offensively in evidence during the year 1898 in particular, when the supply of Welsh coal failed owing to a strike. The London County Council have, we believe, not been backward in reminding authorities of their duties in this matter, and several instances of proceedings in the police-court were instituted with salutary results. Whilst we admit that the coal strike did aggravate the evil, yet we contend that the nuisance existed before, and we believe that we were among the first to point out that the Public Health Act provided a remedy, and that in general this fact was ignored by the authorities. The demand for coal by the Government may likely enough lead to a recrudescence of the evil.

The disposal of refuse has occupied a good deal of the Council's attention. The increasing difficulty, for example, which owners of manure experience in effecting its removal points to the need of this work being undertaken more largely by sanitary authorities with power to charge the owners with the cost of removal and without the need of serving notices in respect of each particular accumulation for which such charge can be made. A report was issued by the Public Health Committee in which it was recommended that steps should be taken with a view to obtaining such an amendment of the law as will give the London sanitary authorities powers of the kind just indicated. The removal of offensive refuse also appears to require further powers, that due to fish offal being under the consideration of the Public Health Committee. Failure properly to remove house refuse was the subject of indictment against some authorities. The Council decided to offer a prize for the best design of a dustcart which would enable house refuse to be removed without causing nuisance. We do not learn from the report whether the Council received any response to this invitation, but it is stated that the results of the Council's efforts to secure a weekly collection of house refuse throughout London by means of the dustcart calling at each house has been attended by considerable success. The medical officer of health concludes that there is room for hope that at no distant time all houses in London will be provided with moveable receptacles and that it will be practicable for the sanitary authorities who will be constituted under the London Government Act of 1899 to institute a daily collection of refuse throughout London and thus by better scavenging to remove one of the conditions which tend to the production of diarrhœal disease. In connexion with the disposal of house refuse it is satisfactory to observe that the method of destruction by fire is gradually being adopted. Destructors are employed and in some cases the waste-heap produced is turned to account.

FLOODING FROM SEWERS AND SEWER VENTILATORS.

The flooding of basements from sewers demands serious attention, for Mr. Shirley Murphy reports that it has again occurred during 1898. In Kensington, for example, the medical officer of health states that in times of heavy rain a main sewer has on many occasions proved inadequate and on one occasion 300 basements are known to have been flooded. Bad reports of this kind have also come from South London, Plumstead, and Charlton. Complaints have also been received respecting the smell that arises from sewer ventilators, and it is very properly suggested that more ventilators should be provided which should be carried up to a considerable height instead of being at the ground level. This provision has resulted in much benefit to the health of the localities concerned.

THE PREPARATION IN LONDON OF FOOD FOR SALE.

We are glad to see that the attention of the Council has been directed to the desirability of maintaining wholesome conditions in all places where food is prepared for the purposes of sale. An inquiry was instituted in 1898 by the assistant medical officer, Dr. W. H. Hamer, on which occasion he visited the premises of ice-cream vendors, manufacturers of Polish or Russian cheese, and butchers and sausage-makers, as well as certain restaurants, eating-houses, and fried-fish and eel-pie shops. The report showed the need for sanitary authorities to be empowered to require that food shall be kept under conditions which do not expose it to risk of contamination. In the matter of ice-cream there are grounds for justifying a claim for more complete control than in the case of other articles of food. We have repeatedly urged this fact upon the attention of sanitary authorities ever since the awful disclosures of THE LANCET Sanitary Commission in 1879 on the condition of the Italian quarter in Clerkenwell.[1] There can be little doubt that could this power be obtained we should hear little more of cases of poisoning by ice-cream. We have in particular urged that all ice-cream makers should be registered and their premises inspected from time to time with a view to control the environment, and we learn that where this has been done the results have been very satisfactory.

DISINFECTION.

A very important inquiry was made during the past official year by Dr. C. W. F. Young as to the provision of apparatus for disinfection and the methods of disinfection practised in the London sanitary districts and his report appears at length in the appendix. There are instances where the disinfecting equipment cannot be considered as satisfactory. In several districts the use of formaldehyde for the disinfection of rooms has superseded the use of sulphur dioxide. According to the medical officer of health of the Strand District formic aldehyde as a gas or in the form of spray gives the best results for room disinfection and he recommends its use in his district. In the large majority of London districts, however, the use of sulphur dioxide is depended on, chlorine being only exceptionally employed.

WATER-SUPPLY.

Several accounts of the failure of constant supply of water from August to the early part of December were contributed by the medical officers of health of the districts supplied by the East London Waterworks Company, but notwithstanding the conditions produced by the insufficiency of the water-supply it does not appear that the medical officers of health associate increased mortality with this insufficiency. The resolutions adopted by the Council in regard to the future supply of London are embodied in this section of Mr. Shirley Murphy's report, and now that the report of the Royal Commission on Water-supply has at length been issued it will be interesting to see what attitude the Council will adopt in regard to their proposal to augment the water-supply from a watershed in Wales. The Royal Commission, it may be noted, while seeing something attractive in the scheme of bringing water from the Welsh mountains, deem the expense of such an undertaking to rule the proposal out of court. But they add the curious remark that "one would be glad if it were possible now to secure a watershed to be used hereafter if London should require it."

---

[1] THE LANCET, Oct. 18th, 1879 p. 593.

THE PLAGUE AT KOLOBOVKA IN 1899.

So little has up to the present time been published concerning the outbreak of plague at the mouths of the Volga in the summer of last year that a paper describing in full detail the principal features of the outbreak is unusually welcome. Such a paper has recently been published by Professor A. M. Levin,[1] who was among the first group of medical men who investigated the epidemic on behalf of the Russian Imperial Plague Commission. Though Dr. Levin did not reach the scene of the outbreak until it was nearly over and was only enabled to see three cases of the disease, he succeeded in obtaining a sufficiently complete account of the preceding cases to admit of his reconstructing the story of the epidemic from beginning to end. The following are the principal facts which his inquiries brought to light.

Kolobovka, the scene of the outbreak, is a village in the Tsaref *uyezd*, or district, of the government of Astrakhan. It lies on the raised left bank of the river Akhtuba, the principal easterly mouth of the Volga. It contains some 457 *dvors*, or courtyards, round which the dwellings are built, and a population estimated at about 3500 souls. The people are Great Russians, members of the Orthodox or Eastern Church, and are occupied principally in agriculture and sheep-rearing. The fields belonging to the peasants here are mostly situated in the steppes at a considerable distance from the village; and consequently during the season of field work all the able-bodied inhabitants—both male and female—go out into the steppes, where they live for the time in small huts or *izbushki*. Some of these are built half underground, and they are scattered irregularly over the steppes at considerable distances from each other. In the meantime the village is left with only the old, the sick, and the children for its population—with the exception that every few days the villagers at work in the steppes pay a brief visit to their homes in the village—principally, apparently, to obtain food supplies.

Up to July 16th (28th) of last year the health of Kolobovka appeared to be quite normal. There was no unusual mortality and no signs of the presence of any infectious disease. But on the date named a deaf-and-dumb woman, named Maria Semakina, aged 35 years, while at work in the fields fell ill with fever and cough and expectoration of blood. She was brought back to the village and died there on July 21st (August 2nd). It was not until the 27th of July that a medical man visited the village and consequently there is some uncertainty about the succeeding cases; but it was gathered that on the day following this first death the woman who kept the house where Maria Semakina lived also fell ill with fever and spitting of blood. She died on July 25th (August 6th). On that day her son developed the same symptoms, with the addition of pain in the chest, and died in less than 24 hours after their onset. In the meantime other persons had been attacked with the disease, but all were either relations of the first patient or had attended her funeral. Thus on July 22nd (the dates henceforth mentioned are all according to the Old Style) an old man of 70 years of age was attacked with fever, vomiting, pains in the chest, and spitting of blood, and died on the 25th. Four other persons sickened on the 25th, 26th, 26th, and 30th of the month respectively, and all with practically the same symptoms. All these patients were of comparatively advanced years—a fact no doubt due to the absence of the younger villagers for the reasons explained above.

In all 24 persons were attacked with the disease and no less than 23 died from it. The case-mortality was therefore 96 per cent.—a figure so high that, as it is pointed out, it alone seemed to point to a diagnosis of plague, few, if any, other diseases presenting so high a degree of fatality. The rapidity of its course was equally striking. Of the 23 deaths, six occurred on the first day of illness, three on the second, nine on the third, three on the fourth, and two on the fifth. The most prominent symptoms pointed to a severe lung affection. The patients complained of pain in the chest, cough, and expectoration containing a good deal of blood. The sputa are described as "watery mucous," and as coming up in large quantity and with great ease. On examining the chest it was usually found that a few scattered dry or moist sounds could be heard, and only in a few cases were crepitations present and these were unaccompanied by any notable dulness. Dr. Levin, who was a member of the first Russian Plague Commission sent to India and had seen many cases of pneumonic plague in Bombay, found that the symptoms presented by the patients in Kolobovka were identical with those of the pneumonic plague patients seen by him in the Indian city. The other principal symptoms were fever, marked mental disturbance, a white, furred tongue, rapid pulse, and in a few cases petechiæ on the skin. The petechiæ differed from those of typhus fever in being of a darker and more purple colour than those met with in that disease.

While the large majority of the patients developed the disease in its pneumonic form, in a few the disease appeared in its primary bubonic form. One had a "bubo in the right groin," another a "very tender enlarged gland in the right axilla," and a third a "rather tender swelling in the right groin and enlargement of cervical glands." Apparently these were the only three cases of bubonic plague, and the remainder, 21 in number, suffered from the pneumonic variety of plague. The diagnosis was confirmed by the isolation from the tissues of some of the later patients of bacilli which gave all the reactions of Kitasato's plague micro-organism. The laboratory experiments to identify the bacillus were carried out partly in Astrakhan and partly in Fort Alexander I.—the island near Cronstadt which, as already described in the columns of THE LANCET,[2] has been converted into a laboratory for the preparation of plague antitoxin.

The origin of this outbreak of plague has not as yet been satisfactorily explained and its explanation is surrounded by almost insuperable difficulties. Just as was the case in Oporto, in Alexandria, in Mauritius, in Madagascar, in Bombay, and, indeed, almost in every place to which plague has spread in recent years, no direct importation of infection from a pre-existing focus of the disease could be traced. Kolobovka lies on a high road upon which there is a pretty lively traffic to and fro between the delta of the Volga and the town of Tsaritsyn further up the river. Among the people constantly travelling on this road are many Persians and Persian Tatars who every year come in large numbers from Enzeli to Astrakhan to seek work. Some years ago plague was endemic in Persia, but nothing has been heard of the disease there for the past 15 or 20 years. Dr. Levin has made an alternative suggestion as to the origin of the infection. Kolobovka, he points out, lies in the Kalmuck steppes, which extend from the left bank of the Volga to the Ural river. The steppes are inhabited principally by Lamaite Kalmucks, whose praying-places can be seen at intervals on the banks of the Volga. From private letters from the Russian consul-general in Ourga, in northern Mongolia, it was ascertained that among the pilgrims who yearly visit the Buddhist shrines in northern and north-eastern Mongolia are a considerable number of Kalmucks from these very steppes between the Volga river and the Ural river. There is a well-known endemic centre of plague in eastern Mongolia. May not, it is asked, some Kalmuck pilgrims returning from that country have brought with them the infective material of plague? It is impossible here to discuss in full the considerations which favour (or the reverse) this view as to the origin of the Kolobovka outbreak. It can scarcely, however, fail to strike the reader that there are very great difficulties in accepting this explanation. The plague centre in Mongolia is removed from the Volga river by some 70 degrees of longitude—a distance which may be roughly estimated at about 4000 miles. The journey from the one to the other would of necessity occupy many months, and it is not easy to understand why the plague infection, after being carried over that long distance, should have attacked, not the Kalmuck pilgrims themselves or their relations, but the Christian population of a Russian village. A more plausible explanation, though one still fraught with many difficulties, might be found in the importation of infection from Russian Central Asia, where a very severe outbreak of plague occurred in the late summer and autumn of 1898. The village of Anzob, the chief centre of that outbreak, is scarcely more than 1000 miles from Kolobovka, and there is a pretty constant traffic of persons from that part of Russian Central Asia to Astrakhan and the Volga provinces. No proof, however, of such a method of transportation of infection is forthcoming, and any explanation of the sort must for the present rest entirely on somewhat fruitless speculation.

---

[1] Vratch, [illegible] No [illegible], p [illegible]

[2] THE LANCET, Sept. [illegible], [illegible], p [illegible]

To return to the facts of the Kolobovka outbreak, it is stated that no mortality among rats or other rodents was observed in connexion with it. An experienced veterinary surgeon, Mr. Tartanovski, was specially deputed to investigate the matter, and though he examined over 3000 bodies of small rodent animals he found no traces of suspicious disease in any of them.

The measures undertaken to check the epidemic were of a radical character. The whole village was surrounded by a cordon, which included also the steppes in the neighbourhood. The circle had a circumference of about 135 versts or 90 miles. The cordon was at first kept by the local inhabitants, but later by Cossack troops. The village was divided into sections and twice daily a house-to-house visitation was made in each section. All patients found were removed to hospital and the "contacts" segregated in another building specially set aside for them. The hut in which the case had occurred was closed and it and the earth round it were drenched with lime. Formalin and carbolic acid were also largely employed as disinfectants and the extent to which they were used may be gathered from the statement that as many as 700 litres of formalin and 150 poods (equivalent to about 6000 pounds) of carbolic acid were got through before the epidemic was over. Inoculation with Haffkine's prophylactic was freely offered to the villagers, and though nothing in the way of persuasion or threats was used some 4000 persons were voluntarily inoculated in the course of two weeks, including the medical, nursing, and disinfecting staffs. This practically represented the entire population of the village and of the neighbouring steppes, with the exception of some 40 persons who either declined or who were advised not to undergo the operation on account of their age or health. It would have been interesting to know whether this inoculation of the entire community was the principal cause of, or a decisive factor in, the extinction of the epidemic, but upon this point the article under notice throws no light.

THE WAR IN SOUTH AFRICA.

The eyes of English-speaking people are all turned in the direction of their thoughts, and their thoughts, it is needless to say, are focussed on the dramatic events now taking place in a limited part of Natal. General Buller has devised a new and bold strategical scheme for the relief of Ladysmith. His forces are now on a march from which there is "no turning back"; their progress so far has been slow but sure, and we must be content to possess our souls in patience and await further developments. There is no concealing the fact, however, that news of the attack on Spion Kop is awaited with keen anxiety. At the time of writing the bare fact of the position having been captured has reached London, and we are in ignorance both of the cost of our victory and of its probable results.

We are glad to notice the change of tone which is taking place in the press and among the people generally in regard to the Government and the military authorities. Miscalculations and mistakes have, no doubt, occurred in the course of this campaign and it is quite right and fitting that everything connected with the war should hereafter be reviewed and subjected to the strictest criticism, but it strikes us as neither just nor generous to do this at the present moment on very incomplete information or to shut our eyes to the extreme difficulties which have had to be encountered or to the great and successful efforts that have been made to overcome them. After all, it may be truthfully affirmed that never before have 120,000 troops been transported in the same space of time to a destination some 6000 or 7000 miles distant from this country; there is no other Power in the world which could have accomplished it. Never before has an army been so well furnished and equipped with all the requirements of field service. We have only to compare the present expedition with those of other countries or with any previous expedition from this island to recognise the contrast, so striking and remarkable has it been. Not only had the Boers matured all their plans and selected their own time for declaring war at two days' notice, but the great extent and the geographical and topographical obstacles of a country, every inch of which was well known to them, have to be borne in mind; and the Boers had, moreover, the best and most ubiquitous intelligence department in the world at their disposal—namely, spies and people friendly to their cause distributed everywhere. Even many of our hired sick-bearers in the field deserted to the enemy. As to any attempt at a military surprise on our part it was merely a farce and a pantomime, for it almost invariably turned out that, instead of being surprised, our foes had, on the contrary, carefully prepared some trap or ambush to surprise us, and we had consequently to buy our experience of Boer tactics and wariness at a heavy cost. But the great difficulty, after all, which had to be surmounted in this campaign was the military situation which existed in South Africa at the time of the arrival of our reinforcements there and the emergent political necessity which this created—namely, the relief of besieged British garrisons. The British generals and troops found themselves, too, face to face with new and hitherto unprecedented conditions of warfare. We feel confident that a calm and impartial consideration of all the circumstances will bring about a very different view to that which now apparently obtains and to which our checks and want of success have hitherto given rise. It is no doubt the consciousness of all this on the part of the Government that causes the Cabinet to hail the opening of Parliament with gladness. It is easy enough to be wise after the event. The Government were blamed not long ago for doing too much and for driving the Boers into war, whereas it is now blamed for not having acted with sufficient promptitude and for not having done half enough when it did act.

Troops in large numbers, field batteries, and hospital ships are arriving at the Cape or are being sent out from this country, and large batches of sick and wounded are returning from the scene of war and being forwarded on arrival to Netley, where every preparation has been made for their reception. In addition to the arrangements that have been made at our large military stations, proffers of hospital accommodation for our wounded and convalescent officers and soldiers are being made to the War Office from all sides. If there is some abatement (for which we confess we are not at all sorry) of enthusiasm in the "send off" of troops from this country there is no sign of it in our colonies, for at Winnipeg, Montreal, Halifax, Sydney, Melbourne, and Adelaide the embarkation of troops gives rise to great popular excitement.

The Secretary for War has accepted the offer of Mr. Van Alen (an American gentleman now resident in London) to provide a section of a field hospital, complete in every respect, for service in South Africa under the medical superintendence of Captain E. Powell, R.A.M.C. A hospital for the Imperial Yeomanry is being fitted out and all appointments on its medical and surgical staff have been already filled up. These include Dr. John Wichenford Washbourn (physician and lecturer at Guy's Hospital and physician to the London Fever Hospital), Mr. Raymond Johnson (assistant surgeon to University College Hospital and to the Victoria Hospital for Children), and Mr. F. Newland-Pedley (senior dental surgeon to Guy's Hospital and lecturer on dental surgery in the Guy's Hospital Dental School).

The Portland Hospital, which arrived at Cape Town on Dec. 26th, forms an independent section of No. 3 Hospital at Rondebosch and is in complete working order. It is very gratifying to read that the staff of the hospital have received great help from the principal medical officer and everyone connected with the Royal Army Medical Corps, and that no difficulties of any sort have arisen. The labours of the medical corps in the field, along the lines of communication, at railway junction depôts, and at base hospitals are very arduous, and the fearless conduct of medical officers in aiding and bringing away the wounded from the firing line at the various battlefields is, we read, "in everyone's mouth."

The reported casualties in the various forces which are now on the march or fighting their way towards Ladysmith have not so far been large considering the numbers engaged and the severity of the fighting, but these must, it is feared, reach a very much higher number when the more strongly held positions and lines of entrenchments held by the Boers have to be attacked and taken. We are writing before information has reached us concerning the cost of capturing Spion Kop. The fighting columns are accompanied by strong parties of hired stretcher-bearers as a supplementary aid to the regularly organised bearer columns, field hospital transport, and usual field hospital equipment. The garrison of Ladysmith have not only held out nobly but they have exhibited conspicuous boldness and enterprise in their various successful encounters with the besieging forces. The sick-rate and death-rate—mainly from enteric fever and dysentery—which have not been high, are nevertheless mounting up and are bound to do so under the conditions obtaining at Ladysmith, and the relief of the garrison is therefore becoming a matter of urgent necessity. Although the occupation of Ladysmith has exercised a very unfortunate influence on the intended conduct of the campaign it was, nevertheless, unavoidable under the circumstances, and from another point of view it must not be forgotten that General White's troops have performed a signal service in having occupied the Boers and defeated all their attacks and in that way delayed and completely frustrated any intention they may have had to get to the south-eastern seaboard, where their presence in force might have had a very serious and damaging effect upon British troops disembarking at Durban. It seems to our non-military mind that, after all, the greatest source of embarrassment, loss of life, and casualties has arisen from Kimberley, and our attempts (which have so far proved futile) to relieve it. It is astonishing how little we seem to know of the strength of the Boer forces in the field, of their casualties in their various engagements with us, or of their losses by sickness. Their "censorship" at any rate is uncommonly strict.

ITALY AND OUR SOUTH AFRICAN WOUNDED.

Our Rome correspondent writes under date Jan. 22nd:—"To the steadily lengthening list of Italian hotels whose proprietors announce their alacrity to receive gratuitously or at a nominal charge those of the wounded British officers in South Africa who would fain pass their convalescent period in Italy's genial lake country or on her sunny seaboard I can add the 'Albergo delle Sirene' at Porto d'Anzio on the Latin shore. Signor Tommassetti, its proprietor, has just intimated to the British Government that it may freely use his commodious establishment for the purpose indicated, and I am sure the kindly offer will be accepted in the same spirit in which it is tendered. The rigours of a northern winter or the vicissitudes of a northern spring, trying even for the healthy, must be especially so to the convalescent from wounds received on the battlefield or from sickness contracted during service in the open, and nowhere could exemption from such adverse climatic conditions be more completely secured than on that lovely stretch of coast where, as we learn from Cicero and the Younger Pliny, the Roman patrician delighted to make his *villeggiatura*. The combination of sea air wafted shorewards from the blue rollers of the Mediterranean with the sun-tempered breezes from the Alban and Volscian hill-country is delightfully reinforced or mollified by the exhalation from the pine woods and the laurel groves which line the coast or extend inland, while the surrounding associations or impressions, historic or artistic, are of themselves fitted to be a salutary 'alterative' to those of the South Africa 'veldt' or 'kopje,' redolent of a bogus, if militant, Puritanism. But not more welcome can such an improvised 'sanatorium' be to the wounded or invalided officer than the kindly, hospitable spirit which proffers it must prove to the nationality thus favoured—target, as the said nationality has been, and still is, for every missile (spoken, written, or engraved) which foreign envy, hatred, and uncharitableness have at command. Italy, to her honour be it said, is the most considerable among that minority of European Powers which judges British intervention in South Africa with a 'benevolent neutrality,' and when the present war shall have reached its inevitably triumphant issue for the forces of constitutional right and economic prosperity her attitude will be remembered—not to her disadvantage—in common with that of Denmark, of Norway, and of Greece. Even as it is she is reaping the fruit of her chivalrously courteous, aye, of her cordially sympathetic, conduct. We do not read of English ladies alighting at an Italian hotel and having to leave that very day after finding the *salle de lecture* littered with journals caricaturing, with equal coarseness and malignity, the person of the most venerable and esteemed of European monarchs. Such incidents are reported to me from the Alpes Maritimes which have their reward in seeing the victim of such base insults choose the Ligurian Riviera for her vernal *villeggiatura*, and in so doing attract to the many delightful health resorts on that favoured seaboard those English-speaking guests whose patronage their French rivals can so little spare. Not only so, but much further south Italy will profit at the expense of her supercilious neighbour as hostess to the Anglo-American world. From Malta I learn that arrangements are on foot for the reception of H.R.H. the Prince of Wales when his contemplated yachting cruise in the Mediterranean will take him to that island, whence, I am further informed, His Royal Highness will touch at Civita Vecchia *en route* to Rome to witness the Easter ceremonies specially ordered for the Holy Year. All this, I repeat, is already the subject of envious anticipation and bitter comment in French journals; while Italy will show her appreciation of the attention her kindly attitude evokes by doing her best to retain the preference now being vouchsafed to her, and so increasing her attractions or minimising her deterrents for the English-speaking world as to convert an occasional into a permanent—and that an increasingly profitable—*clientèle*."

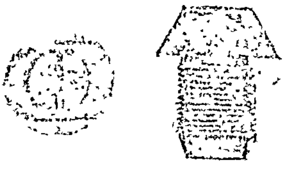
AN AMERICAN SURGEON'S SYMPATHY FOR ENGLAND.

A former American pupil of St. Bartholomew's Hospital writes from near Chicago to one of his old teachers to say that in order to show his good will and his appreciation of the many favours and advantages received from friends while in England he will be pleased to serve in the capacity of surgeon or assistant surgeon during the war in South Africa. He will be ready, at six hours notice, to go as an American volunteer, take the oath of allegiance, or become a British subject, and serve anywhere under the Union Jack that duty needs or generals direct. He would consider such an appointment the greatest honour of his life.

(FROM OUR SPECIAL CORRESPONDENT AT THE BASE.)

With the exception of the facts that all cases are progressing favourably and that several are being sent home in the *Dunera* and other transports my news this week is of the scantiest. No. 4 General Hospital has been ordered off to the Natal side and will probably go to Estcourt, where later, and I dare say before you get this, the services of its staff will be required. The Portland Hospital arrived in the *Majestic* on Friday night, Dec. 29th, and is to be established, so we hear, at Rondebosch, thus adding to the accommodation already here—for Rondebosch is only a very short distance from Wynberg. We are gradually drafting off the convalescents and getting the wards ready again for the reception of cases that will be coming down—probably in a few days. A new operating room is being built for the use of the officers' hospital, so that will obviate the necessity of performing operations in the building, and be a great convenience to everyone concerned.

Your readers may like to hear of a good case. The wound was of the abdominal walls caused by the screw of a shell which entered about an inch above the umbilicus and passed round the abdomen, emerging on the left side about one and a half inches above the crest of the ilium. I think there was little doubt but that the missile entered the cavity of the abdomen and emerged again almost immediately at the exit wound, but with the exception of a considerable amount of shock the patient (an officer) has made an uninterrupted recovery. I append a rough drawing of the screw. There was no local peritonitis in this case.



We shall have a large consignment of wounded officers to send home in the *Princess of Wales*, the arrival of which here is daily expected. These, of course, will be the more serious cases that will require a certain amount of dressing on the way and to whom a comfortable hospital ship with all necessary appliances and nursing will be a necessity. At present in both hospitals here there are about 750 sick and wounded, some of whom of course will soon be fit for duty again, but others will have to go to Netley. This does not include the patients in No. 3 General Hospital at Rondebosch. Arrangements have been made by the Red Cross Society for convalescent officers to be accommodated at the Mount Nelson Hotel, which is a fine building situated on the high ground above Cape Town. This of course lessens the tedium of a prolonged convalescence, and as the "cuisine" and internal arrangements are much more perfect and up to date than can be given them in hospital it is a great boon and is much appreciated. The strain that has been thrown on our hospital accommodation for so large a number of wounded officers has been very great, yet I am happy to say that, with a few exceptions, all have expressed themselves as being well pleased with the provision made for them. Of course it should be borne in mind that the accommodation and equipment of even a general hospital will not bear the influx of three times as many wounded officers as the regulations provide for, but up to the present time we have met the rush, and the fact that we have had so far only two fatalities out of nearly 100 officers treated speaks for itself. I may add that both the fatal cases referred to were in a very critical state when they were received. All the wounded Boers, with the exception of one in whom it was necessary to amputate the thigh for extensive disorganisation of the knee-joint, have left hospital, and I believe are at present on their way to St. Helena, where they will be out of harm's way and be well looked after. The ambulance trains have gone up country again, and as they are the "stormy petrels" we must be prepared for more work at any moment.

Wynberg, Jan 3rd.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6729 births and 5552 deaths were registered during the week ending Jan. 20th. The annual rate of mortality in these towns, which had been 30·9 and 29·1 per 1000 in the two preceding weeks, further declined to 24·9 last week. In London the rate was 26·9 per 1000, while it averaged 23·7 in the 32 provincial towns. The lowest death-rates in these towns were 11·2 in Oldham, 14·5 in Cardiff, 15·3 in Plymouth, and 17·0 in Huddersfield; the highest rates were 30·4 in Sunderland, 31·8 in Norwich, 32·0 in Liverpool, and 32·2 in Nottingham. The 5552 deaths in these towns included 443 which were referred to the principal zymotic diseases, against 503 and 453 in the two preceding weeks; of these 121 resulted from measles, 115 from whooping-cough, 96 from diphtheria, 39 from "fever" (principally enteric), 35 from scarlet fever, 35 from diarrhœa, and two from small-pox. No fatal case of any of these diseases occurred last week in Derby; in other towns they caused the lowest death-rates in Croydon, Plymouth, Swansea, Huddersfield, and Gateshead, and the highest rates in Wolverhampton, Liverpool, Blackburn, Preston, and Sheffield. The greatest mortality from measles occurred in Wolverhampton, Salford, Preston, Sheffield, and Hull; from scarlet fever in Preston and Halifax; and from whooping-cough in Portsmouth, Liverpool, Bolton, Salford, and Newcastle. The mortality from diarrhœa and from "fever" showed no marked excess in any of the large towns. The 96 deaths from diphtheria included 40 in London, 14 in Sheffield, eight in Liverpool, five in Leeds, and four in Manchester. One fatal case of small-pox was registered last week in Liverpool, and one in Hull, but not one in any other of the 33 large towns. There were 21 cases of small-pox under treatment in the Metropolitan Asylums Hospitals on Saturday last, Jan. 20th, against numbers increasing from five to 18 at the end of the four preceding weeks; five new cases were admitted during the week, against two, one, and 10 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2441, against numbers decreasing from 3578 to 2560 on the nine preceding Saturdays; 208 new cases were admitted during the week, against 161, 186, and 180 in the three preceding weeks. Influenza was certified as the primary cause of 208 deaths in London last week. The deaths referred to diseases of the respiratory organs in London, which had been 1221 and 994 in the two preceding weeks, further declined to 728 last week, but were 41 above the corrected average. The causes of 84, or 1·5 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Plymouth, Cardiff, Nottingham, Oldham, and in nine other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Burnley, Preston, Halifax, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 25·6 and 23·0 per 1000 in the two preceding weeks, rose again to 23·3 during the week ending Jan. 20th, but was 1·6 per 1000 below the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 19·3 in Paisley and 21·7 in Dundee to 26·6 in Greenock and 27·0 in Perth. The 721 deaths in these towns included 32 from measles, eight from scarlet fever, eight from whooping-cough, seven from diphtheria, seven from diarrhœa, and six from "fever." In all 68 deaths resulted from these principal zymotic diseases, against 64 and 65 in the two preceding weeks. These 68 deaths were equal to an annual rate of 2·2 per 1000, which was 0·2 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of measles, which had decreased from 37 to 20 in the four preceding weeks, rose again to 32 last week, and included 19 in Glasgow, eight in Dundee, and four in Paisley. The deaths from scarlet fever, which had declined from eight to four in the four preceding weeks, rose again last week to eight, of which four occurred in Glasgow and three in Edinburgh. The fatal cases of whooping cough, which had been nine and 14 in the two preceding weeks, declined again to eight last week, and included four in Glasgow and two in Perth. The deaths from diphtheria, which had been three and five in the two preceding weeks, further rose last week to seven, of which three were registered in Glasgow and two in Edinburgh. The seven fatal cases of diarrhœa showed a marked decline from recent weekly numbers and included three in Glasgow and two in Dundee. The deaths referred to different forms of "fever," which had been two and six in the two preceding weeks, were again six last week, of which three occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had declined from 253 to 203 in the three preceding weeks, further fell to 198 last week, but were 45 above the number in the corresponding period of last year. The causes of 27, or nearly 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 50·3 and 49·4 per 1000 in the two preceding weeks, further declined to 44·0 during the week ending Jan. 20th. During the past four weeks the death-rate in the city has averaged 46·4 per 1000, the rate during the same period being 33·1 in London and 23·1 in Edinburgh. The 295 deaths registered in Dublin during the week under notice were 36 below the number in the preceding week, and included 22 which were referred to the principal zymotic diseases, against 18 and 31 in the two preceding weeks; of these nine resulted from measles, six from diarrhœa, three from whooping-cough, two from diphtheria, two from "fever," and not one either from small-pox or from scarlet fever. These 22 deaths were equal to an annual rate of 3·3 per 1000, the zymotic death-rate during the same period being 1·7 in London and 1·4 in Edinburgh. The deaths referred to measles, which had been 10 and 18 in the two preceding weeks, declined again last week to 9. The fatal cases of diarrhœa, which had been one, two, and three in the three preceding weeks, further rose to six last week. The deaths from whooping-cough, which had decreased from three to one in the five preceding weeks, rose again last week to three. The two deaths from diphtheria showed a decline from the number in the preceding week. The deaths referred to different forms of "fever," which had been five in each of the two preceding weeks, declined to two last week. The 295 deaths in Dublin last week included 31 of infants under one year and 105 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline from the numbers recorded in the preceding week. Seven inquest cases and five deaths from violence were registered, and 98, or nearly a third, of the deaths occurred in public institutions. The causes of six, or more than 2 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

DEPUTY Inspector-General of Hospitals and Fleets James Hamilton Martin, D S O., has been promoted to the rank of Inspector-General of Hospitals and Fleets in Her Majesty's Fleet. The undermentioned Fleet Surgeons have been promoted to the rank of Deputy Inspector-General of Hospitals and Fleets in Her Majesty's Fleet:—Gerard James Irvine and Henry Thompson Cox. The undermentioned Staff Surgeons have been promoted to the rank of Fleet Surgeon in Her Majesty's Fleet:—Richard Edmund Biddulph, Gilbert Kirker, William Tait, and Joseph Crowley.

The following appointments are announced:—Staff Surgeons: William J Colborne to the *President* for Medical Department; Henry B. Beatty to the *Gladiator* and afterwards to the *Royal Arthur*, for the *Katoomba* and for medical charge at Sydney Reserve Depôt; and E. R. D. Fasken to the *Medusa*. Surgeon: J. McElwee to the *Boscawen* for the *Agincourt*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J. R. Greenhill, A.M.S., assumes medical charge of the Station Hospital, Gosport. Major D. Stiell proceeds to Woolwich for temporary duty. Captain P. H. Whiston is appointed to the Medical Staff in the Home District, Lieutenant G. J S Archer proceeds to Woolwich for duty with No. 5. Stationary Hospital,

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major Edward Cureton resigns his commission. Surgeon-Captain T. Tinley, 1st East Riding of Yorkshire Volunteer Artillery, to be Surgeon-Major.

VOLUNTEER CORPS

Artillery: 1st Edinburgh (City): Surgeon-Lieutenant-Colonel J. J. K. Duncanson resigns his commission, with permission to retain his rank and to wear the uniform of the corps on his retirement. 1st Forfarshire: Horace Crakanthorp Colman to be Surgeon-Lieutenant. 1st Norfolk (Eastern Division, Royal Garrison Artillery): John Charles Reynolds Robinson to be Surgeon-Lieutenant. *Royal Engineers*: 1st London: John Charles Jackson to be Surgeon-Lieutenant. *Rifle*: 19th Middlesex: Surgeon-Lieutenant M. Richards resigns his commission.

TRANSVAAL WAR NOTES.

Princess Christian has signified her willingness to become honorary president of a fund the object of which is to collect subscriptions for providing comforts for non-commissioned officers and men of the Royal Army Medical Corps. The following ladies will act on the committee of this fund: Viscountess Knutsford, Lady Wantage, Lady Rothschild, Lady White, Lady MacCormac, Lady Coventry, Lady (Douglas) Powell, Lady Duckworth, Lady Brunton, Lady Broadbent, Mrs Pye-Smith, Mrs Pearce Gould, Mrs. Clutton, Mrs. Percy Kidd, Mrs. Reynolds Ray, Mrs. Dawson Williams, Mrs. T. Bryant, Mrs T Barlow, Mrs. Goodhart, Mrs. Hale White, Mrs. Walsham, Mrs. F. Taylor, Mrs. David Lees, Mrs. Fripp, Mrs. Vesey Holt, Mrs. Charters Symonds, Mrs. Jameson, Mrs. Muir, Mrs Johnson, Mrs. McPherson, Mrs. J. B. C. Reade, Mrs J. B Hamilton, Mrs. Charlton, Mrs. C. White, Mrs. John Anderson, and Mrs. Bourke. Miss Maxwell-Muller, late lady superintendent in the Indian Nursing Service, will act as honorary secretary and will receive subscriptions and donations at the office of the fund, 100, Victoria-street, S W.

Mr. J. Paul Bush, honorary surgeon to the Bristol Royal Infirmary and senior surgeon to the Bristol Constabulary, has been appointed senior civil surgeon to the Princess Christian Hospital now being fitted for service with the troops in South Africa and will be leaving about the middle of February.

The Queen has sent £100 to the committee of the Imperial Yeomanry Hospital for the purpose of equipping two beds.

The *Times* says: "The recent gifts to the Permanent Homes for Discharged Soldiers which the building trades propose to erect on the site presented by Lord Pirbright include the following: Lord Penrhyn (Penrhyn Quarries), 10,000 slates; Mr. Assheton Smith (Dinorwic Quarries), 10,000 slates; Messrs. George Trollope and Sons, doors, casements, and linings for one home; Messrs. T. and W. Farmiloe, the entire white lead, colour, oils, varnish, &c., for the homes; Messrs. G. B. Kent and Sons, the entire paint, toilet, &c., brushes; Messrs. Carter and Aynesley, the whole of the locks; the Mural Decoration Company, 500 yards of partitions; Mr. F. J. Ebner, the wood-block flooring for the ground floor of three homes; Messrs. D. Anderson and Son and Messrs. J. C. Broadbent and Co. (jointly), the whole of the slag wood; Messrs. Twyfords (Limited), the sanitary fittings for one home. Communications regarding the homes should be addressed to No. 1, Waterloo-place, Pall-mall."

In addition to those mentioned last week the following appointments have been made to the staff of the Imperial Yeomanry Hospital: Dr. Hamilton A. Ballance, assistant surgeon to the Norfolk and Norwich Hospital; Mr. William Turner, assistant surgeon to the Westminster Hospital; Mr. Wallace C. G. Ashdowne, surgical registrar of St. Mary's Hospital; Dr. J. B. Christopherson, demonstrator of anatomy, St. Bartholomew's Hospital; Dr. Andrew Elliot, medical registrar, West London Hospital; and Dr. H. W. Saunders.

The staff of the Langman Hospital is now complete. Mr. Robert O'Callaghan is surgeon-in-chief and Mr. Charles Gibbs, assistant surgeon to Charing-cross Hospital, is surgeon; Mr. H. J. Scharlieb, anæsthetist to University College Hospital, is assistant surgeon and anæsthetist; Dr. Conan Doyle is medical secretary and registrar; and five senior students of University College Hospital are going as surgical dressers. Lieutenant Archie Langman is secretary and treasurer, while Major O'Connor Drury, R A.M.C., is the army medical officer in command.

Lieutenant-Colonel W. A. May, R.A.M.C., has been appointed principal medical officer, and Major J. W. Jerome, R A.M C., medical officer, to the 8th Division for service in South Africa.

A committee of Danish farmers have sent to Her Royal Highness the Princess of Wales 12,000 boxes of butter for distribution among sick British soldiers in South Africa.

We learn that several private villas in Madeira have been placed at the disposal of the War Office for the use of convalescent soldiers.

The Mafeking correspondent of the *Times* in a telegram dated Jan. 3rd says.—"I have interviewed Surgeon-Major Anderson, an Imperial Service officer sent out by the Director of Hospitals to Colonel Baden-Powell's force, who authorises me to say that the wounds inflicted were altogether different to previous experience in Egypt and in India and that it was impossible that they could have been produced by Martini or Mauser bullets, though perhaps they might have been caused by Snider ones, but from a scrutiny of the wounds made while dressing them in hospital here he has no doubt in his own mind that bullets of an explosive character were used by the Boers."

The London County Council having placed the house of the late Sir Spencer Wells at Golder's Hill, Hampstead Heath, at the disposal of a Hampstead committee for the purpose of establishing a convalescent home for wounded soldiers, an appeal has been made to the residents of Hampstead for £1000 to equip Golder's Hill as a convalescent home for the Brigade of Guards and Household Cavalry and place it at the disposal of the military authorities.

The Kent and Essex General Investment Company have offered to the War Office the use of Parrock Hall, Gravesend, rent free, for 12 months, as a home for the sick and wounded from South Africa.

Mr. J. W. Morris has presented a screen to the American Ladies' Hospital Ship Fund. The screen will be raffled for and the entire proceeds will be given to the *Maine* Committee. The screen can be seen free between 10 A.M. and 6 P.M. on other days and from 10 A.M. till 1 P.M. on Saturdays at 17, Berners-street, Oxford street, W.

DEATHS IN THE SERVICES.

Major Charles Pope Walker, R.A.M.C., at Ladysmith from dysentery, on Jan. 5th, aged 41 years. He entered the medical service of the army as a captain in the Royal Army Medical Corps in 1886 and in 1887 he went to India and was attached to an English regiment serving in Quetta and afterwards in the North-West and Central Provinces.

In 1892 he returned to England and was then attached to the Guards in Ireland. In 1895 he served in the Mauritius, where he remained until 1898, when he went to the Cape and afterwards to Natal. In November, 1899, he proceeded with the troops to the front and had charge of the hospital at Dundee and was present at the battle of Elandslaagte, afterwards retiring with the forces from Dundee to Ladysmith, where he rendered valuable medical services. He obtained the rank of Major in July of last year.

OSMAN DIGNA.

We cannot forbear noticing the reported capture of Osman Digna, whose name has figured so prominently for some time past in connexion with the military history of the Soudan. It appears that he has been in hiding in the hills near Tokar, where he was captured, and that he was taken to Suakim, whence he will be conveyed to Suez by the Government steamer *Behera*. Osman Digna has had a most adventurous life and his name must be well known to all—especially to medical officers and others who took part in the late Anglo-Egyptian military expeditions to the Soudan. That he will be kept in safe custody somewhere goes without saying, but we trust that this precaution will not be inconsistent with his being treated very mercifully now that he can do no further harm He must be a brave, as he certainly is a remarkable, man.

THE EXTERMINATION OF THE MALARIAL MOSQUITO.

Dr. Cook, health officer, Calcutta, has made a proposition to employ two men to exterminate malarial mosquitoes by using kerosene oil in the pools where they breed.

Correspondence.

"Audi alteram partem."

"SOME POINTS IN THE NATURAL HISTORY OF UTERINE FIBROIDS."

To the Editors of THE LANCET.

SIRS,—I have read with a great deal of interest Dr. Champneys' address on this subject published in THE LANCET of Jan. 20th. There are two points which seem to be especially important. The first is the conclusion that the mortality of fibroids apart from operation is represented by a small decimal—viz, 0 000138 per cent. The evidence adduced in support of this does not seem to me to be quite convincing. This percentage is apparently obtained by finding that the number of female out-patients at St. Bartholomew's Hospital from 1866 to 1898 was 2 160,112 and that in that time only three cases were met with in the post-mortem room in which death occurred from fibroids apart from operation. If I understand the argument rightly, from this Dr. Champneys asks us to conclude that the mortality apart from operation is three in 2,160,112, or 0 000138 per cent. There does not seem to me to be any necessary connexion between the number of fatal cases met with in the post-mortem room and the number of cases of uterine fibroids ending fatally in that large number of female out-patients. As we all know, the life-history of fibroid tumours of the uterus is generally a long one—a matter of many years. A patient with uterine fibroids may attend the out-patient department for a time, may be relieved by medical treatment for a time, and may cease to attend; she may become an in patient and be relieved by medical treatment and rest, and may go out. If her illness at some subsequent time takes on an acute and dangerous phase from hæmorrhage, sloughing, and septic fever, or from peritonitis with or without intestinal obstruction, *it by no means follows that she will be moved into hospital.* Her condition may be too serious to admit of her being moved, or she may live too far away, and it is therefore quite probable that she may die at home. I would submit that on this account the evidence of the post-mortem room may easily lead to an erroneous conclusion in estimating the mortality of fibroid tumours apart from operation. In the same way, if we seek for the number of patients dying from cancer of the uterus in hospital apart from operation (excluding the Middlesex Hospital, where I believe they are specially allowed to stay till death occurs) we should find that there are practically no deaths from cancer of the uterus, and we might similarly argue that the disease never terminated fatally. In this example we happen to know the reason why such a conclusion would be fallacious—viz., that if nothing can be done by operation to relieve a case of cancer of the uterus, it is not kept in hospital, but goes elsewhere to die. In the case of fibroids we do not know certainly whether there is or is not a fallacy of this kind existing, but the fact that the same line of argument employed in the case of another disease (cancer) leads to a false conclusion should, I think, serve to make us very cautious in accepting the conclusion derived from similar reasoning in the case of fibroid tumours of the uterus. I have myself known one case of uterine fibroid die from hæmorrhage at home—a case that I had promised to take into the hospital, but fatal hæmorrhage occurred before she could be moved.

Fatal cases of ovarian tumour apart from operation are now exceedingly rare, owing, of course, to the fact that cases of ovarian tumour are always operated on nowadays. Fatal cases of ovarian tumour apart from operation therefore hardly ever occur now in the post-mortem room. Here we see again that the evidence of the post-mortem room must not be pressed too far in ascertaining the mortality of a disease. Probably the most serious cases of fibroids are the cases that are most frequently submitted to hysterectomy; thus a whole group comprising the most serious cases is removed from the possibility of figuring in the list of fatal cases of fibroid apart from operation.

I myself fully believe that the mortality of fibroid tumours apart from operation is very low, though the invalidism for which they are responsible is very serious; but it seems to me probable that the mortality is considerably higher than the percentage at which Dr. Champneys has arrived; first, because very probably many cases die at home, and therefore never appear in hospital statistics; secondly, because the cases that would most probably end fatally are the very cases in which hysterectomy is performed; and the subtraction of these cases unduly reduces the number of those classified as fatal cases of fibroid apart from operation.

The second point that seems especially important is the mortality at the present time of abdominal hysterectomy for fibroids. Dr. Champneys' tables of the mortality of this operation collected from five hospitals are most interesting, but to some of us, I venture to think, they will come as a surprise. I am certainly surprised myself to find that in 1896, 1897, and 1898 the mortality of hysterectomy for fibroids at these five hospitals has been 25, 15 5, and 15 9 per cent. Since November, 1896, when I adopted either abdominal pan-hysterectomy from above, or hysterectomy with the intra-peritoneal treatment of the stump according to the method I now follow, I have had 20 consecutive abdominal hysterectomies for uterine fibroids with the loss of only one case, or a mortality of 5 per cent, and there are other gynæcologists whose mortality is as small, or smaller, I believe, even than this

I am, Sirs, yours faithfully,

Harley street, W., Jan. 22nd, 1900. ARTHUR H. N. LEWERS.

To the Editors of THE LANCET.

SIRS,—The excellent address under the above title recently delivered by Dr. Champneys, which appears in THE LANCET of Jan. 20th (p. 147), should afford subject for consideration to all thoughtful surgeons in view of the increasing tendency at the present day towards the routine early treatment of uterine fibro-myomata by abdominal hysterectomy. This treatment in cases of uterine growths too large to admit of vaginal myomectomy was strongly advocated in a paper read before the Obstetrical Society of London in the autumn of 1897.[1] In the discussion which followed it I expressed my dissent from the views held by the author of the paper regarding the duty of recommending early operation in all cases of uterine fibro-myomata—a course rightly adopted in the case of ovarian tumours—on the ground that the two diseases are not comparable as regards the necessity for operative interference, since the great majority of benign uterine growths do not tend to imperil life and may never require surgical interference, while ovarian tumours, on the other hand, usually prove fatal unless removed.

Dr. Champneys, after considering by the light of carefully compiled hospital statistics the probable relative frequency of uterine fibroid disease and enumerating the symptoms to which it may give rise, proceeds to discuss its mortality under two heads: (1) *as apart from any operative interference*; and (2) *after removal of the uterus by abdominal hysterectomy*. He proves conclusively that death *directly* due to the existence of a uterine fibroid growth is an extremely rare occurrence. With this statement I think the profession will generally concur. In my own experience I have met with but one such instance, in the case of an uncomplicated tumour where death was due to heart-failure from sudden uncontrollable hæmorrhage. With regard to the *operative* mortality of uterine fibroids Dr. Champneys's statistics from various hospital records extending over some 10 years past show an average of 17 deaths per 100 operations, or about one in every six patients submitted to hysterectomy. My own total results in this operation, dating from 1882 and including 107 cases treated with the serre-nœud, and 37 by the so-called intra-peritoneal method, show 16 deaths in 144 cases, a mortality of just over 11 per cent. Of these deaths four occurred among my first 10 cases operated on in the early "eighties"; of the 134 abdominal hysterectomies performed since 1886 only 12 have proved fatal, giving a death-rate of 8 9 per cent., which is equal to more than double my average mortality for ovariotomies during the same period.

---

[1] Transactions of the Obstetrical Society of London, vol. xxxix., p. 22.

Feeling as I do with regard to the question of surgical interference with uterine fibroids, I cordially agree with Dr. Champneys's remarks on the ethics of operations At the present day when surgical procedures of every description are multiplying so rapidly and with such gratifying results, I think it our duty to discriminate between operations undertaken for the preservation of life and those now so freely resorted to for the relief of conditions which *do not directly tend to cause death* *In the former case* the risks of a grave operation are counterbalanced by the certain dangers incurred through the disease, and consequently surgical interference, whether it prove successful or not, may be considered as fully justified. But in cases of simple uterine growths, where life is not directly threatened and the disease causes at most but some discomfort without material impairment of health, resort to operation involving a definite risk to life (a possible consequence of any abdominal section) should never be advocated on the ground that a similar procedure has been followed by success in other like instances. That there is a tendency in the profession at the present day to be thus influenced by series of successful operations is, I think, undoubted; and in the discussion at the Obstetrical Society of London above referred to I ventured to point out that the record of 28 hysterectomies with two deaths (a mortality of over 7 per cent) was hardly sufficiently conclusive of the benefits of such treatment to warrant the argument advanced by the writer of the paper in favour of the early removal of uncomplicated myomata of the uterus. My views in this direction receive support from the records of the Chelsea Hospital for Women for the years 1897 and 1898, quoted in Dr. Champneys's address — viz , 73 hysterectomies with nine deaths, a mortality of 12 3 per cent.

In THE LANCET of Jan 13th (p. 99) there appears an abstract of a paper on the "Operative Treatment of Uterine Fibroids" recently read before the Medical Society of London. The author founds his remarks upon 47 cases of abdominal hysterectomy by the intra peritoneal method with only one death, and states that his list includes a series of 39 consecutive recoveries. He concludes his paper with the sanguine observation that the operation of abdominal hysterectomy with intra-peritoneal treatment of the uterine stump may in the future be confidently expected to give a mortality of not more than 1 or 2 per cent. Not having been present at the reading of this paper, I have no definite knowledge of the nature of the cases operated on and can therefore offer no opinion on the results obtained; but unless the majority of the anticipated operations are to be undertaken in cases which from my point of view do not require any surgical interference, I cannot help fearing that the experiences related hardly justify the expectations expressed for the future I had myself some years ago a consecutive series of 20 successful hysterectomies with the serre-nœud, and my last 26 patients treated by this method all made good recoveries. But I have learnt by experience that there is a compensating average in most matters, even in surgical results, and I hesitate to draw deductions as to future mortality rates from any series of successes, however tempting may seem to be the outlook.

In conclusion, I would emphasise what I have said elsewhere on a former occasion—viz., that the successful issue of an operation affords no proof that the procedure in question was essential to the welfare of the patient; and I would further point out that a death resulting from any operation with a recognised mortality rate *if undertaken on insufficient grounds, even though at the special request of the patient*, should be considered by the operator as something worse than a surgical calamity.

I am, Sirs, yours faithfully,

Manchester-square, W, Jan 22nd, 1900 W. A. MEREDITH.

"SHAW v. THE RAILWAY PASSENGERS' ASSURANCE COMPANY."

To the Editors of THE LANCET.

SIRS,—The prominence which your leading article (Jan. 13th) has given to the case of Shaw v the Railway Passengers' Assurance Company induces me to offer a few remarks on the subject. In the first place, I would point out that at the time when the pathological examination was made, now more than a year ago, I knew absolutely nothing about the case or the region from which the specimen had been removed, nor had I been informed that legal proceedings were pending. This will explain why the whole specimen was not preserved, but fortunately for me the microscopical section has been discovered and is now in my possession, and I am willing to submit it for an opinion to any competent morbid histologist (*not a bacteriologist*) in the United Kingdom.

Your article states that the arbitrators had to decide whether the specimen was a blood-clot or a sarcoma. But surely that was not so, for as I was the only person who had examined the specimen microscopically no other witness was in a position to form a reliable opinion. As a matter of fact, the histological appearances were quite characteristic of sarcoma and the specimen presented no difficulty whatever in its recognition. The prolonged cross examination on the possibilities of organising blood-clot, inflammatory tissue, and the like merely served as the proverbial "red herring." The second question submitted to the arbitrators you have thus expressed: "Did the sarcoma exist prior to the accident?" Now, *if the answer had been in the affirmative*, then by the "aggravation" clause in the policy the company would not have been liable, but if in the negative then the company would have insisted on proof that the injury had caused the sarcoma, which in the nature of things would not have been forthcoming. The third question which you have suggested is: "Could the growth have attained the size it did in ten weeks?" The substance removed at the necropsy was considered to weigh about one pound, but in this estimate no allowance is made for the admixture with blood from the incision into the tumour which had been made per rectum nor for the effects of degenerative changes and hæmorrhages in the neoplasm. The possible origin of a sarcoma from blood clot or *inflammatory exudation following* injury is an interesting subject for pathological inquiry but did not bear on the question which the arbitrators were appointed to decide; and it must be remembered that the injury was received in the left loin—while the sarcoma developed deeply within the cavity of the true pelvis A side issue raised at the trial and made much of by the opposing counsel had reference to the alleged date on which the parcel was received at the laboratory. However, the date of delivery as recorded by the railway company and the date of its receipt as entered at the laboratory are the same (on Monday morning), and it was merely an impression of mine which I had no means of verifying that the parcel arrived late on the previous Saturday evening. The parcel was distinctly labeled with the sender's name and was numbered in the usual manner at the laboratory, so that confusion was quite impossible. Two facts remain. Mr. Shaw received an injury to the loin on Sept 15th; he died on Nov. 24th from a sarcoma in the pelvis which had obstructed the bowels and urinary passages. The proximate cause of death was disease, and therefore by the terms of the policy the company was unquestionably entitled to the finding of the court.

I am, Sirs, yours faithfully,

St Thomas's street, Jan. 23rd, 1900. J H TARGETT.

"OPERATIONS FOR ACUTE APPENDICITIS."

To the Editors of THE LANCET.

SIRS,—Mr. Berry asks me two questions: (1) at what stage do I operate? and (2) which cases should be operated on without regard to adhesions? Unless the attack is a mild one or apparently passing off, or in a stage at which intervention would be hopeless, I now operate at once. I used to follow Mr. Berry's practice of "waiting for a few days until adhesions to the anterior abdominal wall have formed and then making an incision into the abscess through the area of adherent peritoneum." I found this occasionally meant waiting too long and then devised the operation described in THE LANCET of Jan. 13th. I am surprised that Mr. Berry sees no essential difference between this and the older plan. Perhaps my diagram (Fig. 1, p. 87) may have misled him. It does not, and is not meant to, indicate steps "6" and "7" of the operation (see p. 88). My operation bears the same relation to the usual one that a flank attack does to a frontal one. It ends in opening the abscess cavity in the manner described as "steps 6 and 7." It therefore perforates the peritoneum but does not open the general peritoneal cavity. This operation is indicated when a fixed tumour can be felt in the iliac fossa When such a tumour is deep and the abdomen tense it may not be discovered until anæsthesia has been obtained. When there is a moveable tumour I open the general peritoneal cavity, afterwards proceeding in the manner described in the latter half of the last paragraph but three on p. 88. The variety of cases of appendicitis is so great that since the publication of that paragraph I have been reminded of one not provided for in it—viz, the case in which "the appendix, in spite of inflammatory thickening, floats free in the peritoneal cavity," while the latter *does* show signs of general infection. Mr. Bott, Dr. Dixson, and I have just had in the Brentford Cottage Hospital a very severe case of this kind. We removed the appendix, dealt with the general peritonitis, chiefly by careful swabbing, and the patient, a boy, aged 14 years, is convalescent. The symptoms had commenced 60 hours before operation. 24 hours more might have been fatal; 24 hours less would, I cannot help thinking, have been safer.

I believe in the proper use of statistics, but they are not required to prove the desirability of saving some of the cases which are now lost under, if not through, a policy of delay. My conversion to these views has been gradual, my putting them into practice recent. Appendicitis is so fatal as it is because it is not nearly so fatal as it might be, and further because so many people base upon a limited personal experience a belief that appendicitis is less fatal, less injurious to health, and less wasteful of time than it really is; and so surgery is kept at a distance as a thing known to be disagreeable and hoped to be unnecessary.

At the risk of being misunderstood, but from a feeling of duty, I will add a warning which I believe Mr. Berry will endorse. Intra-peritoneal operation on the diseased appendix requires a combination of experience with some natural capacity. Every case has its individual peculiarities, some of which may require resource and nerve. The qualities demanded are not to be got by a course of operative surgery on the dead subject even when combined with a course of practical bacteriology.

I am, Sirs, yours faithfully,
Grosvenor street, W., Jan. 22nd, 1900. C. B. KEETLEY.

"A CASE OF SUPRAPUBIC LITHOTOMY; REMOVAL OF TWO VESICAL CALCULI; RECOVERY."

To the Editors of THE LANCET.

SIRS,—Permit me to thank Dr. W. A. Mackay for the polite language he has used towards me in commenting upon my recent case of suprapubic lithotomy in a young child. I do not quite admit that Dr. Mackay is right in his statement "that the suprapubic operation has proved itself in childhood of all methods the most fatal." Statistics are not everything. Outside the employment of lithotrity in suitable cases no one can be a stronger advocate than myself for lateral lithotomy, but I still adhere to my assertion that in young male children it is not an easy operation, for be it remembered the line of procedure is through structure so diminutive and the space for working so narrow that unless the surgeon uses the utmost care he may possibly come to grief. I have operated by perineal lithotomy upon quite 300 cases of stone in the bladder, of all ages, and, of course, I have lithotrised many as well, so that if I have a bias it would be for lateral lithotomy; but my reason for selecting the high operation in the case reported was that I suspected the stone or stones were not free in the bladder (as was proved), and I know from experience how difficult it often is to remove by the lateral perineal method a stone or stones which are pouched or partly so. I am in accord with Dr. Mackay's opinion that suprapubic lithotomy must not be considered in young male children a routine operation; indeed, it ought to be resorted to as an exceptional operation in exceptional cases.

I am, Sirs, yours faithfully,
Wolverhampton, Jan 23rd, 1900. T. VINCENT JACKSON.

THE INFLUENCE OF WEATHER ON VACCINE LYMPH.

To the Editors of THE LANCET.

SIRS,—In the issue of THE LANCET of Dec. 30th, 1899, in the *Annus Medicus*, page 1833, col. 1, lines 2 to 15, and at page 1839, in the last 10 lines of the article on "Vaccination in 1899," you treat of the lack of activity of vaccine lymph during hot weather. You mention that you have set an inquiry on foot the results of which will be published shortly. You also say that the difficulty has been met in some countries by suspending vaccination during hot weather and that the remedy will doubtless be found to lie in the preparation of the lymph during the cold weather to be stored for use during the hot months.

Recently Dr. Loir of Tunis supplied a communication to the Academy of Medicine wherein he sought to establish the fact that vaccination should not be performed in hot countries from June to November.[1] Dr. Hervieux, the chief of the vaccination department of the Academy of Medicine, is strongly opposed to this view, as, indeed, I am myself, and as a matter of fact I am writing a paper on this point which Dr. Hervieux will on my behalf lay before the Academy. It occurred to me that as you are making inquiries upon the matter we might help one another: I could assist your inquiry by furnishing you with the details of my work now in progress and you could help me by furnishing me with the results of your inquiry.

At this moment I am able to affirm that if hot weather has any evil influence upon the activity of vaccine lymph this can be met and conquered up to a certain point. The cause, however, of the want of activity in vaccine lymph should be sought for elsewhere than in hot weather. Two matters are more important than the heat of the weather—(1) the influence of the calf and (2) the influence of the inoculating lymph (*semence*). The importance of the rôle played by the calf is obvious from a consideration of the following facts. Let two calves be vaccinated on the same day, at the same time, under the same conditions, and with the same lymph. One of these calves will give excellent vaccine lymph while the other will produce a lymph which is very defective in vaccinal quality. The importance of the rôle played by the lymph is shown as follows. At one vaccine station they had a whole series of defective crops (*récoltes*); several calves were vaccinated, some with the ordinary lymph of the establishment, others with lymph coming from another station. The former lot gave very indifferent lymph, the latter excellent; but what demonstrates anew the influence of the *calf* or of its *surroundings* is the fact that other calves vaccinated with the good lymph collected in this station and originating from lymph sent from the other station gave, after the lymph had passed through some three calves, defective lymph.

Hot weather goes for nothing as regards the failure of the lymph observed during 1899, for (1) failures were not observed everywhere and some stations had excellent crops all the year through; and (2) deficiency in quality was noted in the cold weather as well as in the hot. In one station with which I am personally acquainted there were throughout the year *only two defective* crops, the one collected on March 13th, the other on July 17th. All the other crops, including those of June, July, and September were of excellent quality. There was no August crop on account of the director of the institute being away and provision was made in July for a supply for August. At the same station during another year there were 20 crops which failed and they were nearly all collected between April and May. At another station which I know, presided over by a bacteriologist who is as well known in England as in France, some two years ago the crops collected in the spring were defective while those collected in the summer were of excellent quality. For these latter results all the calves had been vaccinated with a lymph of exceptionally high power coming from another station.

---

[1] THE LANCET, Nov. 4th, 1899, p. 1265.

In the English colony of Natal vaccinations are performed at any time of the year with lymph sent from Europe. I know that during the hot weather a year ago the results were excellent and I should have been informed if the results were not the same in 1899.

It is proposed to store lymph for use in hot weather which has been collected during cold weather. I have lately made some experiments with vaccine lymph collected in April the efficacy of which was perfect at the moment of collection. Here are my results at the end of three days:—

With *Vaccine No. 9*, collected on April 10th, two children were inoculated, two insertions being made in each child. The insertions were made in these and in the following cases by superficial incisions of about one centimetre in length. In the first child there developed from one incision *three* small vesicles. They were badly developed and discrete the one from the other. From the other incision only *two* small vesicles developed. In the second child there were *two* vesicles of the same length as the respective incisions, but with very irregular edges.

With *Vaccine No. 12*, collected on April 17th, two children were inoculated. In the first child there developed from one incision *two* small vesicles. They were badly developed, and discrete the one from another. From the other incision only *one* small vesicle badly developed. In the second child there were *two* vesicles of the same length as the respective incisions, but with very irregular edges.

With *Vaccine No 13*, collected on April 17th, two children were inoculated. In each child there developed *two* vesicles of the same length as the respective incisions, but with irregular edges.

With *Vaccine No 14*, collected on April 17th, two children were inoculated. In the first child there developed from one incision *one* small vesicle. The other incision gave no result whatever. In the second child there developed from each incision *one* vesicle only They were small and badly developed.

With *Vaccine No. 15*, collected on April 24th, one child was inoculated. From one incision there developed *three* small and badly-developed vesicles. From the other incision nothing developed.

With *Vaccine No. 17*, collected on April 24th, one child was inoculated. Each incision developed a vesicle of corresponding length but with irregular edges.

It is to be noted that when the lymph is very active it produces regularly-shaped pustules as long as the insertion incisions. The following is the table for revaccinations:—

Vaccine.	Successes.	Number vaccinated.	Percentage.
No. 9	3	24	12 50
,, 14	3	20	15 00
,, 28 (of June 19th)	25	165	15·15

These last results are altogether bad and show that old vaccine lymph should never be employed, especially for revaccinations. Again, for primary vaccinations the vaccines which I have employed in my experiments should have already proved inefficacious in the hands of many vaccinators if used in public vaccinations.

I am Sirs, yours faithfully,
DR. EDMOND CHAUMIER.

Tours, Jan 1st, 1900.

THE TREATMENT OF PANNUS BY JEQUIRITY.

To the Editors of THE LANCET.

SIRS,—I have read with much interest your admirable review of the "System of Diseases of the Eye," by American, &c., authors, but I cannot allow to pass without a strong protest the unfavourable opinion therein expressed in regard to the treatment of pannus by means of jequirity. I have frequently used this remedy and have seen it used by other surgeons with marked success where all other lines of treatment had failed.

I am, Sirs, yours faithfully,
ROBERT J. MONTGOMERY, F.R.C.S. Irel.,
Assistant Surgeon, Royal Victoria Eye and Ear Hospital, Dublin.

Dublin, January, 1900.

TO THE THIRD GENERATION: THE CONTAGIOUSNESS OF INHERITED SYPHILIS;

THE DISTURBANCE OF LATENCY IN SYPHILIS UNDER THE INFLUENCE OF CONCEPTION IN THE WOMAN; INHERITED MATERNAL TRANSMISSION.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Nov. 25th, 1899, a case of possible syphilitic inheritance in the third generation observed by Mr. Hutchinson is noted, and in THE LANCET of Dec. 9th the contagiousness of inherited syphilis in the second generation is affirmed by Dr. L. Kolipinski. Mr. Nunn has recorded a possible case combining both these propositions.

> In this sequence the grandmother had originally acquired syphilis from her husband The daughter, who herself showed evidence of past inherited disease, gave birth to a syphilitic infant, who re infected the grandmother with digital chancre followed by secondary signs In the father of this infant after the most critical examination there was no reasonable suspicion or history that he had ever suffered from venereal disease "Unless," remarked Mr Nunn, "there lurk some defect in the evidence, here were three generations syphilitic from the same source[1]

Some little time ago I ventured to suggest that the actual condition of the woman previous to, or on, conception—apart from those pathognomonic symptoms of past inherited disease pointed out by Mr. Hutchinson—afforded room for the supposition of full or partial inherited maternal transmission to the third generation; and I should be much obliged if I might submit this aspect of this question in view of the statement in THE LANCET of Nov 25th, that "Nothing was *a priori* more improbable than that hereditary taint should survive to the third generation." This conclusion, together with the view of probable acquisition in all cases, is apparently founded more immediately upon the known acquisition of disease by the father previously to marriage in one of Mr. Hutchinson's cases, upon the possibility of acquired paternal transmission to the child in the case which forms the subject of your annotation, and upon the rarity of possible cases. Admitting these, together with the possibility of acquired disease in the woman previously to marriage, the hypothesis of paternal transmission to an infant by a "third party" other than the legal father, and the possible diminution of inherited syphilis in the second generation itself, I submit that this *a priori* belief in probable acquisition is weakened by the fact that no reference is made to the absence of suspicion in the husband recorded by observers in other cases, to the possible cases of active inherited manifestations previously to or on conception in the woman, or to the disturbance of latency with manifestations under the influence of conception known to occur in the woman in subsequent pregnancies after previously acquired disease and noted as such in the possible subject of inherited syphilis. Furthermore, I venture to think that insufficient allowance is made for the difficulties attending inquiry into possible cases of this kind in private and hospital practice, or publication of details, as well as for the assumption of paternal acquisition and transmission, in the general absence of inquiry into or suspicion of the previous or parental history of the mother herself in cases which excite suspicion of venereal disease in her or her offspring. "To be as conclusive as possible" in the diagnosis of tardy inherited symptoms in the adult as opposed to acquisition one of the conditions formulated by Diday was that "it must be lastly known whether the parents (of the subject) at the moment of fecundation were in a condition to transmit syphilis."[2] It is this condition of the woman at the time of conception and ability of herself to transmit which seems to me to be of some importance in the question of transmission to the third generation.

Diday goes on to note that "Bell teaches positively that hereditary syphilis may remain latent in the child until the period of puberty or in the adolescent until the time of marriage or of confinement, circumstances which he regards as a sort of crisis capable of inducing the appearance of these symptoms." I have not so far been able to find this reference for myself, but the appearance or re-appearance of symptoms at puberty have been recognised and catarrhal affections of the genital and other mucous tracts noted. With respect to the same in the adult, the objections to which such cases are liable are obvious, especially as regards genital mucous affections; and yet amongst the numerous cases originally recorded[3] of leucorrhœas, uterine erosions, menorrhagias in young unmarried women under the heading of "struma," it is almost impossible to doubt that some were unrecognised cases of inherited syphilis; more especially as under the "scrofulous diathesis affections of the eyes leaving interstitial deposition between the layers of the cornea" were noted.[4]

---

[1] British Gynæcological Journal, [illegible]

The subsequent histories in these cases are aggravation of symptoms on marriage with sterility; or on conception, muco-purulent or purulent discharge through pregnancy, repeated abortions, or premature births, and subsequent pronounced uterine inflammatory disease. With regard to offspring, there is but little noted in these treatises especially devoted to the diseases of women and there is only the note of offspring who either did not survive long or were healthy and the expression of belief in transmission of syphilis to the third and fourth generation in obvious form, or, amongst other causes, in the inherited syphilitic origin of "struma." Attention, however, appears to have been directed to the state of the husband in cases simulating acquired venereal disease, and in some of these cases he was as far as possible exculpated from blame. In some suspected cases of this group which have come under my own limited observation, well-marked notched central upper incisors have been present in the woman, or these teeth have been entirely absent (Dr. Laycock, quoted by Dr. J. G. Beaney, stated that the characteristic groove is "usually obliterated by the twentieth year"); in other cases disease in the parent of the woman has been volunteered, and in a few cases I do not think there has been any reason to suspect the husband of past or present syphilis or gonorrhœa.

Whitehead recorded a possible case of general, genital and uterine manifestations in a young married woman.[5]

> In this case he on inquiry traced a succession of symptoms from infancy, through childhood to adult age, marriage, and possible conception, and regarded them as due to syphilitic inheritance. His suspicions of syphilitic taint being raised he asked for an interview with the husband, but instead the mother of the young woman came and acknowledged to disease in herself and second husband previously to the birth of the daughter.

At what time, however, the grandmother became contaminated by a first or second husband is open to doubt. Less objection can, perhaps, be taken to a case of Gilbert's quoted by Diday in favour of tardy inherited syphilis in the adult woman under the disturbing influence of conception:—

> It is that of a young woman of bad constitution, who, after the birth of one infant who wasted rapidly and died on the seventeenth day, and of another healthy at the age of two, herself exhibited swellings, one of which, over the clavicle, suppurated and ulcerated. A node also was noted on the tibia. In this case there was reported syphilis in the parents of the woman, but no evidence or history of acquisition in herself or her husband.

This group of possible cases, I admit, favours symptoms in the mother with abortions and premature births rather than actual transmission to the third generation. The possible case, however, adduced by Mr. (afterwards Sir John) Simon, and referred to by Mr. Nunn bears more directly.

> The woman, whose father had died of tertiary syphilis, herself had a first child who was judged to be syphilitic, and had in her own person some symptoms which were ascribed to the same poison, there being not the smallest possibility of syphilis as far as could be ascertained coming to her in any way otherwise than that of descent.[6]

After previously acquired disease in the woman it is known that manifestations may re-appear in subsequent pregnancies in the form of syphilides, genital and uterine lesions, purulent discharge, abortions, premature births, full or partial transmission to offspring, with subsequent fever and confirmed inflammatory uterine and pelvic disease in the mother (or death of the mother in childbed, as noted from septicæmia in one of Dr. Kolipinski's cases in THE LANCET of Dec. 9th) "Facts of this kind are numerous, and to be convinced of this it is only necessary to read the observations furnished by authors."[7] Moreover, cases have been noted of syphilis in the offspring of women previously diseased by a first and married to a second, even third, healthy husband, the woman herself apparently remaining healthy or exhibiting only uterine disease.[8]

From such facts as these it is difficult to believe that the same disturbance of latency and transmission to offspring may not occur in the case of inherited syphilis; that if symptoms are present in the mother they may not be due to revival of disease in herself rather than re-infection; and that there is no survival of hereditary taint in some at least of her offspring. The same argument, of course, applies to cases in which the woman has acquired disease previously to marriage. The question also of acquisition in infancy cannot be ignored, with subsequent symptoms in adult life. In Whitehead's case previously referred to, and possibly in Diday's, Simon's, and in unsuspected others, there may have been acquired syphilis in infancy or childhood, with re-appearance in the innocent woman of manifestations on conception, or maternal transmission. Whitehead records a definite case of lip infection in a girl of 11 years of age with subsequent constant leucorrhœa, vaginal irritation, and other symptoms, who ten years later gave birth to a syphilitic infant followed in the mother by uterine inflammatory disease, while the husband in this case had "never suffered from syphilis in any shape."[9]

I am, Sirs, yours faithfully,

JOHN A. SHAW-MACKENZIE.

Grosvenor street, W., Jan. 22nd, 1900.

"THE UNIVERSITY OF LONDON ELECTION: THE CANDIDATURE OF DR. W. J. COLLINS."

To the Editors of THE LANCET.

SIRS,—The anonymous letter which appeared in THE LANCET of Jan. 13th under the above heading contains at least one mis-statement of fact, but it breathes such a tone of virulent opposition as to render a reply hardly necessary. I rely, however, on your well-known love of fair play to permit me to add a word or two to the comments contained in your annotation on the same subject in which you say (p. 117) that Dr Collins is "at variance with accepted scientific belief on the question of vaccination." As one of the Royal Commissioners appointed by Her Majesty to inquire into the subject of vaccination Dr. Collins has had exceptional opportunities for studying the subject and has given us his views at considerable length in what is known as the "Dissentients' Report," signed by Mr. Picton and himself. It would occupy too much space to quote from this at sufficient length, but I cannot do better than refer to the leading article in THE LANCET of Oct. 31st, 1896, p. 1241. In dealing with that report you adopt the following as a summary of the views held by these gentlemen:—

> One thing is certain from a perusal of the very guarded terms in which the dissentient Commissioners refer to vaccination, and that is that they believe vaccination to be a means of protection against small-pox. Nowhere, as we point out in another column, do they express a disbelief in vaccination as a power against small-pox. Indeed, they go far beyond giving this negative testimony of their faith in vaccination They assert in a positive form that it is both an "effective and trustworthy prophylactic" because they propound the question in a *comparative* form as to whether vaccination can be regarded as a "more" effective and trustworthy agent in the control of small-pox than sanitation and isolation. Then, again, they really advocate vaccination, for they actually suggest that "moral influence" may properly be used in pressing it upon the population, and this attitude pretty well disposes of their having any belief in the terrible risks which, according to some people, are involved in the operation. With some of the recommendations of the dissentients it is obvious that everyone will agree

It is possible that Dr. Collins may not be "an embodied expression of the highest medical opinion," though I personally should not be inclined to admit even this without discussion, in view of his vast knowledge of this and other subjects, and the distinguished position he has taken at our university examinations. But I do not think anyone after a careful perusal of the report in question and the valuable criticism of THE LANCET thereon can maintain that Dr. Collins is at variance on any important or vital point with the accepted scientific belief on the question of vaccination. Indeed, he has won the cordial support of hundreds of his fellow graduates, including a large number of medical and surgical alumni of the University of London, who believe he would be as useful in Parliament as he has been in the London County Council.

---

[3] J. Whitehead, 1847-51; W. Tyler Smith, 1855; J. H. Bennett, 1861.

[4] J. Whitehead. Abortion and Sterility, p. 61.

[5] Hereditary Diseases, pp. 149, 208.

[6] Discussion on Syphilis at the Pathological Society of London, 1876.

[7] E. Lancereaux A Treatise on Syphilis, vol. ii, p. 265.

[8] J. Whitehead, p. 118. On Venereal Disease, A. Vidal (de Cassis), p. 453. Constitutional Syphilis, J. G. Beaney (1880), p. 350.

[9] Pp. 153, 154, 240.

I am, Sirs, yours faithfully,
THOMAS D. SAVILL.

Upper Berkeley street, W., Jan. 16th, 1900

PROPOSED PUBLIC MEDICAL SERVICE.

To the Editors of THE LANCET.

SIRS,—I am glad to see that Mr. M. J. Houghton is developing the above proposal. In the *British Medical Journal* of June 22nd, 1889, I suggested the formation of such a service. At first I suggested that it should contain only one department which I termed the "*cash fee department.*" But Dr. H. Woods pointed out to me that it should contain also a department by which persons in health could insure for treatment when ill. I agreed to recommend a provident department also. I think two or three such public medical services exist—one in Coventry and one in Hartlepool. They have not, I understand, adhered to all my suggested rules. *At present I would not advise that this name be continued* and I would suggest that in place of it the term "Provident Medical Service" be adopted

My aim in suggesting such a service was to show that, from long back, practitioners should not have left it to *non-medical persons* to establish sick-clubs of any kind whatsoever. I took up this position—that the wage-paid classes *have no more right to employ me as their medical servant* in a sick-club capacity than I have to interfere with (or exploit) the grocer, &c., who kindly sells to me groceries, &c. Let *all* practitioners agree *not* to act as medical officers to *all* sick-clubs; let the sick-clubs carry on their chief functions as related to sick pay, funeral allowance, &c.; let a provident medical association be established in each town, with branches if necessary, and then touting for clubs, the medical aid association nuisance, hospital abuse, and kindred subjects will disappear. The question of hospital abuse can never become a practical question until such a service is in thorough working order, as it would be cruelty for a hospital committee to refuse treatment unless they could refer the applicant to such a trusted service. My only fear is that such a service would run a great danger of being ruined by not having a rigid "wage limit" for membership, and thus hospital abuse if corrected at the hospital would not be cured but only transferred to the service. Doctors are a *most unbusinesslike class*

I am, Sirs, yours faithfully,
Liverpool ROBERT R. RENTOUL.

MOSQUITOS AND MALARIA.

To the Editors of THE LANCET.

SIRS,—Permit me to call attention to a slight error that is expressed in your columns[1] in regard to the discovery of the anopheles as a carrier or host of the quartan malarial parasite. It is stated that "within a short time of his arrival at Sierra Leone Major Ross was able to telegraph that he had found the malarial organisms within the bodies of the anopheles and further that he had proved that the insects would also act as carriers of the quartan parasite." As Grassi, Bignami, and Bastianelli[2] published on Feb. 5th, 1899, that they had succeeded in experimentally infecting anopheles claviger with quartan parasites by feeding it on a woman suffering from a severe quartan infection and that they had found stages of development of the organism in the stomach wall of the mosquito so infected, it is clear that the credit of the discovery is due to them and not to Ross. I have been influenced to call attention to this fact for the reason that on several previous occasions the same error has found expression in the columns of THE LANCET and of other medical journals.

I am, Sirs, yours faithfully,
IRVING P. LYON.

Buffalo, N.Y., U.S.A., Jan 14th, 1900.

*** The claim which Dr. Lyon contradicts does not seem to us to be made in the words which he quotes.—ED. L.

"THE MURMURS OF MITRAL STENOSIS."

To the Editors of THE LANCET.

SIRS,—Dr. Sansom in your issue of Jan. 20th (p. 195) has protested against the statement in my letter of a fortnight previously that his article in Professor Allbutt's "System of Medicine" misrepresents me. I did not mean that his *résumé* of my views was inaccurate, but rather that it was calculated to leave an inaccurate impression. Dr. Sansom's quotations from my Paris thesis of 1896 show that I am largely responsible for this, since auricular hypertrophy, on which I there lay so much stress, implies an extra ("abnormal") powerful contraction of the auricle. In the thesis I magnified the importance of hypertrophy as the most tangible part of the evidence of the possibilities of the auricle. This was out of consideration for the probable training and prejudices of the examiners for whom it was prepared. I imagined that if I could get them to admit the probability of my theory when the auricle was hypertrophied I might then lead them a step further—viz., to recognise that it was also possible, at least theoretically, when the auricle was not hypertrophied. The thesis was well received as I gained a "très bien" for it and was asked to write a *résumé* for the "Archives de Médecine Expérimentale et d'Anatomie Pathologique," which I did.

A few pages beyond Dr. Sansom's second quotation from my thesis—viz., on page 41—I venture to state why I gave such prominence to the element of hypertrophy: "Pour satisfaire ceux qui croient plus à la force musculaire qu'aux principes mécaniques, j'attire encore une fois leur attention sur ce fait que j'ai toujours supposé une oreillette hypertrophiée et non dilatée." But I continued, p. 42: "Mais, même s'il n'y avait pas d'hypertrophie de l'oreillette (et je ne suppose pas que l'hypertrophie existe pour lui donner la faculté de résister au ventricule, ce à quoi il a été, j'imagine, toujours plus ou moins habitué, mais pour lui donner le pouvoir de pousser le sang avec une vitesse suffisante au travers d'un orifice rétréci), il serait mécaniquement vrai qu'un ventricule vigoureux, lorsqu'il est gros, ne peut pas dilater une oreillette faible quand elle est suffisament petite, pas plus qu'un gros ballon, distendu, fait en caoutchouc épais, ne peut dilater un petit ballon, distendu, et fait en caoutchouc mince, lorsqu'il est mis en communication avec ce dernier." It is clear, therefore, that even in my Paris thesis, my earliest publication on the subject, I did not regard a hypertrophy of the auricle as essential though I have always maintained it to be helpful; still that thesis, written against time as it was, has given undue importance to the valuable element of hypertrophy and justified Dr. Sansom's term "abnormally powerful" far more than my somewhat offensive expression "misrepresents me," which I very much regret having employed, and trust Dr. Sansom will add another to my many debts of gratitude to him by accepting my sincere apology.

The term "abnormal" evidently conveys a different impression to different minds. Thus in answer to my question "Is it abnormal that the smaller piston of a Bramah press should be able to force up the larger?" Dr. Brockbank replies "yes," where I should have said "no." His words are: "Yes, *it is impossible for the smaller piston* to press up the larger unless it be plunged with sufficient force to overcome the resistance of the large piston." Surely that is a normal and not an abnormal physical fact—a fact in hydrostatics which indicates that given suitable mechanical conditions a very weak force can overcome a very great resistance. Such a mechanical advantage the auricle has when it has nearly emptied itself and presents a small internal area to oppose a full ventricle beginning to contract and presenting a large internal area, for this is their relative condition *as regards area* when their contractions overlap.

Dr. Brockbank cannot get away from the idea of a considerable force to produce considerable pressure. If he will get a multiplying pulley gear and put a small child to pull the rope while he holds the free pulley, he will discover that the child can easily pull him over, but he must not conclude therefrom that the [illegible] exerts a man's force Si[illegible]
er, the re

---

[1] THE LANCET, Dec. 30th, 1899, p. 1319.
[2] Reale Accademia dei Lincei, vol. viii., 5 febbraio, 1899.

to, he will readily understand that mechanical advantage may allow great blood-pressure to be generated by forces quite insufficient to produce it without that advantage. Dr. Brockbank says: "It is impossible for an auricle to hold up the ventricle and prevent the regurgitation of blood, which I believe creates a crescendo murmur, unless the auricle contract with sufficient force to do this. That an auricle possesses such power at any time, especially in mitral stenosis when it is so often abnormally thin, has not been proved, nor is it probable that it does possess such power." Is the auricle "so often abnormally *thin*" in mitral stenosis? Even in the post-mortem room, where all the effects of the heart's final failures and breakdown are especially displayed, I have shown that 44 out of 77 cases of severe mitral stenosis at Guy's Hospital are recorded as having the auricle hypertrophied, and hypertrophied in nearly one-fourth of the slight cases, while in cases of stenosis dying in the surgical wards of something else auricular dilatation is strikingly rare, and if I remember correctly the auricle was never sufficiently thin for it to be remarked.

Nothing in medicine is of universal application and no theory can be demonstrated by every case. I am quite prepared to admit that when an auricle is abnormally thin it is abnormally weak and may fail to defend a stenosed mitral orifice, even as it may fail to produce an auricular-systolic murmur. Such failure affects no principle of action.

Moreover, it is exceedingly "probable" that the auricle does possess the power Dr. Brockbank denies to it. The auricles have even been known, as in a case of ventricular calcification, to bear the whole brunt of the circulation and maintain it. So far as the mechanics of the circulation are concerned the heart is a mechanical instrument subject to mechanical laws, and one is (1) that the thickness of a contracting sphere varies inversely as the square of its diameter; and the pressure it can exert on its contents, if the contraction of its fibres be constant in force, is proportional to the wall thickness. If this is not understandable it may be put thus: with the same number of contracting muscular fibres the surface of blood to be pressed on varies directly as the square of the diameter and is therefore, or may be, subjected to a pressure varying inversely as the square. Another law is, (2) the pressure a contracting sphere can exert on its contents varies inversely as the diameter of the sphere. This latter depends not on the wall thickness but on the increased curve of the decreasing sphere (*vice versâ*) which makes its contractions more effective on its contents when small. So, if an auricle in contracting become a sphere of one third its initial diameter it can theoretically exert a pressure of 27 times its original amount. If it did but half this it would be sufficient for the purpose of my theory. This is neglecting hypertrophy, which is often present in slight and usually present in severe cases of stenosis, and which is always a reserve factor in my favour. The effect of the escape of the liquor amnii in augmenting the pressure of the uterus on the fœtus is due to the operation of the same two laws, for size is indirectly more a pressure factor than is muscle. The ventricle differs from the auricle in having from the beginning and when large to expel its blood against high pressure. If its load came on it at the end when the ventricle has become small, as the auricle's does, its walls might be several times thinner than they are.

Dr. Sansom points out very opportunely and with great reason in his letter that if regurgitation be a feature of mitral stenosis, as Dr. Brockbank's theory demands, "there would in all probability have ensued dilatation of the cavity of the ventricle, for mitral regurgitation in any notable degree is followed by enlargement of the ventricular cavity. As this cavity is observed to be small it is a fair inference that regurgitation has been prevented by some change making for compensation." For my reply to Dr. Woods's third objection which Dr. Brockbank quotes I must refer him to my letter in the *British Medical Journal* of March 20th, 1897, p. 767.

There are many other matters of interest in Dr. Brockbank's and Dr. Theodore Fisher's letters which some day we may better agree over, especially if I learn meanwhile from Dr. Sansom's just rebuke to be a little more courteous in my criticisms.

I am, Sirs, yours faithfully,

D. W. SAMWAYS.

Mentone, Jan. 22nd, 1900.

PUBLIC HEALTH OF DUBLIN:

THE RE-HOUSING OF THE POOR.—THE BACTERIA IN THE SOIL.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Concluded from Jan 20th, p. 201.)

ON the south side of the Liffey, behind and not far from Dublin Castle, there is a broad thoroughfare called Peter-street. In former times this street was evidently inhabited by wealthy people, but it has quite fallen from its high estate. A part of the street is now occupied by the Adelaide Hospital, and such is the poverty-stricken condition of the surroundings, that the house next door to the hospital is in ruins and uninhabited. It should be easy to purchase this house and utilise the site to enlarge the hospital. On the opposite side of the street there is a whole row of tenement houses which have been handsome private dwellings, five storeys high, but the first one I entered I found to be inhabited by no less than 15 different families. For this numerous population there is but one closet situated in the back-yard, which is below the street level. As no one is responsible for this closet and charged with keeping it in order it has been broken to pieces; there is filth on all sides and the place is absolutely unfit for use. Next door and for a similar house there is also only one closet in the back-yard, and here the water-supply pipe is out of order. The water flows continuously over the closet-seat; it does not enter the pan, but forms quite a little rivulet in the middle of the yard. This is a great waste of water, for it does not even serve to flush the soil-pipe. These closets need to be rebuilt. Inside the houses there were the usual evidences of neglect and poverty—cobwebs on the stairs and dust and dirt on all sides; the interior of the rooms varying according to the character of the tenants.

Throughout Dublin, and constituting a special feature of the city, it is impossible not to be sadly impressed by the great number of abandoned, uninhabited, and dilapidated houses that are rapidly falling into ruins. But in going from Peter-street to the Coombe district I came across a greater number of these houses than usual. In some cases the roof has entirely disappeared. I noticed three such houses in Coombe-street. Others have one or two inside floors broken in as if the shell of a 100 ton gun had passed through them. Park-street, off Ash-street, presented a veritable scene of desolation. There were great gaps where houses had formerly stood—even the outer walls had given way. Other houses, still standing, had no window-frames remaining, and from a lower window it was sometimes possible to see to the top of the inside of the house, because the intervening floors had all gone. Ash-street is, indeed, a lugubrious and sinister thoroughfare. It cannot boast even of a gutter, and not many paving-stones remain. In the centre of the street there is an irregular indentation which serves as a sort of surface drain. The closets in the yards behind the houses are indescribably filthy. Fæcal matter is strewn in all directions, and close to this foulness people sleep, on the ground floor and on beds that have no bedclothes. The weary lie down without undressing and with the dirt of the neighbourhood clinging to them. Then there is the terrible aspect of the inhabitants, especially the women, whose sordid, torn, greasy, and ragged clothes hardly hang on them. At the corner of Vicar-street notably there is a house that is falling to pieces, and it seems extraordinary that there should be so much property in the heart of the town, and not far from the Castle, that is thus tenantless and in ruins. Here and there, it is true, some poor people crawl in and inhabit a room or two in a house which has partially lost its roof and the greater part of its windows. Doubtless they have no business to be there and perhaps pay no rent, but in the midst of such poverty, recklessness, and neglect the wretched sufferers resort to every expedient. The authorities can close a house as unfit for habitation (as a matter of fact some 1500 houses in Dublin have thus been closed) and as no compensation is given this is the easiest manner of dealing with insanitary property. A scheme for rebuilding such houses under the Housing of the Working Classes Act would be an expensive and complicated matter; and though a good deal is being done under this Act all the unhealthy houses and all the bad property cannot at one and the same time be treated in this manner. On the other hand, many of the owners of these wretched dwellings are very poor and cannot afford to put their property in proper repair, so the houses are closed and fall into ruins.

In Smith-alley I came across another public fountain, similar to the one situated in Taafe court already described. Here, again, there was fæcal matter round the tap, and people were emptying the soil from their pails on the gully under the tap where others came to fetch their supply of drinking water. At this spot a girl about 12 years of age came past. On one foot she wore a man's boot; the other foot was bare. She had nothing on her head and very little on her body, and it was a cold winter morning. The poverty that this sorrowful sight indicated is such that many of the poor strive to rent a room for 8*d.* per week. Of course, no suitable room can be obtained for this price, but there are a few noisome back basements that are let out for that sum. Many of the persons who lodge in such places have no better occupation than that of going long distances in the early morning so as to pick up cockles in the Bay of Dublin. These they sell at night at the street-corners. When this class of people succeed in paying 1*s.* a week rent they consider it quite an achievement and flatter themselves that they have already risen in social rank. This is where the difficulty of municipal action comes in. It is comparatively easy to provide model dwellings that will be readily rented at such rents as will prove remunerative, but this class of people cannot be the tenants. After all this it was a very pleasing sight to visit some of the newly constructed quarters, such as the Thomas Davis district and notably John Dillon street. Here there are small neat red-brick cottages. Each tenant has his own closet and can therefore keep it clean, in good repair, and in working order. In front of the houses the road is asphalted. Consequently it is comparatively free from dirt or mud, there is less damp, and the subsoil cannot be contaminated.

In Blackhall-place there are 15 self-contained houses at 7*s.* 6*d.* per week, five shops at 6*s.* 6*d.*, five two-roomed dwellings at 3*s.* 6*d.*, 14 at 4*s.*, 14 at 3*s.* 9*d.*, 14 at 3*s.* 3*d.*, and 14 at 3*s.* On visiting one of these tenements for which 3*s.* 9*d.* is charged I found that, though the appointments were all good, the second room, used as a bedroom, seemed to be very small. Seeing what is done in London, where the ground-rent is much higher, the rent charged appears excessive. In the Bow-lane district there are 86 model tenements. Five of them have shops and are rented at 5*s.* to 5*s.* 6*d.*, the rent for the others varies from 2*s.* to 4*s.* 6*d.*, the latter having three rooms. There are 19 two roomed tenements at 2*s.* In the Benburb street district there are 23 one-roomed tenements at 1*s.* 6*d.*, 14 at 1*s.* 9*d.*, and 28 at 2*s.*, and 76 tenements at higher rents. From the sanitary point of view it is the cheapest of these tenements that are of the greatest use and interest.

Of course it is the extreme poor who are the most difficult to deal with. Fortunately, during the last session of Parliament, the borrowing powers of the Dublin Corporation were increased to the extent of £600,000. Therefore, the city now proposes to spend a quarter of a million for the housing of the extremely poor. Then we have Lord Iveagh's celebrated scheme which will also involve the expenditure of another quarter of a million sterling. By this scheme the Bull-alley area is being cleared while the Corporation takes up the adjoining district, so that a vast clearance will be accomplished on the slope from the Castle to St. Patrick's Cathedral, and some of the worst alleys, tortuous streets, and filthy and unhealthy houses will be swept out of existence. These will be replaced by broad streets and model dwellings. Lord Iveagh in his district proposes to built not only tenement houses, but also a bath house and a concert-hall, so that there shall be some local attractions and entertainments which will render the lives of the poor people more refined and joyful.

It will thus be seen that something is being done to meet the grievances which I have denounced. Considerable expense has already been incurred to clear insanitary areas, and these have been leased to public companies for the purpose of erecting artisans' dwellings, or else the corporation itself has built such tenement houses on the sites. In Coombe street and Plunket-street £57,689 have been spent for this purpose and yet much remains to be done here. The 144 tenements in Benburb-street cost £27,273; in Bow-lane 85 tenements cost £10,004; in St Joseph-place 80 one storey self contained cottages cost £25,500. At Blackhall-place and North King-street 85 tenements cost the municipal authorities £12,000. Yet when contemplating the poverty, wretchedness, and dirt of the town it is difficult to realise that so much has already been accomplished; and in some respects it must be confessed that there has been gross neglect. For instance, there is only one public washhouse in the city, and it has been closed now for some considerable time. It is argued with some show of reason that the people are not as dirty as they seem, but very few opportunities are provided for them to be clean. The fact that little boys crowd in the summer months to bathe in the sewage-polluted Liffey shows that if they had better opportunities they would not be so dirty. Thus, when in St. Stephen's green the ornamental waters were provided women from the neighbourhood brought their children to bath them here. It must also be borne in mind that the large houses now so generally let out as tenement dwellings were in most cases built a hundred or more years ago. The water-supply then installed was meant to provide for one family only, and what was considered sufficient a hundred years ago would be deemed quite insufficient even for a single family to-day. Yet in one of these houses I counted as many as 15 different families. The water is generally obtained from a tap in the back-yard, there is no delivery upstairs, and the rooms are so crowded that there is no space for tubs and the washing of linen, to say nothing of the trouble of bringing large quantities of water upstairs and the difficulty of heating the same. Thus the washing of linen is very generally neglected. In many of these old houses, also, there are no back kitchens, sculleries, boilers, or washhouses. How, then, are the poor tenants to wash their linen? Under such circumstances it would be natural to expect that there would be an extra supply of public washhouses, and yet the reverse is the case. It is difficult to find an excuse for such neglect. Another cause of the prevalence of dirt is the innate modesty of the poor women. Huddled together in crowded tenements they have not sufficient privacy and are too much afraid of indecently exposing themselves to wash properly. Hence there is a widespread prevalence of vermin, and a great many of the poor who go to the hospitals are found to be covered with lice.

Where a better example might be given which would serve as a lesson in cleanliness, this is too often neglected. Thus I have received many complaints as to the condition of some of the railway-station lavatories, where unpleasant odours prevail and the woodwork is soaked with urine and the closet-pans are caked with filth, and accumulations of dust contaminated with organic matter are allowed to remain. Many of the lodging-houses are far from clean, the mattresses are rarely aired and exposed to the sun, as is the common custom on the continent. Too often the beds are not properly made, but simply covered over while still warm. The cabs are badly cleaned. The shop-front windows are dirty and dingy. The street pavements are often insufficiently washed, while the cabstands are not infrequently surrounded by fœtid matter that all helps to render the streets unpleasant and to foul the subsoil. Consequently such examinations of the subsoil as have been made reveal a dangerous state of contamination. But such investigations are few and far between. In England the Local Government Board has the financial means by which it is able to despatch expert investigators wherever epidemics may occur. This is not so in Ireland. Thus some time ago there were epidemics at the creameries where the Irish farmers send their milk to be converted into butter by mechanical processes This is a sort of coöperative arrangement managed by the Irish Agricultural Society but it was menaced with ruin by the outbreak of typhoid fever. The medical members of the Irish Local Government Board wished to have some bactériological examinations in order to see whether, if the typhoid bacillus was in the milk, it could pass through the centrifugal machine and find its way into the skimmed milk or the butter, but the Treasury flatly refused a money grant for this purpose. In England bacteriological experts are employed by the Local Government Board and paid proper fees. Not so in Ireland, and yet this is but a trifling outlay in comparison to the very great service to be rendered. For the same reason, water cannot be analysed in Ireland under the auspices of the Local Government Board. This Board has no laboratory of its own and no funds to employ outside experts. Though attention has been drawn to this matter on several occasions, the Treasury seems incapable or unwilling to understand that this is really a serious grievance. No one can deny the importance of carefully watching over the water supply and milk-supply. In Dublin there are many dairies badly situated and close to dwelling-houses. There used to be one such dairy, with some 200 cows, close under the walls of the Richmond Hospital. The stench coming from it seriously inconvenienced the patients. Protests of course were made. The city corporation for a time exacted the more prompt removal of the manure, but they had no powers other than that of merely seeing that the dairy was kept fairly clean. The hospital authorities were finally compelled to buy out the dairy and thus only were they able to get rid of the nuisance.

Slaughter-houses and dairies, and the food supply generally, need a much more strict supervision. Then the schemes for the re-housing of the poor, extensive as they are, will not suffice to solve the difficulty. Much more also must be done to teach the people how to live decent lives. The women especially need to be taught how to wash, how to sew, and how to cook. It is a well-known saying in Ireland that God makes the food and the devil cooks it. Practical lessons in domestic economy should be more extensively given in the schools and no one should be allowed to open a school unless ample means for washing are provided. The Irish Public Health Act of 1878 contains many excellent provisions, but these are not strictly enforced. Party politics, personal influences, and religious antagonism play far too large a part in matters which should in no wise be connected with such subjects. The technical aspects of the problems to be solved are too often set aside in favour of party considerations. This fault may be found doubtless in all countries, but it is especially accentuated in Ireland and has done much to prevent progress on practical lines. But in the face of the terrible death-rate which has now prevailed so long in Dublin there should arise a strong and united demand for reform, and reform for its own sake quite apart from all party or factious considerations.

NOTES FROM INDIA.

(*From our Special Correspondent.*)

The Report of Native Assistant Surgeons upon Plague in Calcutta.—The Report of the Plague Commission.—Novel Medium for Plague Cultures.—Further Outbreak of Plague in Bombay City.—The Progress of the Epidemic.—Famine and Plague.—Strengthening the Indian Medical Service

THE question was put at the recent meeting of the Bengal Legislative Council—"Will the Government be pleased to appoint a committee of expert medical men to report if the cases now occurring and reported to be plague cases are cases of real bubonic plague?" The action of the Government has just been made public and the answer to the above question was as follows: "A few weeks ago the Lieutenant-Governor arranged to depute two specially selected assistant surgeons for a time to test the correctness of the reports of plague cases in Calcutta. The inquiry is not yet complete, but so far it goes to show that unfortunately cases of genuine plague unquestionably do exist in the town." This means that two assistant surgeons were sent about the city to inquire into, and report upon, cases which were at the same time being investigated by the regular plague medical staff. There is not a medical man in Calcutta, native or otherwise, who has had the opportunity of gathering experience of plague enjoyed by the regular staff. It is true that few cases are seen during life by medical men and still fewer by really competent judges, but undoubted cases continue to "crop up" and there are a large number of very suspicious deaths. There have been 170 deaths in Calcutta during the past three weeks in excess of the average and there is no particular disease prevalent to account for the increase. There have been 188 deaths returned as plague. Under these circumstances the additional inquiry might seem to show a want of confidence by the Government in its own officers. But there is a broader view which can be taken—viz., that the Indian Government desire to satisfy the natives through the medium of native medical men as to the exact state of affairs. With the returns which have been published week after week it is impossible to suppose that the disease has been eradicated.

The report of the Plague Commission, which was expected wo or three months after the termination of the hearing of the evidence, is being delayed owing to friction between the medical and administrative sections of the commission. It is said that drafts drawn by the former are rejected by the latter and *vice versâ*. The medical members state that the measures for dealing with plague ought to be carried out by men specially trained to diagnose and deal with the disease rather than by laymen who have had no such training. The others hold that the administration of the measures prescribed by Government, the building of hospitals, and the construction and organisation of segregation camps are more efficiently done by trained administrators and business men, medical officers of course having the care of the sick. Although they do not agree upon their report the commission is in accord regarding some minor points. One of these recommendations is that the disinfection of passengers at *railway stations should be discontinued, experience* having shown that it does not prevent the dissemination of plague from any given centre and uselessly inconveniences and annoys those subjected to the process. In view of the importance of safeguarding the foreign trade of the country it is essential that plague shall not be carried abroad by sea-going ships or steamers and that passengers bound for foreign parts shall be subjected to the strictest examination. It is understood that the commission considers that the port health officers should be strengthened so that the trying work can be done without imposing an undue strain on the health and endurance of those who have so devotedly discharged a responsible but very irksome duty.

In order to meet the religious scruples of a large section of the natives experiments have for some time past been conducted in order to ascertain whether or not the plague prophylactic obtained by growing the bacilli of plague in a medium manufactured from wheat was as effective as that made from meat in the ordinary manner. For rabbits at least the wheat peptone vaccine is as effective as that prepared from meat peptone. Only one experiment has been made, but there is no reason to suppose that human beings will react differently. It is suggested that publicity be given to this experiment, so that those communities which have religious scruples against the use of vaccine prepared from goats' flesh may be made aware that they can now be protected by the use of the wheat-peptone prophylactic. The new material is ready for distribution.

The recrudescence of plague in Bombay city has set in earnest and the weekly general mortality is now mo than double the normal. The plague returns give 278 death while the general mortality last week was 1552. 700 plag deaths would in some opinions be nearer the mark. It curious to note that measles, small-pox, and relapsing feve are all more prevalent than usual. Cholera, however, seem to keep subdued, while plague is rife. It is very satisfactory to find that inoculation is coming more into favour in Bombay city; 7179 persons were operated on last week.

The returns for the whole of India show a considerable further reduction in mortality from plague—the improvement being chiefly due to decrease in the number of deaths in the Bombay Deccan. Karachi has at last a clean sheet for one week. The Madras Presidency returns 42 deaths, Calcutta 50 deaths, Bengal Mofussil four deaths, the Punjab three deaths, the Central Provinces 13 deaths, Mysore State 184 deaths, and Rajputana two deaths. The total for the week is 1384. It will be seen, therefore, that plague is still widely distributed although not very active. The Saran district is the only one in Bengal which continues to return cases and last week there were nine seizures and four deaths. The returns for Calcutta are little to be relied on. The general mortality is higher than normal. The truth probably is that plague has been slumbering in Calcutta ever since the outbreak last spring. The abolition of railway examination is for the best, but shipping inspection, as the commission suggests, ought to be much more thorough. Many native boats escape detection and the examination of large numbers of passengers compels the officers to hurry over their work.

No sooner has plague subsided somewhat than famine scourges large tracts of land. The total number of people in receipt of Government relief in India is now close upon 2,250,000, 1,630,267 being in British territory and 596,291 in Native States. Western India is the sufferer from both calamities, and I regret to hear that the famine is even worse than was anticipated in the early part of the disease.

The short-handedness of the Indian Medical Service has been commented upon over and over again, so that with regard to the proposal for improving the reserve of the assistant surgeons in the army I am glad to find that a satisfactory conclusion has at last been arrived at. There is to be an addition of 155 assistant surgeons to the existing reserve.

Dec. 28th, 1899.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Anglo American Insurance Company.

AT the Birmingham Quarter Sessions on Jan. 21st a case of considerable interest was investigated before the Recorder. References to the matter have appeared already in your columns. A man, aged 35 years, was indicted for having attempted to obtain by fraud £100 from Dr. W. D. Lawrie, a surgeon living in one of the suburbs. It was stated that on Nov. 21st, 1899, the accused called upon Dr. Lawrie and represented that he was authorised by the Anglo-American Insurance Company to appoint medical officers in the principal towns of the country at a guaranteed annual salary of £100 on their agreeing to take shares to the extent of £100. He further stated that the company was registered, and produced a prospectus on which the names of the directors, who, he said, had invested £5000 in the company, were type-written. Among these was the name of Sir William Mac Cormac. A subsequent meeting was arranged, but in the meantime Dr. Lawrie consulted his solicitor, and a development took place in which the police made additional inquiries. It was shown at the trial that the prisoner and his agent had collected as much as £4200, principally from medical men. An able attempt was made by counsel to exculpate the prisoner, but the jury without hesitation found a verdict of guilty. The Recorder, in imposing a sentence of 15 months' imprisonment with hard labour, said that the prisoner had been convicted on the clearest evidence and that his was a most bare-faced attempt to defraud.

Assault on a Medical Man.

An extraordinary case was brought before the local magistrates at Rushall on Jan. 22nd. Dr. W. H. Whitehouse was summoned for assaulting a shoemaker at Pelsall on Jan. 8th. It was stated that Dr. Whitehouse was sent for to the house of the complainant on the morning of the above date; several other messages were subsequently sent and he ultimately arrived about half-past 5. The wife then told him that he was not wanted and that they had sent for another medical man. Dr Whitehouse turned to leave the house when the husband came downstairs and refused to allow him to leave until he had apologised. This he refused to do. This was the occasion of a combined attack by the woman with a poker, the husband with his fists, and a small boy who rendered effective service by kicking the doctor's shins. The case against Dr. Whitehouse was rightly dismissed, and the cross-summonses were then heard against the man and his wife for assaulting him. Evidence was given as to the injuries, and the defendants were fined £2 4*s.* each, including costs, or a month's imprisonment.

The Degradation of Consulting.

This scheme against which so strong a protest was raised by the profession, supported by the medical press, has not been allowed to slumber. It is stated that the committee of the Birmingham Medical and General Consultative Institute, under the auspices of the Hospital Saturday Committee, have made material progress with their arrangements. An appeal through the lay press of some of the larger cities has brought a number of responses from applicants willing to take the post of consultant, so much so that it has been not easy to make a choice among them. The selected gentlemen have been interviewed and an appointment has been made in which the committee express their entire confidence and which they think will give satisfaction to all concerned. A suite of rooms will be taken in a central position and as soon as possible the details set going. The scheme has met with hostility upon just grounds from the local members of the profession, and I am not prepared to envy the recipient of the committee's favours.

Medical Charities and War Funds.

In common with many benevolent institutions the medical charities are feeling the competition with the numerous efforts being made to help those connected with the war in South Africa. At the annual meeting of the Hospital for Children held on Jan. 22nd it was alleged that a distinct difference was being felt from the war fund appeals to private charity. The report showed that the number of patients for the year was 15,392, as against 14,565 in 1898. The number of out-patients was 14,164. The detention rate for the year was 19·1 days. The death-rate, calculated on 1028 patients treated to the termination of their cases, was 6·2 per cent. The average cost of patients per week was 3*s.* 1*d.*, while that of the officers was 6*s.* 10*d.*, as against 7*s.* 6½*d.* in 1898. The donations had increased by £226 while legacies of £2796 had been received. The report was full and concise and the institution is in a condition to appeal with every prospect of confidence for additional subscribers.

Jan 23rd.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Finances of Manchester Medical Charities.

A PAPER was read recently at the meeting of the Manchester Statistical Society by Mr. F. Brocklehurst, a member of the City Council, on the Medical Charities of Manchester and Salford. He summarised with a good deal of difficulty the figures obtained from the reports of 20 charities. Each institution gives its information in its own way, while a few of them, for instance, give the number of beds or the cost per patient treated. If the different authorities would agree to a uniform plan of presenting their statistics something would be gained by the charities and the public. Six only of the 20 give any information as to the residences of the patients. Some months ago it was stated that 40 per cent. of the patients treated at the infirmary came from outside districts, contributing little or nothing to the charity; and this is no doubt true of most of the other institutions. Mr. Brocklehurst estimates that, taking the whole of the charities, one-fourth of the cases treated during the year were from the outside. This would be regarded with equanimity but that so many of the medical charities carry on their work "in a condition of chronic insolvency." He gives 11 hospitals (among them the Salford Royal Hospital and Dispensary, the Clinical Hospital for Women and Children, Ancoats Hospital, St. Mary's Hospital, the Manchester and Salford Hospital for Diseases of the Skin, the Manchester and Salford Lock Hospital, the Southern Hospital for Diseases of Women and Children, and the Northern Counties Hospital for Incurables) with an aggregate deficit of £5796. And, in addition, the Eye Hospital has had to realise £2000 of its securities to pay its way; the Dental Hospital report says that all its securities have been sold to pay off the deficit; the bank overdraft of the Consumption Hospital was £560 and that of the Children's Hospital was £1550. A few years ago the Lewis trustees offered St. Mary's Hospital £70,000 for a new building, but the offer was so hampered with conditions and with a complex arrangement with the Southern Hospital that it came to nothing, while it seems to have injured both institutions and to have irritated the trustees. It is stated that the annual loss in the working of St. Mary's Hospital has "for many years" been £500 or £600. But such is the faith of hospital managers that in the face of all this a most expensive site at the corner of Oxford street and Gloucester-street, close to the Oxford-road Station—one of the worst that could have been chosen for a maternity hospital, being low and often enveloped in fog as well as most noisy—was purchased for the erection of a much larger building than the old St. Mary's Hospital. It was stated that in 1898 six charities had to take from their endowment funds £7000, and if bank overdrafts and adverse balances had been cleared off a further £5000 or £6000 would have been required. This year the local charities will no doubt suffer as a result of the drain on public and private resources in consequence of the war in South Africa, so that it would be too sanguine to hope for immediate improvement in their finances. If our men of business conducted their concerns as they manage the hospitals they would soon come to grief. There is no limit to the demands on medical charities, and it is difficult to push them aside; but it is a question whether too much is not being done for those who cry "Give, give," when they could help themselves; and whether our gigantic system of relief, with inefficient checks on abuse, is not doing as much harm as good by sapping all manly self-reliance and replacing it with the ethics of the chronic pauper. The difficulty, of course, is to help those in need and deserving, for the needy undeserving are well served by the Poor-law, while the sufficiently well-to-do are told to help themselves. Does this almost insolvent condition of so many of our hospitals obtain all over our country?

Ladies' Health Society.

The Ladies' Health Society, in union with the Manchester and Salford Sanitary Association, held its thirty-ninth annual meeting on Jan. 11th in the Manchester Town Hall. It was presided over by the Lord-Mayor. One or two fresh departures were made during the year. Special attention had been paid by the health visitors to giving the people information as to the infectious nature of consumption and how best to prevent its spread, guided, of course, by the instructions of Dr. Niven. These health visitors go from house to house, see the conditions under which the people are living, and are often able to improve them. They report defective drainage and insanitary arrangements to the authorities, give advice, often practical, in cases of illness—not interfering with the medical man I may hope—and instruct mothers in the feeding of infants. Sometimes they help in the actual cleaning of a room and give assistance in any way they can. All this work is directed and overlooked by the lady superintendents. But more help is needed. The area to be covered is too great for the resources of the society and many parts of the town are untouched. But, like many of our charitable and philanthropic societies, it lacks support, and even with the valuable aid given by the corporations of Manchester and Salford the expenditure exceeds the income. The honorary treasurer stated that with subscriptions of £297 they had practically a loss of £100. The Dean of Manchester drew attention to the fact that the income had not increased during the last 20 years. It is not a time to expect a great accession of subscriptions when special and urgent calls are so numerous, but if the hundreds in Manchester who give largely were supplemented by the many thousands who could give a little our hospitals and other agencies for the benefit of those who need help would soon be in a more flourishing condition. The Dean thought that many ladies would find recreation in the best sense for the mind and spirit, if not for the body, in going to and fro in the great working-class districts of Manchester, ministering not merely of their substance but also of their kindly sympathy.

Salford Workhouse Question.

At the meeting of the Salford Board of Guardians on Jan. 19th the question of the building of a new workhouse was under discussion. The estimate for the undertaking was £201,137, which was afterwards brought down to £194,771. There is also a scheme for providing cottage homes for the workhouse children which it is expected will cost not less than £50,000, and one of the guardians pointed out that if both were pushed forward at once their borrowing powers would be largely exceeded. In the end it was decided to defer the consideration of the plans for the workhouse until those for the cottage homes had been submitted. This seems a wise decision, for the removal of the children from the workhouse atmosphere—both mental and physical—to cottages where the pauper surroundings will be less obtrusive cannot but be good for them. And of course the removal of the children will greatly relieve the pressure on the workhouse and give, according to the testimony of one of the guardians, accommodation for 300 persons and meet all requirements for the next 10 years. If this be so the need for the immediate erection of a new workhouse is not apparent, but some members of public bodies are never happy unless they can be spending the ratepayers' money either wisely or unwisely.

Vaccination of Oldham Pauper Children.

At the meeting of the Oldham Board of Guardians on Jan. 11th it was stated that "it was a regular thing for the doctor to vaccinate children without receiving the consent of the parents." The chairman moved a resolution forbidding this and went on to say that "there was no doubt the medical fraternity were rushing the Vaccination Act to all intents and purposes," whatever this may mean. He said that "about £1000 a year would be spent by that board in administering the Act and he thought it was scandalous that that amount of money should be spent." Presumably the chairman would not think it scandalous if he aided and abetted an outbreak of small-pox.

Jan. 23rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Royal Infirmary.

AT a meeting of the managers of Edinburgh Royal Infirmary held on Jan. 22nd a donation was intimated from Mr. Thomas Aitken of Nivingston and 5, Grosvenor-crescent of the sum of £40,000. In consideration of this the managers agreed to name a ward the "Aitken Ward" and recorded in the minutes an expression of their deep gratitude to Mr. Aitken for his munificent donation to the infirmary and of their hope that he would be long spared to take an interest in the ward. Mr. Aitken is the manager of the London and Edinburgh Steam Shipping Company.

Hospital for Incurables in Dundee.

The Queen has graciously consented that the new hospital for incurables which has been established in Dundee to commemorate the Diamond Jubilee should be called "The Royal Victoria Hospital."

Typhoid Epidemic in Ayr.

The typhoid fever epidemic seems to be again increasing in the burgh of Ayr. The total number of cases is now 196. There have been 23 deaths in all, four of these having occurred since Jan. 1st. Nearly all the cases have come from the Newton and Wallacetown districts of the town.

Jan. 23rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The City of Dublin Hospital.

MR. HENRY MOORE of Mercer's Hospital, who has recently left Dublin for service in South Africa, has been unanimously elected surgeon to the City of Dublin Hospital to fill the vacancy caused by the death of Dr. W. I. Wheeler. Mr Moore will assume his duties on his return from the Cape.

Death of the Registrar-General for Ireland.

Dr. Thomas Wrigley Grimshaw, for many years Registrar-General for Ireland, died from pneumonia on Jan. 23rd at Carrickmines, after an illness of only one week's duration. He was in his sixty-first year. Recently the duties of the Registrar-General—always of an important character in connexion with public medical, sanitary, and statistical subjects—were rendered particularly onerous owing to the very exceptional death-rate of Dublin. Dr. Grimshaw was a Fellow and ex-President of the Royal College of Physicians of Ireland and a consulting physician to a number of hospitals. He rendered most efficient service on many Government Commissions. It is recognised on all hands that his difficult duties were always discharged, not alone with conspicuous ability, but also with singular fidelity, tact, and courtesy. Dr. Grimshaw's death will be deplored by a very wide circle of his friends, while his loss as a prominent and most highly efficient public servant will be severely felt.

The Irish Hospital for South Africa.

The arrangements for Lord Iveagh's Irish Hospital for South Africa have now been completed. The hospital will be under the charge of Sir William Thomson, surgeon-in-chief; Mr. George Stoker, second surgeon; Dr. James Coleman, physician; and Dr. Alfred Friel of Waterford, surgeon. Sir William Thomson has arranged to leave for Cape Town on Feb. 3rd.

Infringement of the Vaccination Acts.

A curious case came before the Belfast police-court on Jan. 19th. The Belfast Poor-law Guardians summoned a man for not having his child (born in Ireland on May 9th, 1899) vaccinated. The man tried to get out of the difficulty by obtaining an exemption certificate made out in England.

This document came from the magistrates in Newcastle-on-Tyne and stated that the parent of the child, residing in Belfast, had satisfied them that he conscientiously believed that vaccination would be prejudicial to the health of his child. The Belfast magistrate having pointed out that at the time that this exemption certificate was made out in England the child was in Ireland (where it still resided), and that the Act under which conscientious objectors claim exemption does not apply to Ireland or Scotland, fined the man 10*s*. and 12*s*. 6*d*. costs.

Londonderry Asylum.

At the monthly meeting of the committee of management of the Londonderry Lunatic Asylum on Jan. 19th a proposal came up to follow the precedent of County Donegal and County Tyrone and leave ample room in the existing asylum for the 139 city of Derry patients by providing accommodation for the 333 county patients in some of the almost empty workhouses of the county. The discussion was adjourned.

The Influenza Epidemic.

There is still no abatement in the number of persons attacked or in the virulence of the influenza visitation. From all parts of the north of Ireland the report is that the outbreak is more widespread and more severe than any since the first visitation.

Jan. 23rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The New Buildings of the Society of Surgery.

THE Society of Surgery has just entered into possession of its new buildings and for the future will occupy a mansion of its own where it will be absolutely in a position to receive and do honour to both members and guests. This is the fourth time that the society has changed its quarters. At its foundation in 1843 the society used to meet at the Hôtel de Ville where the Prefect of the Seine put a room at the disposition of the members. After the burning of the Hôtel de Ville the society held some meetings at the Practical School of the Faculty of Medicine, afterwards in the buildings of the Philomathic Society, and in 1852 in the buildings of the ancient Abbey of St. Germain des Prés, where also was held a school of dentistry. Here it remained until the present day, although somewhat straitened for room and under most inconvenient circumstances for the exhibition of cases. The new quarters are at 12, Rue de Seine, and are admirably fitted for their intended use. The room to be used for meetings is large and well lit, while artificial light is supplied by electricity. Behind the platform in the meeting room is a very large passage into which open two other rooms. One of these will serve as a committee-room and the other as a room for showing patients. On the first floor are three magnificent rooms which will serve for the library. The expenses of this new undertaking, which are very considerable, will be defrayed out of the funds which the society has in hand and a somewhat heavy personal contribution for which every member has made himself responsible. The medical press suggests that as the society has enlarged its place of meeting it should also become less select. The number of members is limited. Hospital surgeons themselves are not all members, but are only elected after a term of probation. As for surgeons who do not belong to the staff of a hospital—as, for instance, Doyen—no one, however celebrated, has ever been a member of the society. There is no definite rule to this effect, but at every election if a hospital surgeon presents himself he is nominated for election, for the society is entirely composed of his colleagues.

Crusade of the Medical Press against Travelling Spirit-bars.

The whole of the medical press is joining in a vigorous campaign initiated by the medical profession against alcoholism, and particularly against the refreshment carriages which some of the railway companies attach to their suburban trains, and which afford opportunity for workmen and employés to get drunk on the journey. The adoption of these carriages on the Government railways has called forth unanimous protestations. It is quite obvious that the chief way to lessen the consumption of alcohol is to lessen the opportunities open to idlers of getting it, and it might be hoped that the workman who is obliged to go home by train after his day's work would be able to escape in this way from the temptations offered by the public-houses which swarm in the vicinity of the factories. Once arrived at his home his surroundings begin to influence him all the more that he has no bad companions. Unfortunately the refreshment carriages do away with this beneficent interval, for firstly the drinks are much cheaper than in a public-house and the very carriage attracts the workman by being so much more comfortable than the ordinary carriage. The Northern Railway Company is doing its best to put down this new propaganda of alcohol and it is to be the more admired for this as its action deprives it of a certain amount of profit. The company has formally prohibited the use of these refreshment carriages on its system. There are, however, certain trains running successively over the lines of the Western Company and the Northern Company. On leaving the Western Company's terminus they pick up refreshment carriages belonging to the latter company, but when they arrive at Sannois, a station which belongs to the Northern Company, that company insists upon the carriage being uncoupled and the train is connected to it again on its return journey. As regards the other companies, however, it will be very difficult to make them give up an absolutely certain source of income solely with a view to forwarding social interests. It might be possible to lessen the evil by asking the Minister in charge of the railways to insist that the companies should make the price of places in their refreshment carriages very much higher.

Jan. 23rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Ladies as Members of the Berlin Medical Society.

A RATHER tumultuous meeting of the Berlin Medical Society took place on Jan. 10th, when a motion standing in the names of Dr. Zadek and Dr. Freudenberg concerning the admission of ladies into the society was discussed. According to Article 4 of the by-laws only a duly qualified medical man or a doctor *rite promotus* is eligible for membership of the Berlin Medical Society. Ladies engaged in medical practice here are therefore doubly ineligible—in the first place because they have all obtained their qualifications abroad and are therefore regarded by the German law as unqualified practitioners, and in the second place because in the by-law in question the term of "doctor promotus" (not promota) is used. Dr. Zadek and Dr. Freudenberg proposed that medical men and medical women should be eligible. The committee of the society interpreted the by-law as meaning that only a duly qualified medical person was eligible, thus excluding not only medical women, but also holders of the M.D. degree without the State qualification. Dr. Zadek urged that the Society ought to regard not the diploma, but the scientific attainments of the candidate, and that it was unjust to reject ladies because they were not entitled to become legally qualified in the present state of the German law. Professor Virchow in the name of the committee said that the Berlin Medical Society was not a body instituted for the purpose of determining whether a given individual was professionally competent or not; they had only to inquire whether a candidate possessed the State qualification or not. If they were to receive an unqualified person on the ground of his or her scientific attainments they would create by this action a kind of medical qualification granted not by the State, but by the society. After a long and animated discussion the motion of Dr. Zadek was rejected and the motion of the committee was accepted by a large majority. The attendance of members of the society at this meeting was far greater than on ordinary occasions, and the galleries of the society's room were crowded with spectators, among whom were several ladies.

Legislation with respect to Private Laboratories.

The *Vossische Zeitung*, a Berlin periodical, reports that a Bill relative to laboratory work will be introduced by the Government. It is said that the Bill will contain provisions by which investigators will be compelled to take precautions gainst the escape of pathogenic germs. The memorable outreak of plague in the hospital at Vienna, has induced the German Government to anticipate possibilities of this kind. The above journal rightly condemns legislation by which scientific research might be hindered, and is especially opposed to suppression of bacteriological work in private laboratories as suggested by influential parliamentary combinations. It draws attention to the fact that important researches, not only in bacteriology but also in other branches of medical science, have been carried on in private laboratories, for instance, the work of Professor Fritsch and Professor Hitzig on the localisation of function in the brain. Professor Koch himself whilst holding the obscure position of a medical officer of health in the province of Posen made his investigations on the nature of anthrax and other infectious diseases in his residence in the small country town of Wollstein. Nowadays there are well-equipped private laboratories in nearly every town of Germany and many medical men are prepared to examine sputa and other pathological material in their consulting-rooms. It would be very prejudicial to the profession if a new law prevented medical men from making bacteriological examinations elsewhere than in the State laboratories.

Precautions against the Plague.

A series of lectures and practical demonstrations on bubonic plague are being held in the Institution for Infectious Diseases. The duration of each course is 10 days and the Government has arranged that the heads of the State, provincial, municipal, and other public laboratories, and those assistants who have been engaged already at least one year in bacteriological work may attend the classes free of charge. The bacteriologists admitted to the classes at the expense of the Government are under an obligation to act as Government medical officers in the event of an outbreak of plague in this country. A number of non-official bacteriologists have also joined the classes at their own expense. Similar courses are held in the Imperial Health Office. In this way the Government hopes to have a staff of bacteriologists experienced in the recognition of plague.

Artificial Gout in Birds.

Dr. Kionka of the Pharmacological Institute of Breslau reports in the *Berliner Klinische Wochenschrift* that he has succeeded in producing gout in fowls by feeding them exclusively on meat. It has been made known by Ebstein, Kossa, and other authors that the administration of chromic acid, oxalic acid, and other toxic substances makes these birds gouty and Dr. Kionka tried to produce this pathological state by a special food. He therefore fed a series of fowls exclusively on horseflesh without fat and allowed them to drink as much water as they liked. The fowls were quite well at first, but after a few months symptoms appeared which were very like gout and which presented themselves in two different forms. In the first the birds walked very unsteadily and often fell down. On several occasions they were found lying on the ground with swollen joints and had no inclination for food. When a fit of this kind was over they seemed to feel better, their appetite returned, and the swelling of the joints decreased. In course of time the fits became more frequent, the feet of the birds were permanently swollen, they became unable to walk, could move about only by the help of their wings, and eventually died in a state of great emaciation. In the second form the fits were not so well marked, but characteristic tophi developed in the joints and between the tendons. Visceral gout was also observed with uric acid posits in the serous membranes and in the kidneys r. Kionka then investigated the metabolism of these birds nd found that the quantity of uric acid excreted was etween seven and 11 grammes per day. He thereupon dministered calcareous substances in the form of egg-shells, he result being that the excretion of uric acid increased about 40 or 50 per cent. The administration of this substance in gout has been recommended by Professor von Noorden and its favourable influence on the excretion of uric acid has now been ascertained.

Simultaneous Intra-uterine and Extra-uterine Pregnancy

A very rare case was lately shown to the Berlin Surgical Society by Dr. Hermes of the Moabit Hospital. A woman 30 years of age was admitted there in a serious condition, complaining of severe pain in the abdomen, which had come on during the previous 24 hours. The patient was very anæmic, her pulse was 120, and her abdomen panitic. On the left side of the abdomen a tumour felt and after some hours laparotomy was performed. The case proved to be one of extra-uterine pregnancy and a mole was removed. The patient recovered after the operation and was discharged from the about six weeks. It was observed that menstruation which had ceased three months before had not and that the uterus was still somewhat enlarged. When the patient returned after about a month the uterus had become still larger and it continued to grow during the following months. The symptoms pointed to the presence of a fœtus in the uterus and this diagnosis was verified six months later when the woman was delivered of a strong and normal child. In this case, therefore, extra-uterine and intra-uterine pregnancy occurred simultaneously, and it was very remarkable that the intra-uterine pregnancy came to a normal termination notwithstanding the operation which was performed on account of the extra-uterine pregnancy.

Jan. 22nd.

SWITZERLAND.

(From our own Correspondent.)

Large Ovarian Cyst.

At a meeting of the Zürich Medical Society Dr. Brunner, house surgeon to the Krankenasyl, Neumünster, showed one of the largest ovarian tumours that has yet been operated on. According to Dr. Brunner's investigations as to the size weight of tumours hitherto recorded, it stands fourth on list of large ovarian tumours. The tumour in question was an ovarian cyst weighing a total of 71 kilogrammes, or 155 English pounds, 60 kilogrammes, or 132 pounds, of which were fluid contained in the cyst. The tumour (to which the body of the emaciated patient seemed to be only an appendage) was first punctured and on slight fever ensuing was subsequently totally removed. The patient stood the operation well and without shock and recovered fairly well for four weeks, then slowly declined in health, death ensuing three months after the operation. The fatal issue proved to be due to a cancerous growth round the womb, evidence of which was not forthcoming at the time of the operation. In the discussion which followed the fact was mentioned that after laparotomy for large tumours latent carcinomatosis sometimes becomes evident, perhaps kept latent by the pressure of the tumour or stimulated to rapid growth by the removal of pressure.

Swiss Ambulance for South Africa.

At a meeting of the Red Cross Society at Aarau on Jan. 19th, it was decided to send an ambulance properly fitted out to the Transvaal. It will leave Genoa on Feb. 1st by the steamer *Kaiser*, and is due at Lorenzo Marques at the end of the month. It is to proceed to Pretoria. The English authorities have declined the offer of an ambulance. Dr Jean de Montmollin, Dr. René Koenig, and Dr. Fritz Sute have been elected as medical men. They have to serve for least six months and have to send medical reports to th President of the Red Cross Society. A sum of £700 has so far been collected by voluntary contributions to defray the expenses in connexion with the sending of the ambulance and further sums will no doubt be forthcoming. The choice fell on medical men who had had special surgical training in work as house surgeons.

Jan. 20th.

ROME.

(From our own Correspondent.)

Influenza.

From day to day the "Ministero dell' Interno" (Hom Office) is receiving confirmation, all too authentic, of th ever-widening diffusion of influenza. Up to last night it w northern and central Italy that contributed the heaviest co tingents of cases, but now in Rome itself and farther sou the disease is numbering a progressively increasing prop tion of victims. This is due to the fact that the fo it at first assumed was very mild but that later it ma fested complications of a severer and less tractable ty Of the cities most gravely visited Leghorn heads the with no fewer than 15,000 cases and 700 in hospital. At Genoa the municipality has had to order the closing of all primary and secondary schools. Parma has 14,000 cases in the city alone and the hospital can admit no fresh ones. At Ferrara there are over 7000 cases, without including those of the suburbs or in the provinces, and there again the hospital has no room for more. At Pontedera (Tuscany) not a family has escaped and, as at Parma and Ferrara, the schools are closed from the illness of teachers and pupils alike. At Piacenza and Bologna the disease is becoming more extended as well as intensifying in character; at Turin it is taking a similar turn, and from 20 cases terminating fatally the proportion has risen to 40, and is still rising. All the public offices are "short of hands" from the illness of their *personnel*; not a house indeed is without one or more of its inmates in bed, and the schools are well-nigh empty though they are not yet officially closed Besides Pontedera other centres of population in Tuscany are severely visited—Ponsacco, near Pontedera, for instance, having 700 cases, and Prato numbering so many on the sick list that the scholastic institutions have had to send away teachers and students alike on leave of absence. At Florence the disease has effected a distinct foothold, though up to last night its character was mainly of the "benignant" form. Even in the absence of the generally fatal pulmonary complications, however, the "neurotic note" which it had "struck" at its outset is still present—chiefly in the prostration which attends the general malaise and which falls heaviest on the very old or the very infirm. All this aggravation in the diffusion and intensity of the malady is coincident with a longer continuance of wintry weather than Italy has experienced for well-nigh a generation—the snow on the uplands lying deeper than it has been known to do for thirty years and adding a deadlier chill to the prevailing tramontana.

La Villa Igiea, Palermo.

Such is the name given to the sanatorium recently opened near Palermo for the Cervello treatment of tuberculosis and designed as one of the chief attractions to the "Golden Shell" now asserting its claims as a winter-city and special health resort. THE LANCET of Jan. 13th, pp. 126–127, gave a brief account of the movement started in this sense by leading Palermitans, such as the Commendatore Florio and Baron Fassini, and it also referred to the deputation of British medical men who, as the guests of these gentlemen, had gone thither to inspect the sanatorium, its internal equipment and surrounding amenities, with a view to make their impressions known to the English-speaking world For four days the members of the deputation resided at Palermo, mostly at the sanatorium itself, familiarising themselves with the *modus operandi* of the Cervello treatment at the Guadagna Hospital and also at the sanatorium, informing themselves as to the inception of the latter and, more particularly, as to its appointments, its special therapeutics, and its advantages as to site and climate. The building, on one of the beautiful slopes of the suburban village of Acquasanta, was begun seven months ago and, thanks to the energy with which the 700 workmen were employed, it is now all but complete—rising in a noble park and approached by a fine carriage-drive, from which excursions of the most varied, picturesque, and exhilarating kind can be made in directions not a few. Internally the sanatorium, or I should say the Villa Igiea, is equal in accommodation to the largest hotels of continental capitals and its appointments might be called luxurious were they not so rigorously hygienic in every detail, assuring, among other advantages, an antisepsis of the most perfect description Every facility was afforded by the medical staff to their British colleagues for estimating the resources of the institution and forming a judgment as to the treatment therein pursued, and the attestation, volunteered by the deputation collectively and signed by its members individually, has, I understand, given much satisfaction to the Palermitan public, professional and lay: "We," the attestation runs, "after a three-days residence in the Villa Igiea have formed the opinion that the sanatorium is admirably well adapted for the cure of tuberculosis and other diseases of the lungs. It would be difficult to imagine as to climate and exposure a spot better calculated to attain this end, more especially in the practice of the 'open air cure,' now recognised universally as of fundamental importance in the treatment of tuberculosis."

Jan 23rd

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Decision in Kentucky with regard to "Osteopathy."

A DECISION has recently been rendered in a circuit court in Kentucky which appears to be the most far-reaching of any yet secured so far as the legal status of "osteopaths" in that State is concerned. An action was brought by a professor of the American School of Osteopathy at Kirksville, Missouri, against the State Board of Health of Kentucky to enjoin it from prosecuting him for practising his system in that State. By a section of the Kentucky statutes it is provided as follows: "Authority to practise medicine under this law shall be a certificate from the State Board of Health, and the said Board shall, upon application, issue a certificate to any reputable physician who is practising, or who desires to begin the practice of, medicine in this State who possesses any of the following qualifications: 1. A diploma from a reputable medical college legally chartered under the laws of this State. 2. A diploma from a reputable and legally chartered medical college of some other State or county, endorsed as such by the State Board of Health. 3 Satisfactory evidence from the person claiming the same that such person was reputably and honourably engaged in the practice of medicine in this State prior to Feb 23rd, 1864. 4. Satisfactory evidence from any person who was reputably and honourably engaged in the practice of medicine in this State prior to Feb 23rd, 1884, who has passed a satisfactory practical examination before said board." By another section of the statutes it is enacted that there shall be no discrimination against any institution, school, or system of medicine. The fact was admitted that the plaintiff held a diploma from the American School of Osteopathy at Kirksville, Missouri, and that the said school or college was legally chartered under the laws of that State. Therefore the question to be decided was whether the American School of Osteopathy at Kirksville, Missouri, could lay claim to the title of a "reputable" medical college. In order to determine this point fairly the Kentucky State Board of Health sent a committee of three of its most prominent physicians to investigate fully the Missouri College of Osteopathy. These medical men, after examining into its equipment, apparatus, and facilities for teaching; in fact, after making a full and complete and exhaustive investigation, unanimously came to the conclusion that the Kirksville School of Osteopathy was not a reputable medical college. In the cross examination of the witnesses for the prosecution, including several of the professors, the true nature of the said college was thoroughly revealed, and it was clearly shown that its claim to being a reputable school of medicine could not be upheld. Among the witnesses for the defence were many of the foremost physicians of Kentucky, one of these being Dr J Matthews of Louisville, president of the American Medical Association. Dr. Matthews testified that he understood the theory and practice of osteopathy and that osteopathy was not a system for curing diseases, but one which was to be feared for dangerous results which would naturally be caused thereby. He further remarked that the osteopathic treatment as a system was very foolish and would be more likely to kill patients receiving it than to benefit them. The committee as a whole handed in a report on the Kirksville College of which the following is an abstract: "We found a building and appointments adapted to the teaching of anatomy, physiology, normal histology, and chemistry. We found bones and diagrams, but no dissecting-room or physiological laboratory, and were informed that the students were not accorded the privilege of dissecting the human body with the necessary accruing benefits of such work. . . . The histological and chemical laboratories were well equipped with chemicals, microscopes, and other apparatus. All this relates to the study of the healthy man, there being no pathological laboratory, pathological specimens, bacterial cultures, charts, or diagrams available for teaching pathology and morbid anatomy. . . . Materia medica, which embraces the knowledge of drugs and medicines, and therapeutics, which is their application to the cure of disease, are repudiated by this school, its teaching claiming that in the treatment of disease the physician has no use for drugs and medicines, since the brain of ever his hand. ...... Without a dissecting-room, without he privileges of seeing and handling the muscles, vessels, erves, glands, and viscera of the body the committee cannot nderstand how the graduates of this school can have a practical knowledge of anatomy. ...... The Hon. Sterling B. Tovey, the judge of the court, after an eloquent summing up gave judgment for the defendants, the State Board of Health of Kentucky, declaring in the course of his speech that it is the policy of Kentucky to exclude charlatanry, and empiricism, and quackery from the State. There are unfortunately several States in America which not only legalise but encourage osteopathy, to the detriment alike of the general public and of the medical profession. It will be remembered that Kentucky has ever taken a firm stand against the practice of osteopathy within her boundaries, and reference has already been made in THE LANCET[1] to a decision of a Kentucky judge who, when a member of the osteopathic brotherhood charged with contravening the Kentucky Act in regard to the practice of medicine excused himself by asserting that he was merely manipulating with his hands, ruled that "any person who for compensation professes to apply any science which relates to the prevention, cure, or alleviation of the diseases of the human body, is practising medicine within the meaning of the statute." These decisions and the evidence of prominent medical men should open the eyes of the community at large to the uselessness of the treatment provided by professors of osteopathy.

Reforms in the Medical Department of the United States Army.

The American-Spanish war revealed many defects in the constitution of the medical department of the United States. In the first instance it was demonstrated that the number of army medical officers was inadequate to the needs of the regular army alone. The army at the outbreak of the war numbered 25,000 men and the medical corps consisted of 192 commissioned surgeons. The army was immensely increased by volunteers and the dearth of medical men had to be supplied by physicians taken from civil life. At the present time there are over 400 civilian surgeons doing duty with the American army. Until the Philippine campaign is brought to an end the Government will not decide as to the strength of the standing army of the United States, but there can be no doubt that it will be very considerably increased. This, however, is not the extent of the difficulty which faces the United States authorities. In order to meet any serious emergency which may arise the standing army will not alone be depended upon and the same policy will be pursued as was pursued in the war with Spain—that is, volunteer forces will be called out. The fact that an army surgeon requires special training to be able to fulfil his duties in an efficient anner is too palpable to need emphasis. Not only has he act as physician and surgeon, but at the same time the anitation and hygiene of camps falls within his phere of work. Thus a medical man taken from ivil life is suddenly thrust into a position for which he has had no training whatever except in so far as his knowledge of surgery is concerned. The evil results of following such a course were fully shown in the war with Spain. The Surgeon-General of the United States Army is about to present at the present session of Congress three Bills with a view of remedying the existing defective system. The first provides for an increase in the medical department of the army, the second secures regulations in regard to the efficiency of the department, and the third is for the raising of acting assistant surgeons to the rank of captain in the volunteer service. An increase in the medical department of the army is needed at once, for, as the *New York Medical Record* points out, "18 new posts have been established upon the sea-coast in the Department of the East and 10 have been established in the Department of the Columbia, including Alaska. There are now 11 independent garrisons in Porto Rico and a large number of independent commands in Cuba and the Philippines. These independent garrisons and commands require medical officers of experience and ability, and in addition all the higher executive offices of the medical department have to be filled with men of a rank commensurate with the positions which they occupy. It is absolutely impossible to do this with the present number of medical officers, hence the request of the surgeon-general for legislation as to an increase of the corps."

Cigarettes in the United States.

The analytical report of THE LANCET Sanitary Commission on American Cigarettes has aroused a considerable amount of interest in the United States. The "yellow" journals of the country have for a long time done their utmost to prejudice the minds of the general public against the cigarette. They have credited it with causing nearly every ill which human flesh is heir to. According to the accounts of some of the most sensational of these papers the cigarette is responsible for much insanity and is productive of crimes of all sorts and kinds from murder downwards. Of course many, or rather the majority, of these blood-curdling descriptions exist only in the imagination of the writers or are exaggerated and garbled out of all similitude of truth merely to pander to the love of the uncanny which has been cultivated in the minds of American readers of a certain class by the circulation of these vividly exciting journals. However, they have served their purpose and cigarette-smoking is regarded in the United States with the greatest distrust, and the cigarette itself is believed by the ordinary individual to be composed of the most pernicious, indeed poisonous, materials. The matter was taken up in New York some little time ago and various brands of cigarettes were tested analytically with the result that no injurious substances were found either in the tobacco or the paper. The finding of THE LANCET Analytical Sanitary Commission will doubtless go far towards rehabilitating the cigarette—that is to say, so far as its composition is concerned.

Jan. 13th.

Obituary.

HENRY HANNOTTE VERNON, M.D., F.R.S. EDIN., M.R.C.S. ENG., L.M., J.P.,

MEDICAL OFFICER OF HEALTH OF SOUTHPORT.

DR. HENRY HANNOTTE VERNON, medical officer of health of Southport, died on Jan. 16th after a short illness, at his residence, Shipbrook, Cambridge-road, Southport. He had not been of robust health for a few months, but no anxiety as to his life was felt. He was nearly 68 years of age and was able to discharge his duties as medical officer of health up to a few days previously to the fatal termination, one of his last acts being to attend a committee meeting in that connexion.

Dr. Vernon was a well-known, popular, and enthusiastic medical officer of health, and was appointed to his post in Southport in 1873, devoting the whole of his time to the duties in 1888. He was born on March 25th, 1831, at Chatburn, near Clitheroe, and was the son of a Church of England clergyman—the Rev. William Vernon. After his school education he proceeded to Edinburgh to undergo his medical education, and in 1853 he took the M.D. degree. He always had the greatest affection for his *alma mater*. He became M.R.C.S. Eng. in 1854, and was a Fellow of the Statistical Society and of the Royal Society of Edinburgh and of the Incorporated Society of Medical Officers of Health. He had also been President of the Lancashire and Cheshire Branch of the British Medical Association and of the North-Western Branch of the Incorporated Society of Medical Officers of Health, and was a member of other learned societies. At the commencement of his career he practised in London and held appointments at St. Mary's Hospital, the Great Northern Hospital, and the Bloomsbury Dispensary. Later, however, he removed to Ashton-under-Lyne, where he had a successful career and became a member of the town council and a Justice of the Peace. In 1868 he went to reside in Southport, and after the passing of the Public Health Act of 1872 he was appointed medical officer of health, a position which he has worthily and successfully filled. During the whole of his official life he was on the best terms with the other officials, the members of the Health Committee, and of the corporation generally. He was a great advocate of the cause of education and was concerned in the establishment of the Southport Proprietary Schools, and as chairman of the

---

[1] THE LANCET, Sept 4th, 1897 (p. 607), and March [illegible] (p. [illegible]).

Birkdale School Board did much good and useful work, as he did also in connexion with the Southport Literary and Philosophical Society of which he was at one time president He was also a member of the Board of Management of the infirmary and was a late honorary medical officer of the Southport Convalescent Home To put it comprehensively, he was more or less connected with every movement which had for its object the development and improvement of Southport and was the trusted adviser in all sanitary matters to the corporation, and as was said of him by the mayor in moving a vote of condolence to his family, "He was a man of generous instincts and a man of very considerable literary ability He was a man whom they could esteem in private and in a public capacity, and a man whose friendship was extremely firm' Dr Vernon leaves a widow, two sons and two daughters to mourn their loss The two sons are members of the medical profession

ROBERT COLLUM M D GLASG, M R C P LOND, M R C S ENG

DR COLLUM, whose death at Surbiton on Jan 12th, in his 84th year, we have already recorded belonged to an Enniskillen family and received his medical education at Trinity College, Dublin where he was twice a gold medallist He was admitted a Member of the Royal College of Surgeons of England in 1836 He also studied at Glasgow University graduating there as M D in 1837 In the latter year he entered the Bombay Medical Staff Corps of the Honourable East India Company's service and was attached to Sir Charles Napier's staff throughout the conquest of Scinde He was the only medical man to accompany Sir Charles Napier upon his setting out for Scinde in the steamship *Zenobia* which left Bombay on Sept 3rd, 1842 with 200 soldiers Soon after getting to sea cholera broke out on board and in eight days 64 soldiers died in addition to sailors women and children Dr Collum served in the war was mentioned in despatches of the battle of Meanee, and acted as interpreter to the forces in Arabic, Hindustani, and Persian, Whilst in Scinde he had medical charge of all the troops as they returned from the first Afghan war and at the conclusion of the campaign he was appointed surgeon and superintendent to their Highnesses the ex Ameers of Scinde, and remained in that post for seven years He was also superintendent of the medical department at Aden, surgeon and superintendent of the Agency Jail at Hazareebaugh Bengal and assay master at the Bombay Mint In 1857 he retired from the service and upon his return to England he was elected President of the Society of Members of the Royal College of Surgeons, which position he occupied for seven years He also held the appointments of physician accoucheur to the Paddington Maternity and physician to the Western General Dispensary and was for 33 years medical officer to the Kingston-on Thames branch of the Metropolitan Convalescent Institution He became a Member of the Royal College of Physicians of London in 1859

CHARLES POPE WALKER M B DURH, M R C S ENG,

MAJOR R A M C

THE death is announced from dysentery at Ladysmith on Jan 5th of Major Charles Pope Walker, R A M C He was the youngest son of the late J N Walker of Bedford and was born in 1859 He obtained his medical education at Guy's Hospital whence he qualified, becoming M R C S Eng in 1883 and L S A in 1885 and at Durham, where he graduated as M B In 1886 he entered the medical service of the army as a captain in the Royal Army Medical Corps In 1887 he went to India and was attached to an English regiment serving at Quetta and afterwards in the North West and Central Provinces In 1892 he returned to England and was then attached to the Guards in Ireland In 1895 he served in the Mauritius where he remained until 1898 when he went to the Cape and afterwards to Natal In November, 1899 he proceeded with the troops to the front and had charge of the hospital at Dundee and was present at the battle of Elandslaagte afterwards retiring with the forces from Dundee to Ladysmith where he rendered valuable medical services He obtained the rank of Major in July of last year and married in 1895 the third daughter of the late Colonel W Famplin of Brighton He was a keen and most fearless sportsman with big game and during his Indian career he was noted for the number of tigers and bears which fell to his rifle

Medical News.

SOCIETY OF APOTHECARIES OF LONDON—In January the following candidates passed in the subjects indicated —

Surgery—T P Allen (Sections I and II), Manchester J R Bentley (Sections I and II), Middlesex Hospital C H Brookes (Sections I and II), Durham and St. George's Hospital A. McC Dallas (Section II) Guy's Hospital; J M Edwards (Section II) *Charing-cross Hospital* W St G G Hill, St Mary's Hospital D T C Jones (Section I) University College Hospital E C Scarlett (Section II) Royal Free Hospital H L Weston (Section II) St George's Hospital and T R Wilshaw (Section I) Birmingham

Medicine—F G Aldrich (*Section II*) *Charing cross Hospital* A. St. J Bateman (Section I) King's College Hospital C H Brookes (Sections I and II) Durham and St George's Hospital; I Cator St. Bartholomew's Hospital D T C Jones (Sections I and II), University College Hospital, and E. C Scarlett (Section *II*) *Royal Free Hospital*

Forensic Medicine—C H Brookes, Durham and St George's Hospital A McC Dallas, Guy's Hospital D T C Jones University College Hospital and L. G W Tyndall St. Mary's Hospital

Midwifery—A. H Bell Cork and Guy's Hospital; P C Burgess Middlesex *Hospital* A A P *Clarke St Thomas's Hospital* J S Goodall Middlesex Hospital K Grube Bonn D T C Jones, University College Hospital E R Risien St Bartholomew's Hospital J Waters Middlesex Hospital and H Whittaker, Cambridge.

The diploma of the *Society* was granted to the following candidates, entitling them to practise Medicine Surgery and Midwifery:—Messrs J R Bentley I Cator J M Edwards, K Grube W St. G G Hill E C Scarlett H E Weston and H Whittaker

UNIVERSITY OF CAMBRIDGE—At the Congregation held on Jan 18th the following graduates in arts were admitted to the degree of Bachelor of Surgery —

Edwards Williams Hedley, King's Alexander Thomas Fraser and Richard Ernest Sedgwick Gonville and Caius Redcliffe Nathan Salaman Trinity Hall and John Everard Linnell Selwyn Public Hostel.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND—At a stated meeting of the President and Fellows of the Royal College of Physicians of Ireland held on Jan 12th, the following gentlemen were admitted as Members E J McWeeney M D R U I, and W A Winter, M D Dub —At a special meeting of the President and Fellows of the Royal College of Physicians of Ireland held recently the President (Dr J W Moore) was nominated to represent the College upon the Committee of Inquiry into the Health of Dublin which his Excellency the Lord Lieutenant suggested should be appointed by the Local Government Board The following resolutions were adopted —

That the President and Fellows of the College reiterate the deliberate opinion expressed in the conjoint report of the Royal College of Physicians and the Council of the Royal College of Surgeons (Ireland) on the death rate of Dublin 1881.

That the city of Dublin is and has been *unhealthy in an excessive* degree and its extraordinary death rate is attributable not to errors of computation or irremediable circumstances, but to long continued disregard of sanitation and the omission to enforce the legal means provided for a remedy

The President and Fellows are further of opinion that the excessive mortality within the city demands from the civic sanitary authority the most firm energetic and persevering execution of the powers entrusted to it to secure even a partial amelioration of the existing evils; and the health of the city will be likely to deteriorate still further unless dealt with by a new and radical method much more vigorous than that which has hitherto been adopted

LITERARY INTELLIGENCE—Mr H K LEWIS announces that he is about to publish a work by Dr S A Knopf of New York on "Pulmonary Tuberculosis its Modern Prophylaxis and the *Treatment* in Special Institutions and at Home This work contains descriptions and illustrations of the most important Sanatoria of Europe the United States and Canada Also "Letter, Word and Mind *Blindness* by Dr James Hinshelwood, a second edition of Dr G E Shuttleworth's book on "Mentally Deficient Children, their Treatment and Training much enlarged and revised and a translation of Professor Edinger's "Anatomy of the Central Nervous System of Man and of Vertebrates in General opinion the appearance of staleness was kept away by the preservative. During the period from May to December they examined about 200 samples of butter expressly for boric acid and borate and found 56 with it in proportions ranging from two to 62 grains per pound. Recently they examined about 20 samples of jam and found 15 of them preserved with salicylic acid, the quantity varying from a quarter of a grain in strawberry to four and a half grains in black-currant per pound of jam. The amount of salicylic acid in some temperance drinks usually consumed by children was perfectly astounding. In lime-juice cordial they had found from 20 to 103 grains per gallon, in lemon squash 50 grains per gallon, in ginger wine from 49 to 115 grains per gallon, in raspberry wine from 87 to 133 grains per gallon, in orange wine from 94 to 106 grains per gallon, and in black-currant wine from 47 to 140 grains per gallon. He had performed some artificial experiments with regard to digestion and found that salicylic acid had a very prejudicial effect in certain cases. As to colouring, his experience went to show that peas were almost invariably coloured by compounds of copper—a practice which he thought required very strict control. He had seen peas coloured by so small a proportion as a quarter of a grain of sulphate of copper per pound, and if this sufficed, as it apparently did, he did not see why a larger quantity should be used.

Dr. **JAMES ROBERT KAYE**, Wakefield, medical officer of health of the West Riding of Yorkshire, was the next witness and in answer to the **CHAIRMAN** said that the area for which he was responsible had a population, roughly speaking, of 1,250,000. When this Committee asked for information he set on foot an inquiry into the question of milk and butter with which some progress had been made, though it was not yet completed. This inquiry showed that the use of preservatives was greatly on the increase and especially so during the last two or three years. They had found milk-dealers, dairymen, farmers, butchers, and even tripe-dressers using them. Among 17 samples of milk taken in hot weather they found 13 with boric acid or formalin, while 13 samples taken in similar conditions, but during the months of October and November, were entirely free from either preservative. These samples were taken from vendors in the streets or from milk-shops. The majority of the people to whom he spoke on the subject said the preservatives were necessary, though he could not say they had convinced him of this; indeed, his opinion was that preservatives in dairy produce were not necessary, and he certainly considered them undesirable. He was afraid the provisions of the dairy and milkshops regulations were not very stringently enforced and their evasion was rather facilitated than otherwise by the use of preservatives. When a man employed them he thought, for instance, that cold instead of boiling water sufficed to clean his vessels. Indeed, he found that people in the dairy trade had wonderful ideas about preservatives apart altogether from their preserving effect—ideas about their counteracting insanitary conditions in cowsheds, about the excessive use of brewery grains, about their effect upon milk taken from cows with diseased udders, and the like. He had prepared a series of tables for the consideration of the Committee. The first of these gave a few examples of advertised preservatives. One of them was advertised as "medically guaranteed, absolutely harmless, and pure" and as "extensively employed in the hotel, household, restaurant, and ship's cabin." This preservative contained 85·5 per cent. of boric acid and 14·5 per cent. of borax, and the directions for use were for milk seven grains per pint, for butter 31 grains per pound, and for sausage 30 grains per pound. Another of these preservatives was advertised as "harmless and effective, safe and reliable, none need be afraid to use it." It also contained 85·5 per cent. of boric acid and 14·5 per cent. of borax, and the directions for use were for sausage, &c., 44 grains per pound and for gravy, soups, &c., nine grains per pint. A third preservative, which contained 100 per cent. of boric acid, was advertised as "harmless and effectual," and the directions for its use were for milk seven grains per pint, but "for small consumers a teaspoonful will be sufficient for a quart of milk," for cream nine grains per pint, and for sausage 45 grains per pound. Another preservative which had not been analysed was said to be "totally harmless to the most delicate child" and the directions for its use were for milk 11 grains per pint and for butter 125 grains per pound. His experience went to show that preservatives were more frequently present in adulterated than in pure articles. He had attempted to show that this increasing and indiscriminate use of preservatives was not without effect upon public health. He had prepared a table showing the infantile mortality in England and Wales during the 20 years 1878–1897 arranged in five-yearly periods. For comparison the general death-rate of the same period was also shown:—

Five-yearly period. (1)	Number of deaths of infants under one year per 1000 births. (2)	(3)	General death-rate per 1000 living (all ages). (4)
1878–82	142	Corresponding to the following increased loss of infant life in actual numbers.	20·3
1883–87	143	4,481	19·4
1888–92	146	17,788	19·0
1893–97	152	45,641	17·8

It would be seen that instead of an improvement which one might expect from modern improved sanitary conditions there had been an increase in the sacrifice of infantile life and that this increase was coincident with a steady decrease in the general death-rate. The question, therefore, arose, What were the factors which produced this infantile mortality? Medical men might say something about the employment of mothers in factories and other places, but this employment went on all the year round, while the increase in the infantile mortality was practically limited to the third quarter of the year. This quarter was the quarter in which the maximum amount of milk was used amongst children, and he had endeavoured to show that the use of preservatives in milk might at any rate play a part in bringing about the mischief. In another table he displayed the rates of infantile mortality during one eight-year period (1891–98) in England and Wales and various parts of the country—also the quarterly distribution of the same:—

—	Number of infant deaths (under one year) per 1000 births. Eight years 1891–98.	Quarterly distribution of such infant deaths. Average of eight first quarters.	Average of eight second quarters.	Average of eight third quarters.	Average of eight fourth quarters.
England and Wales	152	147	129	183	150
33 large towns ...	171	152	141	229	163
Five county boroughs in West Riding of Yorkshire ...	176	154	147	239	165
West Riding Administrative County	154	145	139	171	161

It would be found that not only was practically the whole of the increase in the third quarter of the year, but that during the last eight years there had been an improvement in the first and second quarters, while the fourth quarter had been stationary. Considering the great sanitary progress and the improvement in the general death-rate this increase in the infantile mortality in the third quarter of the year must be due to something unusual, and the question became, What was it that was unusual? As far as he could see the use of preservatives was unusual and was increasing every day and therefore he was inclined to put down some at any rate of this increase in infantile mortality to excessive use during the third quarter of the year of preservatives in milk.

By Dr. **BULSTRODE**: He did not attempt to establish that autumnal diarrhœa was due to the use of preservatives in milk, but that it might be a factor in preventing a fall in the mortality from infantile diarrhœa. Preservatives prevented the milk from becoming manifestly sour, but while that was so they might not prevent other action going on in the milk which was deleterious to the infant consuming the milk. His experience was that in hot weather over 70 per cent. of the samples had preservatives, while in winter they found that practically none had them. He intended to carry his investigations further and hoped to get more information which would enable him to decide whether preservatives were only used in milk in hot weather. His view was that in the present state of things infants and invalids suffered and that if the use of preservatives went on unchecked healthy adults would also suffer.

By Dr. **TUNNICLIFFE**: In his district tinned milks were largely used in some places, but not by the class of people among whom the infantile mortality was greatest.

Mr. **OTTO HEHNER** (public analyst for several districts of England) next gave evidence. He had devoted special attention, he said, to butter and had found that at least 90 per cent. of the samples he had examined contained borax preservatives. Nearly all the butter in the rural districts of the south of England was coloured, but in the Midlands he had sometimes found uncoloured butter. A few years ago annatto was the colour used, but now the practice was to use aniline dyes, though not in quantities to be injurious to health. He frequently found colouring matter in milk, and while he did not like the practice he did not regard it as a very urgent matter.

The Committee then adjourned.

MONDAY, JAN. 22ND.

The Committee held another meeting to-day, when Sir **HERBERT MAXWELL** again presided.

Mr. **H. DROOP RICHMOND**, resident analyst to the Aylesbury Dairy Company, London, was the first witness examined, and in answer to Professor **THORPE** he said that although the Aylesbury Dairy Company did not employ preservatives in milk or cream or in any butter made by them he had given considerable attention to the subject and he had prepared for the Committee a table showing the results of analyses with reference to boric acid and salicylic acid. In his experience he found that the preservatives most favoured were a mixture of borax and boric acid and formalin. When the latter was added to milk it appeared to toughen the proteids, probably the casein chiefly. That was shown by the fact that when the fat was heated with hydrochloric acid the casein took very much longer to be dissolved upon boiling than if no formalin had been added. He should say that first of all a combination had taken place and there was some ground for assuming that the casein was in a more insoluble form and probably a form more difficult of digestion. He should not like, however, to say that this conclusion was entirely justified. In cream there was sometimes used a solution of lime and cane sugar which acted as a preservative, retarding the time when the evidence of curdling and souring was shown to the consumer. This solution also made the cream look thicker. At one time the Aylesbury Dairy Company added 0·2 per cent. of boric acid to cream, but they no longer did so. They found that the presence of the preservative was objected to by a considerable section of the public, and after experimenting they discovered that they could supply cream in a fresh state without it. At one time they used boric acid for butter. There were two ways which they had of using it; one was to wash the butter with a solution directly after churning it, and the other was to mix the acid with the butter and work it in. Now, however, they no longer used preservatives in the butter which they made. The butters from France which they imported were habitually preserved, and having regard to the methods of production and collection in that country he was afraid that unless some preservative were added there might be trouble in regard to keeping. He did not think, however, that the use of boric acid compounds was absolutely necessary, even in these butters, for a small percentage of salt could be added with equally good results. Up to last year he found that Australian butters were invariably preserved, but last year he met one or two samples which were free from preservatives. These samples when they reached the laboratory were in as good condition as the others, and therefore he should infer that there was no need for preservatives in Australian butters. Boric acid and salicylic acid were preservatives which could be estimated with ease and accuracy, but in the case of formaldehyde it could not at the present moment be estimated quantitatively.

By Dr BULSTRODE: His opinion was that if milk would keep sweet for 18 hours that was sufficient for their trade, and he should consider that a fair limit for all classes of trade. He did not see why milk should be kept longer than 18 hours. At a temperature of 70° F. milk would keep for 34 hours before it turned sour, at a temperature of 80° for 22 hours, and at a temperature of 90° for 15 hours. In the hottest weather of last year the maximum temperature of milk as it arrived at their dairy at Bayswater was 77° F. and of milk after it had gone on a round and been brought back to the dairy 83° F. He thought that he should be right in assuming that the average temperature would not have been higher than 80° F. In these circumstances they found that they could supply fresh milk and allow customers three or four hours at least for its consumption.

By the CHAIRMAN: Instead of limiting the amount of preservative used he should rather advocate prohibition. The preservatives came into the hands of dairymen under fancy names and unless they had special information they did not know the quantity of the preservative they were using or its nature and not only so but the same article might be dosed several times by different people. The only colouring matter used by the company was annatto.

Mr HATTERSLEY, managing director of the Aylesbury Dairy Company, said, in reply to the CHAIRMAN, that the greater part of their milk supply came from Berkshire and Wiltshire, though some came from a county so remote from London as Cheshire. All the milk came free from preservatives. The opinion of the company was that preservatives were not necessary. During 1899 they had well over 5,000,000 deliveries of milk and only 78 letters of complaint about sourness, which showed, he thought, that the milk gave satisfaction to their customers. He considered that they were fairly well served by the railway companies. Occasionally it happened that the milk was sent to London in a fish truck or in a waggon or van which had contained fish and in consequence the flavour of the milk was affected. In the contracts they made with the farmers they had strict provisions as to cooling the milk, for milk could not be brought to London from a distance in proper condition unless it had been carefully cooled. The demand for pasteurised milk was small in London, though there was a considerable trade in sterilised milk. The company separated the cream at their dairy at Bayswater with the exception of one small lot which they obtained from a farm close to London and they used no preservatives for the cream. In 1899 they had six letters of complaint about cream, which averaged about 0·05 per 1000 quarts of cream delivered. All the butter they made themselves was free from preservatives. With regard to the colouring of milk they had tried several times to do without it but customers objected and they had had to resume colouring. He regretted this much because he should greatly prefer to have the milk sold uncoloured.

By Dr BULSTRODE: The company had kept butter in their own dairies for a fortnight without ice and he had no doubt if the methods of the French butter making industry were altered the French butter could be imported into this country free from preservatives.

By Professor THORPE: Their milk supply in a year amounted to 1,500,000 gallons and it came from about 50 farms whose average distance from London was from 70 to 80 miles. This supply was distributed among considerably over 100,000 persons.

Dr DUPRÉ of the Home Office was next examined and in answer to the CHAIRMAN he said he objected to preservatives in milk because in his opinion they did away with the guarantee of cleanliness. He took this objection quite apart from the question of harmfulness about which no doubt there was great difference of opinion. Further, he thought it objectionable that a chemical substance should be mixed indiscriminately with food unknown to the consumer. Few people visited and inspected dairies, but every person knew when milk was sour and this constituted a great protection. He objected to preservatives because they took away this protection. Having regard to the fact that milk was the only food of infants and invalids it was most important that it should be really good and therefore he was more concerned about it than about the other articles in which they found preservatives.

The CHAIRMAN: Are you aware that preservatives are largely used in fish?

Dr DUPRÉ: Yes from hearsay. I have never got fish to analyse.

The CHAIRMAN: Would you think it important that it should be known?

Dr DUPRÉ: Yes. I would have the same objection in the case of fish as I have in the case of milk. Fresh fish is a guarantee that it has been recently caught.

The CHAIRMAN: Are you aware that [illegible] taken in the North Sea are [illegible] kept for many days and even weeks before being brought to the market?

Dr DUPRÉ: I did not know that.

The CHAIRMAN: If that were proved to be the case would you think it a [illegible] thing?

Dr DUPRÉ: I should think it in the highest degree undesirable.

The CHAIRMAN: Have you never experienced a bad sole?

Dr DUPRÉ: Yes, but I never attributed it to any keeping of that kind.

Further [illegible] by the CHAIRMAN Dr DUPRÉ said that in his [illegible] colouring matter which was considered [illegible] [illegible] any [illegible]. He should certainly not allow copper to be [illegible] peas, for while one person might take with impunity a certain quantity of copper a much less quantity might cause serious mischief to another person. He should prohibit the use of copper in peas simply because one never knew how it might affect people. A mere declaration that the peas were artificially coloured would not, in his opinion, meet the case nor would a declaration that they were coloured with copper, because the consumer might not be aware that copper was poisonous. If the declaration were to the effect that the peas were coloured with a poisonous matter then it might have some effect.

By Dr TUNNICLIFFE: He considered it to be the duty of people who employed colouring matters to prove that they were not injurious and if they failed to do so to give up the practice.

Mr JOHN MITCHELL HARRIS, managing director of C. and T. Harris and Company, bacon curers, Calne, Wiltshire, and deputy chairman of the Bacon Curers' Association, gave evidence as to the use of borax in the bacon industry. He stated that his own firm employed nothing beyond salt and saltpetre and found no need for borax, even in connexion with their export trade.

The Committee adjourned, to meet again at the end of a fortnight.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

BAILEY, BERNARD, F. G., M.R.C.S., L.R.C.P., has been appointed Second House Physician for the City of London Hospital for Diseases of the Chest, Victoria Park, E.

BLAIR, A. B., M.B., C.M. Edin., has been appointed Medical Officer for the Banwell (first) Sanitary District of the Axbridge Union, vice D. Lawson, resigned.

DECK, F. J., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the No. 2 Sanitary District by the Hastings Board of Guardians.

FORREST, J. S., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Medical Officer and Public Vaccinator by the Alnwick Rural District Council.

FRASER, S., M.B., C.M. Edin., has been appointed Medical Officer for the Edmonton Sanitary District of the Edmonton Union, vice J. Hodges.

HEATON, GEORGE, M.D., B.Ch. Oxon., F.R.C.S. Eng., L.R.C.P. Lond., of 3, Temple-row, Birmingham, has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, and to act for County Court Circuit No. 21.

HEDLEY, W. F., M.B. Edin., L.R.C.P., L.R.C.S., L.F.P.S. Glasg., has been appointed Medical Officer for the Hallaton Sanitary District of the Uppingham Union, vice H. A. Cruttwell, resigned.

HIGGINS, ALEXANDER G., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the West Kent General Hospital, Maidstone, vice F. T. Travers, resigned.

HOPE, A. A., M.B., B.S. Durh., has been appointed Medical Officer for the Fifth Sanitary District of the Daventry Union, vice F. W. Fowke, resigned.

JONES, CHARLES SILLIFANT, M.R.C.S. Eng., L.S.A., has been re-appointed Medical Officer of Health for Chichester.

LAMONT, J., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer to the Poplar Workhouse, London.

LIVERSIDGE, WM., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed a Civil Medical Officer and has proceeded to the seat of war, South Africa.

LOW, R. B., M.D. Edin., D.P.H. Camb., has been appointed an Assistant Medical Officer to the Local Government Board.

MCCALL, ANTHONY, M.D. Glasg., has been appointed Surgeon to the Throat and Ear Department of the [illegible] Hospital, Bournemouth.

MACKIE, G., M.B., C.M. Aberd., has been appointed Assistant Medical Officer for the Infirmary and Workhouse of the Parish of St. George in the East, London, vice [illegible] K. [illegible], resigned.

MANBY, L. P., M.D. Camb., M.R.C.S., D.P.H., has been appointed an Officer on the staff of Medical Inspectors of the Local Government Board.

NEVINS, J. F., M.B. Lond., M.R.C.S., has been appointed Medical Officer for the Workhouse, Liverpool.

PARSONS, H. F., M.D. Lond., M.R.C.S., D.P.H. Cambridge, has been appointed Assistant Medical Officer and Medical Inspector for General Sanitary Purposes to the Local Government Board.

PERCIVAL, A. S., M.B. Camb., has been appointed Honorary Surgeon to the Newcastle Eye Infirmary.

POWER, W. H., M.R.C.S., has been appointed Medical Officer to the Local Government Board, vice the late Sir R. Thorne.

PRATT, W. H., M.R.C.S., has been re-appointed Medical Officer of Health by the Wetherby and [illegible] Rural District Council.

Rhys, Watkin Llewellyn, L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Medical Officer and Public Vaccinator for the Aberdare District by the Merthyr Tydvil Board of Guardians, vice D. Davies, resigned.

Ridley, Walter, M.B., M.S. Dunelm, F.R.C.S. Eng., has been appointed Surgeon to the Royal Infirmary, Newcastle-on-Tyne, vice *Professor Page, retired.*

Smallwood, Savage, M.A., M.B. Oxon., F.R.C.S., has been appointed Surgeon to the Wolverhampton Hospital for Women.

Stamper, J. T., Civil Surgeon, has been appointed to do duty in connexion with the medical charge of Pembroke Dock.

Sutton, C. R. A., M.D. Camb., has been appointed Medical Officer for the *Seventh Sanitary District* of the Bromley Union, vice F. Shapley.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

Bath General or Royal Mineral Water Hospital, Bath.—Resident Medical Officer, unmarried. Salary £100 per annum, with board and apartments.

Birmingham and Midland Eye Hospital, Birmingham.—Assistant House Surgeon. Salary £60 per annum, with apartments and board.

Bolton Infirmary and Dispensary.—Junior House Surgeon for twelve months. Salary £80 per annum, with apartments, board, *and attendance.*

Bootle Borough Hospital, Liverpool.—First and Second House Surgeons. Salaries, senior £80, senior £50 per annum, with board, lodging, and washing. Apply to the Chairman, Hospital, Derby-road, Bootle.

Borough of Southport.—Medical Officer of Health for the Borough. Salary £500 per annum. Apply to the Town Clerk, Town Hall, *Southport.*

Bristol Royal Infirmary.—Resident Officer. Salary £40 per *annum,* with board, lodging, and washing.

Brixton Dispensary, Water-lane, Brixton.—Resident Medical Officer *for two years,* unmarried. Salary £150, with furnished apartments, attendance, coals, and gas.

Cardiff Infirmary.—Assistant House Surgeon and Assistant House Physician for six months each. Salaries at the rate of £50 per annum, with board, washing, and apartments.

Central London Ophthalmic *Hospital, Gray's Inn-road,* W.C.—House Surgeon. Salary at the rate of £50 per annum, with board and residence in the hospital.

City of Liverpool.—Assistant to the Medical Officer of Health. Salary £350 per annum, subject to certain conditions. Applications to the *Town Clerk, Town Clerk's Office,* Liverpool.

East Suffolk and Ipswich Hospital, Thorofare, Ipswich.—Second House Surgeon for one year, unmarried. Salary £60 per annum, with board, *lodging, and washing.*

Eastern Dispensary, Leman-street, Whitechapel, London.—Physician. Honorarium £50 a year.—Apply to the Secretary, 60, *Great Prescot*-street, London.

Evelina Hospital for Sick Children, Southwark, London.—Surgeon to Out-patients.

Eye and Ear Hospital, Tunbridge Wells.—House Surgeon for one year. Salary £60, with board and residence.

General Infirmary, Leeds.—Resident Ophthalmic *Officer. Salary* £50 a year, with board and lodging.

Gravesend Hospital.—House Surgeon. Salary £80 per annum, with board and residence.

Grove Hall Asylum, Bow, London.—Junior Assistant Medical Officer. Salary at the rate of £120 per annum, with board, apartments, washing, and attendance.

Hospital for Diseases of the Throat, Golden square, London.—Registrar and Pathologist. Honorarium of 25 guineas per annum.

Hospital for Women, Soho-square (the London School of Gynæcology).—Clinical Assistantships.

Hulme Dispensary, Dale-street, Stretford-road, Manchester.—House Surgeon. Salary £130 per annum, with apartments, attendance, coal, and gas.

Leicester Infirmary.—House Physician for twelve months. Salary £100 per annum, with board, apartments, and washing.

Loughborough and District General Hospital and Dispensary, *Loughborough.—Resident House* Surgeon. Salary £100 per annum, with furnished rooms, attendance, and board.

Mason University College, Birmingham.—Lecturer on Osteology and Chief Demonstrator of Anatomy.

Metropolitan Asylums Board.—Assistant Medical Officer (Junior) at the Asylum at Caterham, in Surrey, *unmarried.* Salary £120 per annum rising to £150, with board, lodging, attendance, and washing (subject to statutory deduction). *Apply to the Clerk to* the Board, Norfolk-street, Strand, London.

Miller Hospital and Royal Kent Dispensary, Greenwich-road.—*Junior Resident Medical Officer for six months. Salary* at the rate of £40 per annum, with board, attendance, and washing.

Nottingham City Asylum.—Second Assistant Medical Officer, unmarried. Salary £125, *with board, apartments, and washing.*

Nottingham General Dispensary.—Assistant Resident Surgeon, unmarried. Salary £140 per annum, all found except board.

Royal Cornwall Infirmary, Truro.—House Surgeon, unmarried. *Salary £85, with board* (excluding stimulants) and apartments.

Royal Hospital for Sick Children, Glasgow.—Honorary Oculist at the Dispensary.

Royal Infirmary, Sheffield.—House Surgeon for three years. Salary £120 per annum, with board, lodging, and washing.

Royal South Hants Infirmary, Southampton.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with rooms, board, and washing.

Salisbury Infirmary.—House Surgeon, unmarried. *Salary £100* per annum, with board, lodging, and washing.

St. Mark's Hospital for Fistula and other Diseases of the *Rectum, City-road, London.*—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

Stockport Infirmary.—Junior Assistant House Surgeon for six months. Salary at the rate of £2 per mensem, with residence, board, and washing.

University College, London.—Assistant *Surgeon* and Assistant Physician.

West Kent General Hospital, Maidstone.—Assistant House Surgeon *for six months.* Honorarium at the rate of £50 per annum, with board and residence.

Births, Marriages, and Deaths.

BIRTHS.

Aplin.—On Jan. 22nd, at Hill House, Sneinton, Nottingham, the wife of Dr. Aplin, medical superintendent, *Notts. County Asylum, of* a daughter (Alys Arundel).

Boddie.—On Jan. 23rd, at Bruntsfield place, Edinburgh, the wife of *George P. Boddie, M.B.,* of a son.

Brodie.—On Jan. 16th, at Fernhill, Wootton-bridge, Isle of Wight, the wife of C. Gordon Brodie, F.R.C.S., of a daughter.

Busteed.—On Jan. 21st, at Ellesmere, *Shropshire, the wife of John* Hancock Busteed, L.R.C.P., L.R.C.S., L.S.A., of a daughter.

Fison.—On Jan. 20th, at The Cedars, Manor-road, Salisbury, the wife *of Edmund Towers Fison,* M.D., of a son.

MacLeod.—On Jan. 24th, at *Harley-street,* W., the wife of J. *M. H.* MacLeod, M.D., of a son.

MARRIAGES.

Blair—Sheriff-Macgregor.—At 32, Athole-gardens, Glasgow, on Jan. 16th, by the Rev. David Strong, D.D., Hillhead, and *Rev.* William Wilson, M.A., Trossachs, Andrew Buchanan Blair, M.B., C.M., Banwell, Somerset, to Constance Elizabeth, daughter of the late *George Sheriff-Macgregor,* Esq., Glengyle, Perthshire.

Bridgeford—Cumberland.—On Dec. 13th, 1899, at St. George's Church, Queen's Cliff, Victoria, by the *Rev. H. Wilkinson,* Walter Bridgeford, M.R.C.S. Eng., and L.R.C.P. Ed., of Boulder, West Australia, to Florence Landale, daughter of the late Captain R. F. W. Cumberland, H.M.'s. 96th (Manchester) Regiment.

Meakin—Ball.—On Jan. 6th, at St. Giles's Church, Cambridge, by the Rev. F. Buxton, vicar, *assisted* by the Rev. Arthur Cooke, M.A., of King's College, Harold Budgett Meakin, M.D. Lond., of the Indian Medical Service, son of the *late Edward Meakin of* Hampstead, to Frances Amelia, elder daughter of Sir Robert Ball, Lowndean Professor of the University of Cambridge.

Walker—Green.—*On Jan. 18th,* at St. John the Baptist's, Paignton, Cyril Hutchinson Walker, M.B., younger son of the Rev. John Walker, *rector of Bradwell, Suffolk,* to T. Caroline, eldest daughter of the late Rev. J. H. B. Green, rector of Normanton, Ashby-de-la-Zouch.

DEATHS.

Adney.—On Jan. 17th, at Whittlesey, Cambs., Alfred Adney, M.R.C.S., aged 76.

Bond.—On Jan. 13th, 1900, at Greenwich Infirmary, Harry Bond, M.R.C.S., L.R.C.P. (St. Bartholomew's Hospital), of pneumonia after a short illness, aged 26 years.

Burger.—On Jan. 21st, at Finsbury-square, Alexander Burger, M.D., suddenly, aged 61.

Dunbar.—On Jan. 19th, Robert Pearson Dunbar, M.D., Park House, *Blackburn.*

Easby.—On Jan. 23rd, William Easby, M.D., L.R.C.P., L.M., L.R.C.S., of 6, Chatsworth-road, Brondesbury, N.W., late of Peterborough, aged 55 years.

Vernon.—On Jan. 16th, at *Shipbrook,* Cambridge-road, Southport, Henry Hannotte Vernon, M.D., F.R.S.E., aged 68 years. For *27 years medical officer of health* for Southport.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

QUACKS AND THE WORKMEN'S COMPENSATION ACT.

AT the Forth County Court last week a collier claimed under the Workmen's Compensation Act half of his wages for the 14 weeks of enforced idleness due to a slight accident which had happened to him in the colliery workings, from the roof of which a stone had fallen on to his hand. He was attended by the works surgeon, Mr. Ivor Lewis, who found at the end of about 10 days that there was a collection of pus on the arm which it was necessary to let out, but the collier was very much averse to this treatment and preferred rather to place himself under the care of a certain old woman in the village who was reputed to be in possession of a "salve" which would speedily effect a cure. The result of this decision was not quite so serious as it might have been, but it was three months before the hand returned to its normal condition. In assessing the amount of compensation to which the claimant was entitled the judge very properly took into consideration the fact that the man wilfully prolonged his absence from work, and awarded him only eight weeks' half-pay instead of the 14 weeks claimed. This decision should serve to impress other workmen similarly circumstanced that in their own interests they had better submit to recognised and rational methods of treatment, rather than to an irresponsible empiric.

"GIVING NATURE A CHANCE."

To the Editors of THE LANCET.

SIRS,—You allude to me by name in THE LANCET of Jan. 20th (p. 211), and I ask in common fairness to be allowed a word of protest against one sentence. You say, "It is cruelty thus to juggle with the hopes of the sick." The word "juggle" implies some trickery and unfairness. I venture to say that my conduct in expressing an opinion that a large proportion of the crippled children I saw were not incurable was at least honest. I may be wrong, but until some demonstration of error is forthcoming I protest against your charge of "cruelty" and "jugglery." I am, Sirs, your obedient servant,

Park-lane, W., Jan. 23rd, 1900. JOHN ATKINSON.

THE ARRANGEMENTS AT THE EXAMINATIONS OF THE CONJOINT BOARD.

To the Editors of THE LANCET.

SIRS,—I would venture to suggest that the arrangements in the Final College (Medicine) Examination should be so altered as not to keep the candidates an inordinate length of time in waiting for their cases. I myself, along with other students, had to remain in the waiting-room last Monday afternoon from 2.30—the hour given on the card—until nearly 3.40 before being called to the cases. All this was certainly not very conducive to a calm mental condition, especially as the only method of passing the time consisted in perusing one or two evening newspapers. The arrangements for the "vivâs" in the evening were much better, the candidate having only to wait five or ten minutes before being called. I am, Sirs, yours faithfully,

Jan. 23rd, 1900. GROWLER.

THE GIVING OF ANÆSTHETICS BY UNQUALIFIED PERSONS.

To the Editors of THE LANCET.

SIRS,—A friend of mine has written asking my advice and I should be obliged if you will give me your opinion in the matter. He is a chemist in a country village in Scotland, and the medical man there has lately been asking him to give chloroform in minor operations. He has done so in several cases but does not feel easy about it and wishes to know whether he ought to and what his position would be in the case of any accident happening with the anæsthetic. The medical man has assured him that he takes all responsibility, and that there is no difficulty in the matter. Will you kindly give me you opinion on the matter? Thanking you in anticipation,

I am, Sirs, yours faithfully,

Jan. 21st, 1900. R.

*** The medical man cannot assume the responsibility supposing "any accident happened." No anæsthetic should ever be administered by an unskilled person except under circumstances of extreme urgency.—ED. L.

INSECTS IN THE EXTERNAL AUDITORY MEATUS.

To the Editors of THE LANCET.

SIRS,—I think the account of the following case may be of interest to the members of the profession as showing the protective nature of the ceruminous exudation of the ear. In August, 1899, a patient came to me complaining that on the previous evening an insect had flown into the external auditory meatus of one ear. He had suffered for some little time afterwards from an intolerable "buzzing" noise in that ear. As he was out on a cycling expedition he got one of his companions to pour into the meatus some ordinary paraffin, but no insect could be detected. The patient tells me that from that time he gradually became more and more deaf on the side mentioned, but took no steps to remedy the inconvenience. A few days ago he began to suffer from pain, and, thinking there might be some wax impacted, he poked about with a pin, ultimately bringing out a mass of wax from the ear on examining which a large-sized moth was seen to be embedded in it, very distinctly preserved. He is now quite relieved from his deafness and looks on the "moth as somewhat of a" curiosity.

I am, Sirs, yours faithfully,

W. E. MAW, L.S.A. Lond.

Rawdon, via Leeds, Jan. 21st, 1900.

A DROLL VACANCY.

A CORRESPONDENT informs us that he recently inserted an advertisement in the press to the effect that as a doubly qualified locum tenent he would be prepared to accept a vacancy at the end of January. In reply to his advertisement he received the following remarkable letter the names and addresses in which we omit:—

Normanton

January 15th 1900.

Dear Sir

Hearing of a situation concluding to the Medical Staff. I write to you, Kind Sir wishing to fulfil that Profession. My Name is T —— F —— H —— living in the Township of Normanton and is well aquainted with the Head Doctor at Normanton Doctor M ——. I would be thankful to you if this letter suit. I am a Single Gentleman, and would do the very best I could to please you. I am 25 years of age. Hoping to hear from you soon,

I Remain

Your's Sincerely

Doctor H——.

Not the least funny part of "Doctor H——'s letter is that he considers himself to be a "Vacancy."

THE ANÆSTHETIST'S POSITION TOWARDS QUACK DENTISTRY.

THE *Birmingham Daily Mail* for Jan. 11th contains the following advertisement. As we do not find any medical man or dentist upon the Register bearing the name of Molar, we would suggest that the medical man associated with Molar as anæsthetist should cease from giving his services over the seed shop.

MOLAR'S

ARTIFICIAL TEETH

ON THE EASY PAYMENT SYSTEM,

20, HIGH STREET, BULL RING

(Four doors from New Street Corner),

A COMPLETE SET FOR ONE GUINEA.

A SINGLE TOOTH, 2s. 6d.

A PERFECT FIT GUARANTEED.

ANY SET of MOLAR'S ARTIFICIAL TEETH not giving full satisfaction or fulfilling their proper functions within three months of fitting will be REMADE FREE OF CHARGE.

ALL MOLAR'S ARTIFICIAL TEETH are REPAIRED FREE for 12 Months.

NO Extractions of Loose Teeth or Stumps necessary. Soft Palates especially made for tender gums.

OLD TEETH BOUGHT OR REMODELLED

TO SUIT ANY MOUTH. ADVICE FREE.

ANÆSTHETICS BY MEDICAL MAN.

PAINLESS EXTRACTIONS BY GAS.

1s. 6d.

TEETH STOPPED CROWNED, & SCALED.

MOLAR'S,

20, HIGH STREET, BULL RING

(OVER THOMSON'S SEED SHOP).

HOURS, 10 TO 8 DAILY. SATURDAY, 10 TO 5.

BULLET WOUNDS AS REPRESENTED BY NEWS COMPOSITORS.

THE *British and Colonial Printer* of Jan. 5th, 1900, has an amusing notice of how a story may differ from the original narrative when it has had several independent and successive renderings. This, says our contemporary, "holds good, though in a somewhat different

e representation of Sir W. Mac Cormac's descrip-
let-wound in THE LANCET, as quoted by the
's contemporaries. The Globe of the 22nd inst.
cription and reproduces the eminent surgeon's
to size as possible, using for the purpose a good bold
of *two-line brevier*; when, however, the *Daily*
deals with the subject on the next day, lo! a *two-*
ap is taken! If the proportionate diminution goes on
of the paper decreases, we shall find that, like in the
all hardly recognise our old and original friend; and
wound will resolve itself into a 'full point,' and we
ously be led to believe that a modern bullet merely
in-prick."

F.C.S.M.

To the Editors of THE LANCET.

was called to visit a patient, aged 69 years, at 5 A.M.,
lay, the 11th inst., and found she had died. She had
ring, from pulmonary trouble for some time and was
with medicine by the man whose label is enclosed.
quest held on this case death was found to be due to natural
She was taking his medicine up to the time of her death and
consulted a qualified medical gentleman.

I am, Sirs, yours faithfully,
A. W. MILLER.

ercial-road Limehouse, E., Jan. 14th, 1900.

owing is a reproduction of the label referred to. The quantity
l hours for taking the dose are filled in in pencil.

1 or 2 table-spoonful to be taken every 2 or 4 hours.

J. O. PURDUE, F.C.S.M. LOND.

Member of the Magnetic and Botanic School of Safe Medicine, London, founded 1893.

All kinds of Medicinal and Herbal Preparations, kept in Stock.

ADVICE GRATIS DAILY.

REQUISITES FOR INVALIDS, FOR SALE OR HIRE.

7, GALT STREET, near Salmon Lane, LIMEHOUSE.

Formerly 5½ years Manager of the Medical Hall.

PUBLIC AND POOR-LAW DISPENSERS.

To the Editors of THE LANCET.

SIRS,—May I through the medium of your correspondence column ask any past or present Public or Poor-law dispenser who has not received a copy of the rules of the Public and Poor-law Dispensers' Association to communicate with me at the address below or to attend our next meeting on Jan. 31st, at 8 P.M., at St. Bride's Institute, Ludgate-circus, E.C. Thanking you in anticipation,

I am, Sirs, yours faithfully,
G. F. FORSTER, M.P.S.,
Honorary General Secretary Public and Poor-law Dispensers' Association.

c/o The Shuttleworth Club, Fye Foot-lane, Queen
Victoria-street, E.C., Jan. 22nd, 1900.

THE OPEN-AIR TREATMENT OF PHTHISIS.

To the Editors of THE LANCET.

SIRS,—Could you or any of your readers tell me where a patient (gentleman) in rather poor circumstances could obtain the open-air treatment for phthisis? Davos and other places of that standing seem too expensive, but I hear there is a society recently formed for assisting people to obtain the open-air treatment. Is this so? and if so, could anyone favour me with the address of the secretary?

I am, Sirs, yours faithfully,
W. R. K.

Jan. 23rd, 1900.

*** Lists of Institutions will be found in THE LANCET of Sept. 9th, 1899, p. 724, and Sept. 23rd, 1899, p. 851.—ED. L.

THE NÆVUS OF PATRIOTISM.

WE extract the following story from the *Cape Argus*, a paper published in Cape Town:—

SINGULAR FREAK OF NATURE.

A baby (girl) born lately in one of the suburbs has a distinct mark (strawberry colour) on the right shoulder. The mark is the facsimile of the British coat-of-arms. So distinct are the several outlines, &c., that the very features of the animals are visible, the tail, and especially the horn of the unicorn standing out prominently, but not quite as conspicuous as the crown. The father of this wee mite is naturally very proud of his offspring and prophesies great things for her future on account of this singular distinction. She no doubt will grow up a loyalist.

This is a distinct advance upon the old-fashioned strawberry mark, and in former times such an occurrence would have been taken as a portent of the assured success of the British army. In these unromantic days, however, it is probable that some matter-of-fact practitioner will propose the removal of the British coat-of-arms by electrolysis.

VOMITING OF PREGNANCY.

To the Editors of THE LANCET.

SIRS,—In reply to the query of "Obstet." in THE LANCET of Jan. 20th (p. 212), as to treatment of sickness in early pregnancy, I advise him to give twice daily before meals the following mixture: Liquid extract of ergot, five minims; water, half an ounce. I have seldom found it to fail after a few days in relieving, if not in entirely curing, the sickness. The same prescription, with the addition of nux vomica three minims, is often very useful in checking the sickness of the menstrual period.

I am, Sirs, yours faithfully,
A. GORDON PATERSON, M.D.

South Lodge, Ascot, Jan. 23rd, 1900.

Physician and Surgeon.—There is no law to prevent persons, however ignorant, from practising medicine or surgery at their own risk, provided that such persons do not use titles to imply that they are properly qualified members of the medical profession. The General Medical Council has no power over unqualified persons.

"Bartholomew."—Our correspondent's questions cannot be answered upon his brief description of the case and without a knowledge of the patient's pecuniary circumstances. We shall be happy to publish a fuller statement.

X. Y. Z.—We cannot give an opinion upon the very slight information supplied. If our correspondent will favour us with a full account of the circumstances we shall be able to advise him.

Cornstalk.—(1) Yes. (2) Notice should be sent only to patients whose names are on the books. (3) We think so. (4) Yes. (5) It depends on the usual custom in the locality.

R. W. W.—A notice of the preparation appeared in THE LANCET of July 7th, 1883, p. 18.

Mr. M.—Our correspondent is advised to inquire of his own medical attendant.

Mr. J. M. Burke.—Our correspondent had better apply to his dentist.

R. W. D.—We think the notification is in perfectly correct style.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 25th, 1900.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Jan. 19	30·25	S.W.	...	55	50	35	37	38	Hazy
" 20	30·16	S.W.	0·23	51	47	38	43	44	Cloudy
" 21	30·29	N.E.	...	52	51	33	34	35	Foggy
" 22	30·07	S.W.	0·22	57	51	35	44	45	Overcast
" 23	30·09	W.	...	63	54	45	47	49	Cloudy
" 24	29·81	S.W.	0·02	63	55	47	48	49	Raining
" 25	30·23	N.W.	0·03	70	51	43	42	44	Fine

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P. Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P. Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-sq (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Lo Throat (2 P.M.).

TUESDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), minster (2 P.M.), West London (2.30 P.M.), University (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (31st).—St. Bartholomew's (1.30 P.M.), University (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Char (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), Nation pædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P. minster (2 P.M.), Metropolitan (2.30 P.M.), London Throa Cancer (2 P.M.).

THURSDAY (1st).—St. Bartholomew's (1.30 P.M.), St. (3.30 P.M.) University College (2 P.M.), Charing-cross (George's (1 P.M.), London (2 P.M.), King's College (2 P.M.) (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Centr logical, 2.30 P.M.), Metropolitan (2.30 P.M.), London Th St. Mark's (2 P.M.).

FRIDAY (2nd).—London (2 P.M.), St Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.)

SATURDAY (3rd).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1 30 P.M.), St Thomas's (2 P.M.), London (2 P.M.), University College (9 15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.)

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily

SOCIETIES

THURSDAY (1st).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road).—8.30 P.M. Clinical Evening.

FRIDAY (2nd).—WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich road, S E).—8.45 P.M. Paper:—Dr S Sunderland Some Forms of Pelvic Pain in Women in which the Diagnosis was difficult. Dr Herschell will demonstrate an Apparatus for Intra-gastric Shampoo, and the Three-way Tap for Lavage of the Stomach.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W).—8.30 P.M. Discussion on the After-effects of the Inhalation of Ether on the Respiratory System, opened by Mr S Rumboll (Leeds)

LARYNGOLOGICAL SOCIETY OF LONDON (20 Hanover-square, W).—4 30 P.M. Discussion and Vote upon the Desirability of there being separate Sections for Laryngology and Otology at Congresses and Association Meetings. 5 P.M. Cases shown by Dr L Lack, Dr J Horne, Dr Cathcart, Mr Wyatt Wingrave, and Mr Waggett

LECTURES, ADDRESSES, DEMONSTRATIONS, &c

MONDAY (29th).—LONDON THROAT HOSPITAL (204 Gt. Portland street, W).—4 30 P.M. Dr F Potter: Examination of Ear (Post-Graduate Course.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC Chenies street, (22, W C).—4 P.M. Dr Galloway: Consultation. (Skin.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W).—5 P.M. Dr Saunders: Methods of Testing for Diphtheria and Typhoid.

TUESDAY (30th).—MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C).—4 P.M. Dr W Miller Ord: Consultation. (Medical.)

WEDNESDAY (31st).—ST JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W C).—4.30 P.M. Dr M Dockrell: Erythema. (Post-graduate Course.)

MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C).—5 P.M. Dr G H Savage: Clinical Lecture.

THURSDAY (1st).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck street W).—5 P.M. Clinical Demonstration:—Mr J Cantlie: On the Surgical Treatment of Paralytic Deformities, with Illustrative Cases.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W C).—4 P.M. Dr Barlow: Some Points in the Hygiene of Children.

CHARING-CROSS HOSPITAL.—4 P.M. Dr Eden: Gynæcological Demonstration (Post-graduate Course.)

MEDICAL GRADUATES COLLEGE AND POLYCLINIC) 22, Chenies-street, W C).—4 P.M. Mr J Hutchinson: Consultation (Surgical.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W).—5 P.M. Dr Saunders: Clinical Bacterial Tests.

FRIDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22 Chenies-street, W C).—4 P.M. Mr T. Collins: Consultation. (Eye, Ear, Nose and Throat.) 5 P.M. Mr V Cargill: Class Demonstration III:—Practical Ophthalmology

---

During the week marked copies of the following newspapers have been received *Daily Express (Dublin), Eastern Morning News, Darwen News, Kent Argus, Weekly News (Broadstairs), Sussex Daily News, Birmingham Daily Post, Leicester Daily Post, New York Sun, Burton Mail, Lancashire Daily Post, Nottingham Daily Guardian, Liverpool Daily Post, Scotsman, Western Morning News, Yorkshire Post, Times of India, Pioneer Mail, Bradford Observer, Gainsborough Leader, Daily Messenger (Paris), Glasgow Herald, Builder, Brighton Gazette, Architect, Citizen, Manchester Guardian, Bristol Mercury, Morning Herald, Devizes Advertiser, Leamington News, Herald, Cape Argus (Cape Town), Leeds Mercury, Preston Herald, Ayrshire Post, Dewsbury Reporter, Rangoon Times, Victoria Daily Times, The Australian, United Service Gazette, The Cigarette World and Tobacco News, Oxford Times, The Dairy, Peterborough Express, Sanitary Record, Hertfordshire Mercury, Bolton Daily Chronicle, Reading Mercury, City Press, Local Government Chronicle, Mining Journal, Rangoon Gazette, Surrey Advertiser, Local Government Journal, Le Courrier de la Presse, Bury Free Press, English Gazette (Paris), Inventions, Swindon Advertiser, Bicester Herald, Willesden Chronicle, &c., &c.*

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS" and not in any case to any gentleman who may be supposed to be connected with the Editorial staff It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures, original articles and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub Editor"

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager"*

We cannot undertake to return MSS not used

MANAGER'S NOTICES.

THE INDEX TO THE LANCET

THE Index to Vol II. of 1899, which was completed with the issue of Dec 30th, and the Title page to the Volume, were given in THE LANCET of Jan 6th

VOLUMES AND CASES

VOLUMES for the second half of the year 1899 are now ready. Bound in cloth, gilt lettered, price 18*s*, carriage extra

Cases for binding the half year's numbers are also ready Cloth, gilt lettered, price 2*s*, by post 2*s* 3*d*

To be obtained on application to the Manager, accompanied by remittance

TO SUBSCRIBERS

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W C, are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c, should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices

Subscribers, by sending their subscriptions direct to THE LANCET Offices will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are —

FOR THE UNITED KINGDOM		TO THE COLONIES AND ABROAD	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions Any demand for increased rates, on this or on any other ground, should be resisted The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, [illegible] STRAND, LONDON, ENGLAND

Communications, Letters, &c., have been received from—

A.—Dr. W. F. W. Anderson, Armley; Apollinaris Co, Lond.; Messrs. Armour and Co, Lond.; Mons. F. Alcan, Paris; Messrs. Allen and Hanburys, Lond.; Association for Oral Instruction of the Deaf and Dumb, Lond., Director of; Dr. J. Althaus, Lond.

B.—Mr. S. R. Bhagtani, Karachi, India; Mons. O Berthier, Paris, Messrs. Burroughs, Wellcome, and Co., Lond.; Bristol Royal Infirmary, Secretary of; *Blackburn Weekly Standard*; Mrs L. Barnes, Walton-on-the-Naze; Mr. G. E Burt, Dulwich; Mr. Stanmore Bishop, Manchester; Mr. J. M. Burke, Lond; Mr. W. H. Brookes, Leicester; Mr. W. Berry, Wigan; Mr. W. Beck, Luton; Bolton Infirmary, Secretary of; Bootle Borough Hospital, Secretary of; Mr. W. F. Byford, Ruthin; Bolton Infirmary, Secretary of

C.—Dr. F. H. Champneys, Lond.; Messrs. F. Comar and Co, Lond.; Dr. S. Csraviós, Gaintz, Hungary; Dr. W. B Cheadle, Lond.; Dr. H. A Caley, Lond.; Messrs J. and A. Churchill, Lond.; Cardiff Infirmary, Secretary of; Messrs. S Clark and Co, Lond; Cornstalk, Nottingham; Mr. A. M Cruft, Lond.; Messrs. Condy and Mitchell, Lond.; Dr. R. R. Campbell, Montrose; Messrs. T. Cook and Son, Lond.

D.—Mr. H. Duffell, Sidcup; Dr. A. Duke, Cheltenham; Messrs. Derry and Sons, Nottingham; Dunstone Park Consumptive Home, Paignton, Proprietor of, D., Lond.; Sir Dyce Duckworth, Lond.; Deutscher Inserenten-Verband, Cologne.

E.—Mr. O. Etheridge, Whitstable; Enfield Cycle Co, Redditch; East Suburban Medical Protection Society, Hon. Secretary of; *Electrical Review*, New York, Editor of; Mr. E. F. Eliot, Southampton.

F.—Dr. W. D. Findlay, Blackburn; Messrs. Findlater, Mackie, Todd, and Co, Lond., Mr. G. F. Forster, Lond.; Dr. W. Forbes-Leslie, Lond.; Dr. F. E. Fremantle, Wynberg

G.—Surgeon C B. Gittings, R.N., Portsmouth; Mr. E M. Gregory, Lond., Growler, Lond.

H.—Mr. E. S Hemsted, Kintbury; Hulme Dispensary, Manchester, Hon. Treasurer of; Hovis Bread Flour Co, Macclesfield; Dr. D. Berry Hart, Edinburgh, Mrs M. Hartley, Dublin; Dr. J. F. Horne, Barnsley; Mr. F. Hobday, Lond.; Messrs. Hamilton and Co, Lond.; Mr A H. Huth, Lond.; Dr. W. Hunter, Lond.

I.—Institute of Chemistry, Secretary of.

J.—Dr. W. Jamison, Landore; Mr. H. Juler, Lond.; J. T. P., Abergwfie; *Journal of Nervous and Mental Disease*, New York, Editor of.

K.—Dr. Skene Keith, Lond.; Messrs. Kilner Bros., Lond.; Messrs. J. Keiller and Son, Lond.

L.—Mr. T. H. Livingstone, Rochdale; Mr. J. Lanyon, Lond.; Mr. J. Lane, Lond.; Dr. R Lee, Lond.; Messrs Lee and Nightingale, Liverpool; Leeds General Infirmary, Manager of.

M.—Mr. W. Milligan, Manchester; Mr. W. E. Maw, Leeds; Mr. H. Moreland, Peckham; Mr S. L. Craigie Moody, Lond.; Messrs Macmillan and Co., Lond.; Mr. B. G Moynihan, Leeds; *Medical Review*, Editor of; Messrs. C. Mitchell and Co., Lond; Messrs MacLean and Lowson, Forfar; Mr. W. H. Moore, Kidderminster, Messrs. J. Martin and Co, Leith; Medical Graduates' College, Lond., Medical Superintendent of; M. B.; Dr. C. A. Mayne, Patna, India; Mr. R. Mosse, Lond; Messrs. Maull and Fox, Lond.; Midwives Bill Committee, Hon. Secretary of; Mrs. S M. Massey, Lond.

N.—Messrs. Nicolay and Co, Lond.; Messrs. Neyroud and Son, Lond; Messrs. F. Newbery, Lond. *Newcastle Daily Journal*, Proprietor of.

O.—Mr. S Osborn, Lond.; Mr. F. Orchard, Lond.

P.—Surgeon-General J. O. Penny, Lond.; Portia Co, Lond.; Messrs. Parke, Davis and Co, Lond.; Mr. Y. J. Pentland, Edinburgh; Mr. F. Page Newcastle-on-Tyne; Dr. F. L. Pochin, Fakenham, Physician and Surgeon, Ampthill; Mr. F. E Place, Bombay; Publicus, Mombasa; *Pall Mall Gazette*, News Editor of; Dr. E. Pfeiffer, Wiesbaden; Mr. C. Poole, Leicester.

Q.—Qualified, Wrexham; Q St. J

R.—Dr. F Raschig, Berlin; Mr. Mayo Robson, Leeds; Royal College of Physicians of London, Secretary of; Messrs. Ross and Co., Lond.; R., Luton; Miss E Rouse, Lond.; R. W. W., Eastbourne; Rodway, Lond.; Reuter's Telegram Co, Lond.; Messrs Reynolds and Branson, Leeds, Messrs. Raimes and Co., York, Royal South Hants Infirmary, Southampton, Secretary of; R W. D., Lond.; Mr. S. Rideal, Lond; Messrs Ricardo and Co, Lond.; Mr. E. J. Reid, Lond.

S.—Dr. C Simpson, Towcester; Dr. F. R. Sturgis, New York; Dr. F. G. Slate, Fort Dodge; Society of Arts, Lond., Secretary of; *St Thomas's Hospital Gazette*, Editor of; Sweetmeat Automatic Delivery Co., Glasgow; Mr. J. Saunders, Cephalonia, Greece; Messrs Street and Co, Lond.; Dr. G. F. Still, Lond.; Sociedad Propagandista del Clima, Málaga; Stockport Infirmary, Secretary of; Southport Corporation, Town Clerk of; Messrs. W. H. Smith and Son, Manchester, Mr. H. C. Standage, Birmingham; Mr. J. W. Stenhouse, Manchester; Dr. D. W. Samways, Mentone.

T.—Mr. H. E Taaffe, Londonderry; Messrs. Teff and Co., Bristol; Mr. T. Thatcher, Bristol; Miss M. Trevosper, Margate; Dr. H. Tilley, Lond., Mr. H Tuxford, Boston.

W.—Mr. M. L. Watson, Liscard; Messrs. Wright, Dain, Peyton and Co., Birmingham; Dr F Warner, Lond.; Mr. Vincent Wood, Lond.; West London Medical Society, Hon. Secretary of; Sir J. Williams, Lond.

Y.—Dr. Burney Yeo, Lond.; Y. Z., Rochdale.

Z.—Messrs. Zimmermann, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. F. O. Angear, Chatham; Dr. F. H. Alderson, Bournemouth; A W. B., A. C; Dr A. Aplin, Sneinton; Anderson's College Medical School, Glasgow, Treasurer of; A F. W.

B.—Mr. G V. Benson, Lewes; Brixton Dispensary, Secretary of; Bayer Co., Lond., Mr. J. B. L., Bastable, Morecambe; Bradford Children's Hospital, Secretary of; Mr. G. P Butcher, Plymouth; Messrs Boothroyd, Sons, and Rimmer, Southport; Dr F. C. Brodie, Wootton Bridge; Messrs. Benson and Co, Lond.; Messrs. Brown, Gould, and Co., Lond.; Sir T. L. Brunton, Lond.; Mr. G L. Barritt, Spalding; Mr. C. E. S. Brettingham, Ilchester; Brin's Oxygen Co, Lond.; Mr. C J. Bond, Leicester; Bristol Royal Hospital, Secretary of; Mr. A. Berrill, South Woodford; Dr. T. S. Brodie, Houston.

C.—Dr. W. H. Corfield, Lond.; Messrs. Carter, Lond.; Dr. R. B. Campbell, Montrose; Mr. H. Cripps Lond., College of Preceptors, Lond., Mr. C P. Creed, Fort Augustus; Mr. G. J. Carmichael, Edinburgh, C J. McF.; C. B. E; C R. C; Mr. N. Close, Chard, C. F.; C. E. L.; C. W. M.

D.—Dr. E H Douty, Davos Platz; Derbyshire Royal Infirmary, Secretary of; Messrs. Dewsbury and Brown, Manchester; Dr. R. W. Diver, Shotley Bridge; Dorchester Asylum, Medical Superintendent of, Messrs. Down Bros., Lond., Dr. J. H. Davies, Port Talbot; D D. S.; Mr T. Domela-Nieuwenhuis, Zurich, Derby Borough Asylum, Clerk of

E.—Mr. W. P. Everard, Athlone Mr M. Edwards, Bexhill; Dr W. Ewart, Lond.

F.—Mr. H. Fulton, Harpurhey; Mr. W. A Frost, Lond.; Messrs. Freyberg, Lond., Hon. Mrs W. H Fremantle, Ripon, Mr. N. H Forbes, Tunbridge Wells; Messrs J S Fry and Sons, Bristol, F. W. B.

G.—Signor G. Guerrini, Bologna; Mr. A R. Green, Ledbury; G H. R.; Dr. T. Greer, Belfast; Messrs. W. R. and F. Grant, Inverness; Dr A. Gardner, Kirby Moorside.

H.—Mr W. H. Hall, Woking, Mr J. Heywood, Manchester; Mr. A. S. Hanson, Titchfield; Dr T. Hime, Bradford, Mr. J. J. Hanly, Binegar; H. J; Messrs Hastings Bros., Lond., Mr. G Hermanni, Lond.; Hamilton Association, Lond., H. D; Dr. G. P. Hadley, Birmingham; Henley, Manchester; Surgeon T. D. Halahan, R N, Berehaven, Ireland; Miss Haigh, Penrhyndeudraeth.

J.—Mr. Y. M. Jones Humphreys, Cemmaes; J. W. G.; J. F. H.; J. B; J. O. H; J. G.; J. B, Manchester, Dr J. W. Johnston, Oxton; Mr. E O Jones, Bethesda; J. E L. P; J. W. D.; Mr. G. P. Johnston, Edinburgh, J. J. H.

K.—Dr. J. P. Kitson, Cleobury Mortimer.

L.—Dr. J. H. Lumsden, Denny; Leeds Corporation, Accountant of; London Throat Hospital, Secretary of; Mr. H. S Langworthy, Lond.; Mr. J. L. Lock, Cambridge; Mr. L. Lewis, Neath, London Association of Nurses, Secretary of; L.R.C.P., Plumstead; Mr. J. L Leckie Pontypridd; Mr. W. S Low, Lond.; Lady Superintendent, Croydon; Mr. H. K. Lewis.

M.—Mr. W. A Mushé, Lond.; Dr J. F. Macara, Durness; Dr. J. McClymont, Leyton; Mr. J. Montford, Upton on Severn; Mr. S B. Mason, Pontypridd, Mr. A R Milton, Ceylon, Memorial Hospital, Jarrow-on-Tyne, Secretary of; Dr. J. Muir, Bellshill; M. H. B; M. P. H, Lond., Mr. C Marshall, Darwen; Medicus, Sawston; Mr R Machin, Lond; Messrs. E MacGeorge and Co, Lond.; Medicus, Birmingham, M.R.C.S., London; Messrs. J. Maythorn, Biggleswade; Dr. F. Macrae, Alness, Dr. H. C. Marr, Lenzie; Mr. J. McMurtrie, Glasgow.

N.—Northern Medical Association, Glasgow; N. P. C.; North Staffs Infirmary, Secretary of; Mrs. Nicholson, Annan, Dr E S Nutting, Baddesley.

O.—Dr. H Oppenheimer, Lond., Dr. W. Osler, Baltimore, U S.A.; Mr. E. Owen, Lond.; Old Kent road (624), Lond., Mr. M. Q O'Callaghan, Eastbourne.

P.—Dr. E J. Pritchard, Hinckley; Plymouth Borough Asylum, Clerk of; P. B.; P. T.; Mrs. C. Pechey, Sidcup

R.—Dr. W. B Ransom, Nottingham; R S, Manchester; Royal Halifax Infirmary, Secretary of; Rev. W. Richmond, Hunstanton R. T. W.

S.—Mr. A. Stenhouse, Glasgow, Lady P. Stewart, East Grinstead; Mr. E O Scallon, Wincanton, Mr. F. J. Stuart, Northampton, Mr H. G. Swain, Lond; Mr E S Sanderson, St. Just, *Sheffield Independent* Press; S. G. W.; Messrs A. F. Sharp and Co., Glasgow, Lady Struthers, Edinburgh; Sussex County Hospital, Brighton, Secretary of.

T.—Dr E F. Trevelyan, Leeds, Dr. A. E Taylor, Plymouth, Mr. R H. Terry, Lond; Messrs. J. Turner and Co, Queensferry, Mrs. Theobald, Leicester, Mr. J Thin, Edinburgh, Dr. Trenberg, Nikolaieff, Russia, Dr. G. T Tate, Mansfield.

U.—Union Assurance Society, Lond.

W.—Dr. T. A. Wood, Douglas, Isle of Man; W. A J.; W. A M., Mr. C. Williams, Formby, Messrs. W. Watson and Co, Lond.; Messrs Waltham Bros, Lond.; Mr. W. G Weaver, Aylesbury; Warneford Asylum, Oxford, Medical Superintendent of; Mr. A. F. Williams, Lond.; Whitehaven, &c, Infirmary, Secretary of; Messrs. Widenmann, Broicher, and Co., Lond., Messrs. Warburton and Grant, Treherbert; Messrs. H. Wilson and Son, W.P.; Dr. F. W. Whyte, Strandtown; Messrs. Wills, Ltd., Lond.; W. B O F; W. L.

X.—X., Lond.

Y.—*Yarmouth Independent*

EVERY FRIDAY. **THE LANCET.** PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE:

FOR THE UNITED KINGDOM.				TO THE COLONIES AND ABROAD.			
One Year	£1	12	6	One Year	£1	14	8
Six Months	0	16	3	Six Months	0	17	4
Three Months	0	8	2	Three Months	0	8	8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications	Seven Lines and under	£0	5	0
Official and General Announcements	Ditto	0	5	0
Trade and Miscellaneous Advertisements	Ditto	0	4	6
	Every additional Line	0	0	6

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.
Terms for Position Pages and Serial Insertions on application.

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière, Asnières, Paris.

Presidential Address

THE VALUE OF EYE SYMPTOMS IN THE DIAGNOSIS OF GENERAL DISEASES.

Delivered before the Harveian Society on Jan. 18th, 1900.

By HENRY E. JULER, F.R.C.S. Eng.,
OPHTHALMIC SURGEON TO ST. MARY'S HOSPITAL AND CONSULTING OPHTHALMIC SURGEON TO THE LONDON LOCK HOSPITAL.

GENTLEMEN,—For upwards of 50 years it has been the custom of this Society for the out-going President to deliver an address at this annual general meeting. The actual rule is that he shall expatiate on the objects and aims of the Society, illustrating its great usefulness as a scientific and practical body by enlarging upon the works begun, continued, and ended during the past year of office. Fashion, however, changes, and I am informed by our able honorary secretaries that this rule is no longer regarded, but that the President is expected to give an address upon some subject chosen by himself and it is hinted, rather than spoken outright, that this address should not be too long nor too short; that it should be medically scientific, and, above all things, interesting. Well, gentlemen, in theory it seems to be quite an easy and pleasant task, but in practice the difficulties become more and more evident as the annual meeting approaches. On my part I promise that it shall not be too long, but on your part I fear that it may not be considered either too short or too interesting.

It has occurred to me to address you upon the value of eye symptoms in the diagnosis of general diseases.

The eye is so intimately connected with the other organs and structures of the body that it must necessarily follow that it would sympathise, not only with its fellow eye, but with many of those structures of whose nature it so intimately partakes.

The optic nerve comes forward and expands into the retina which may almost be regarded as a diminutive brain, having its ganglion cells, nerve fibres, and neuroglia; whilst light-sense, form-sense, and colour-sense are all conveyed to the various nerve-centres of the brain and thence to the various and most remote parts of the body. So sensitive is the eye to all nerve impressions that in deep anæsthesia, as from chloroform, the pupil will dilate by simple pinching of the arm. On the other hand, if a hot iron is made to touch a person's arm he instinctively not only pulls his arm away but he directs his eyes in the direction of the burning instrument. Varied movements of the body are instantly brought about by direct vision.

The iris, ciliary body, and choroid are in intimate connexion with the blood-vessels of the brain, the liver, and other parts of the body. It is easy to understand how sarcoma, glioma, and other malignant growths might be and are conveyed by these channels from the eye to the brain and the liver and other parts of the body. The eye contains a complete lymphatic system consisting of the anterior chamber, the canal of Schlemm, and other lymph spaces within the choroid and outside the eye but within the capsule of Tenon. These communicate most freely, not only with the other eye and the intracranial cavities, but with the lymphatics of the nose and face in the immediate vicinity of the orbit. The extra- and intra-ocular muscles of the eye, with the numerous and important nerves supplying them, constitute one of the most important diagnostic studies in medical science.

I feel, therefore, that no apology will be required from me if I bring before your notice to-night a few remarks illustrative of, in the first place, the great value of eye symptoms as a means of diagnosis in general disease, and, in the second place, of some mistakes which may be made by practitioners even of the first rank in our profession.

Take, for instance, the conjunctiva. This delicate membrane often becomes inflamed, it looks red and swollen, and may give off a discharge. In the majority of cases this is simply a local affection and can be cured in a short time. Such, however, is not always the case, the local trouble may be indicative of other diseases in the system. I well remember being called by a medical man to see a patient about 65 years of age who had a purulent discharge from both eyes, the eyelids were swollen, the conjunctivæ were infiltrated, and the corneæ were cloudy and had lost the epithelium from a great portion of their central areas. Not only were the eyes affected, but the skin was red and irritable, extending from the eyelids upwards over the scalp and downwards over the face and neck to the chest and abdomen. I was much concerned at the severity of the case, especially as I had never seen such extensive dermatitis in any case of ophthalmia before. Before giving an opinion I examined the discharges microscopically and found them to be teeming with colonies of gonococci. I told the practitioner at once that his patient was suffering from gonorrhœal ophthalmia and that he was in the greatest danger of blindness. The source of contagion could not at first be traced as the patient himself was free from urethral gonorrhœa. It turned out, however, that he was accustomed to take a warm bath at night and that one of his sons used the same bath and the same towel as he did. This son had urethral gonorrhœa, and thus the study of an eye case led to the discovery of a similar disease in another patient.

In a second case I was called by a medical man to see his son who had a purulent discharge, swelling, and pain in each eye. The corneæ were both intact. His father, mother, and eldest sister were all in attendance upon this patient, each taking a turn at bathing and cleansing his eyes and so exposing themselves to great danger of inoculation. Microscopic examination proved gonococci and private conversation with the patient revealed urethral gonorrhœa. The patient under proper treatment and skilled nursing made a good recovery and fortunately the near relatives all escaped gonorrhœal ophthalmia.

A third case was the reverse of these. It was that of a man who stated that on the previous night his right eye had become red, swollen, and had a muco-purulent discharge. He said he knew the fearful nature of gonorrhœal ophthalmia, because a friend of his had suffered from it and was now quite blind. He further volunteered the statement that he was the subject of urethral gonorrhœa and gave me other details to account for his mental perturbation. I told him I did not think that it was gonorrhœal ophthalmia because the discharge was shreddy and watery and not liquid pus and that I would examine it on my return home and would send him a report that evening. The joy he showed on being told that the discharge showed no sign of gonorrhœal ophthalmia can scarcely be imagined. His first visit was on Saturday and by Monday the eye was practically cured.

I could quote many other cases of a similar nature, but these will suffice to show the great importance of examining the discharges in all cases of severe ophthalmia either in adults or in new-born children, for if the gonococcus is present there is always great danger, and if absent the patient is sure to get well under ordinary treatment.

Gonorrhœa has been shown of late years to be much more extensive in its ravages upon the general system than was formerly supposed. Urethral gonorrhœa may form metastatic disease of the eye as well as of the joints. In a recent paper by Mr. John Griffith read before the Ophthalmological Society he called attention to the fact that gonorrhœa is a frequent cause of iritis, and that iritis thus caused may occur many years after the urethritis, and is similar in character to that found in articular rheumatism. It usually occurs in males, generally in both eyes and often recurs with relapses of gonorrhœa or alternates with attacks on the joints.

Another general disease affecting the eye which may come first to the ophthalmic surgeon is diphtheria. This is fortunately much more rare than gonorrhœal ophthalmia; indeed, it is the rarity of its occurrence which puts us off our guard.

I well remember the case of a child who was brought to me by Dr. Horace Manders. The child's eyes were both red, the conjunctivæ were swollen, there was c
lacrymation, the corneæ were hazy, and their
almost fluffy in appearance, but the fluff did.
off with the tears. I was much interested an
owing to this cloudiness of the cornea, will be
not white like a diphtheritic exudation. I[illegible]ed.
was a form of purulent ophthalmia and wence o

it to be so serious that, by Dr. Manders's request, I took the case under my entire charge and treated it in a nursing home. I visited the child twice daily and once daily administered chloroform so as to examine the eyes thoroughly and applied nitrate of silver to the lids. To my horror, however, it became worse and worse, the corneæ becoming greyish white and false membranes forming on the palpebral conjunctivæ. On the fourth day, whilst the child was crying and spluttering in my face, I noticed patches of membrane on the tongue and fauces and then I realised to what danger I had exposed not only myself but the nurses and even the nursing home in charge of the case. A careful examination of the discharges from the eye in this case with cultivations from the same would have discovered the dumb-bell bacillus and so have saved my reputation. It might also have saved the eyes of the child, which were both lost. This case occurred some years ago before we were alive to the importance of bacteriological examinations and cultures.

Mr. W. H. H Jessop has recorded two cases of diphtheritic conjunctivitis quickly cured by injections of Klein's antitoxin. In both cases the Klebs-Löffler bacilli were discovered in the membrane and were cultivated.

Another class of diphtheritic cases constantly occurring in ophthalmic practice is illustrated by the following. A man, aged 21 years, came to St. Mary's Hospital in 1896 complaining that he could not see properly. His difficulty in reading was very great. He had suffered from "ulcerated throat" about five weeks before and had stayed in bed two weeks. Two weeks later he tried to resume work but found the difficulty just described. Before the illness he could see fairly well. His medical man had said that the sore-throat was not diphtheritic, but in my opinion this was a typical case of paresis of the ciliary muscle causing failure of accommodation. Had proper examinations and cultivations been made in this case the diagnosis might have been established.

This characteristic paresis often follows diphtheria of all parts of the body as in the conjunctiva, vulva, and wounds, but it is most frequent after pharyngeal attacks. It generally begins about two weeks after the attack has run its course and lasts from four to eight weeks. It is always bilateral and the sphincter pupillæ are seldom affected. It is frequently accompanied by a nasal twang of the voice and difficulty in swallowing, so that on attempting to drink the fluid will pass up the posterior nares and out through the nostrils. The extra-ocular muscles are occasionally affected by diphtheria, with or without the loss of accommodation, and cause further visual trouble by the diplopia thus produced.

Syphilis is so frequently found in the eye that I can only touch upon those cases which are often seen first by the ophthalmic surgeon. In acquired syphilis the eye may be the point of entrance of the infection. This may be brought about by the agency of the finger, the tongue, or the lips. Young infants and children run a risk of inoculation when kissed by infected persons, and indiscriminate kissing is evidently a pernicious habit.

In my recent Harveian lectures I quoted cases of chancre of the eyelids. These involve, with very few exceptions, the palpebral conjunctiva Usually they are situated at the lid margins, but they may start at the caruncle or at the other canthus. The clinical course of these chancres does not materially differ from those elsewhere. The amount of local reaction varies greatly. The pre-auricular gland is always enlarged, firm, and painless, and it is not tender unless it is manipulated roughly. This absence of tenderness has a diagnostic significance and the diagnosis of primary syphilitic sores in this region constitutes one of the most interesting problems in surgery. It may be mistaken for rodent ulcer, tertiary syphilitic ulcer, epithelioma, and lupus, chalazion, hordeolum, and tuberculous ulcer of the palpebral conjunctiva

Chancre of the eyelid is, as I have just said, always accompanied by enlargement and induration of the pre-auricular gland and sometimes of the submaxillary gland also. The presence, therefore, of glandular swelling will help to exclude many of the above affections. Thus rodent ulcer, [illegible] syphilitic ulcer, lupus, and, in most instances, chalazio[illegible] [illegible] be excluded, for in all these the pre-au[illegible] unaffected. In epithelioma it is different, [illegible] [illegible]cted as in other regions, yet [illegible] removed for suspected rodent [illegible] to be epithelioma without [illegible] pre-auricular gland. The [illegible] [illegible]us ulcer has caused [illegible] [illegible]ncre would have healed spontaneously and the sufferer would be halfway through the secondary stage of syphilis. With suppurating chalazion and suppurating styes the gland may be affected, but in such cases it is much swollen painful, very tender, and the skin over it is red and œdematous. It is, in fact, an acute adenitis and easily distinguished from a chronic enlargement. Now by a process of exclusion only one ulcer is left, the tuberculous ulcer of the conjunctiva, which is sufficiently rare to have been much overlooked in literature. This is the only ulcer that is liable to be mistaken for a chancre. The pre-auricular gland is firm and swollen and the ulcer is circular or oval and saucer-shaped. Be suspicious if there is no induration at the base of the ulcer. A tuberculous ulcer, I have learnt from experience, is never indurated. I could, if time permitted, quote two cases of tuberculous ulcer of the eyelids, one of which terminated fatally in tuberculous meningitis and the other in general tuberculosis.

SUBSCRIPTION.
[illegible]ITED KINGDOM:
One Y[illegible] ... £1 12 6
Six Mo[illegible] ... 0 16 3
Three Mo[illegible] ... 0 8 2
Subscription [illegible] may commence [illegible]
advance.
Agent for the Advertisement [illegible]

It is well, therefore, not to commence the constitutional treatment of suspected chancre of the eyelid until the diagnosis is confirmed by the secondary manifestations of syphilis, for the use of mercury, which is so very beneficial in the syphilitic, is liable to act injuriously in the tuberculous cases.

Another large class of cases resulting from acquired syphilis is that of syphilitic iritis. This is probably most common *in men, but the cases I refer to now as coming in* the first place to the ophthalmic surgeon are mostly those of women of all ages, single, married, and widowed. I have seen them in patients aged from 15 to 65 years and they are mostly apparently unconscious of the presence of any systemic infectious disease. At least they do not appear to know that the syphilitic affection is the cause of the eye trouble. They come complaining of dimness of vision, the iris is dull and infiltrated, the pupil is fixed and irregular, the circumcorneal zone is injected. and there is little or no pain. On looking for collateral signs there is usually a copious skin rash, the hair comes off, the throat is sore wit[illegible]us patches, and by ingenious questions on the part [illegible]urgeon a history of chancre on the genitals may [illegible] elicited without giving alarm, offence, or even susp[illegible] to the patient. I could quote scores of such cases an[illegible] [illegible]now of no cases of secondary syphilis which more clear[illegible] [illegible]lustrate the value of mercurial treatment in producing ra[illegible] recovery. In dealing with such cases great tact is req[illegible]ed on the part of the practitioner to avoid the disturbance of domestic happiness. Our first duty is to cure the patient and, in my opinion, we are not called upon to incriminate other persons who may or may not belong to the domestic circle.

Interstitial keratitis, again, is another phase of eye troubles arising occasionally from acquired syphilis and more often, indeed, in the great majority of cases, from the inherited form of this disease. I do not deny that interstitial keratitis may result from other than syphilitic causes, but I am convinced that the great bulk of cases occurring in this country are due to this cause.

Well, these generally come first to the ophthalmic surgeon. We know them at once by the steamy, deep-seated cloudiness of the cornea which varies, of course, with the stage of the affection and with the severity of the infection. It generally appears in children about the age of puberty, although it may occur earlier or later in life; when coming on later it is usually in the form of a relapse.

The proof of inherited syphilis is not always easily established. It is best to adopt a sort of Sherlock Holmes's method of observation. Direct questioning is often difficult, not to say embarrassing both to the medical man and to the parents of the child. Neither parent would like to admit that the cause of the child's disease had originated in his or her own person. The father will privately admit that he had syphilis many years ago, a considerable time before marriage. The mother will gladly tell about premature *labours, children born dead, previous miscarriages,* skin rash, sore throat, and so forth.

The collateral symptoms of inherited syphilis occurring in the patient are frequently to be traced, but they necessarily vary, as I have said, with the dose of the disease which has fallen to the lot of this particular child. The question of the Sherlock Holmes's method of observation has recently been commented upon in medical literature, and I must take this opportunity of commending it most cordially so long as it is used for detection and not for exposure. In this particular affection, for instance, the medical Sherlock, with the previous assistance and coöperation of the maiden aunt, the mother-in law, or some other person who knew all the family history, might easily address his patient in the following strain. We will suppose that this child was not the first, but the second, affected by the disease. He might say: "Your eldest sister is deaf; she is very ugly and not nearly so well developed as you are; her eyes were once considerably worse than yours and her sight is still defective, her upper front teeth are notched, the bridge of her nose is sunken, and she has a *café au lait* complexion. Your younger brother is quite well, his sight and hearing are good, he is even better-looking than you are, and he is not deaf. Your mother was not well after her marriage, her hair came off, she had a rash all over her body, and a sore-throat. She had a little boy who was born dead. Your father, well, I could say something about your father, but he is still a big and powerful man, and so perhaps I had better not."

No doubt Dr. Conan Doyle's method is an excellent one, but I am sure he would agree with me that it should be used exclusively for observation and the better treatment of our patients, but never for their exposure.

Another infective disease in which we are often consulted is influenza. Considering the myriad of cases that are said to occur of this disease it is surprising that more eye troubles have not been recorded. Nevertheless, many sequelæ do occur and that apparently in direct proportion to the severity of the previous attack. A few years ago a medical friend of mine sent me quite an urgent message saying, "Dear Juler, my wife has developed a most fearful squint. Do come and operate at once." His wife was a beautiful lady, and he, poor man, was much disconcerted. She had recently sustained a severe influenzal attack in which the temperature had been over 105° F. with some basic pneumonia. The case was only one of paresis of the external rectus muscle causing internal strabismus. My friend had the pleasure of seeing this squint quite disappear in the course of a few weeks without the necessity of the proposed operation.

Quite recently I was called to a case of acute glaucoma occurring in a lady about 50 years of age. There appeared to be no other cause than recent influenza. I performed iridectomy and the operation seems to have been as effective here as in ordinary cases of acute glaucoma. Only one eye was attacked.

We constantly see cases of hyperæmia of the conjunctiva with or without discharge. Paresis of accommodation is frequent though less severe than that following diphtheria although it seems to take longer to recover. Cases of embolism of the arteria centralis retinæ are recorded by Hosch and Coppez. Pronounced optic neuritis and neuro-retinitis single and double have been reported by Cross, Hartridge, Snell, and many others, including myself. The fundus presents varied appearances, in many cases seeming like an ordinary optic neuritis, in others presenting small brilliant white dots between the optic disc and the macula. These dots will sometimes disappear. The defect of vision varies, but in some cases the patient becomes totally blind.

Before going further I should like to dwell a little upon the importance of the ophthalmoscope as a means of diagnosis. The great charm, at least to my mind, of ophthalmic practice is the precise and definite nature of the work. We can in the great majority of cases coming before us give a definite diagnosis, a definite line of treatment, and a definite prognosis. This is undoubtedly due in a large measure to the proper and skilful use of the ophthalmoscope. Unfortunately I fear that many practitioners do not keep up the use of this instrument All must have some knowledge of its use, for nowadays a student cannot present himself for examination even for the Membership of the Royal College of Surgeons without a certificate of having done ophthalmic work. Still, there is a holding back in the use of this most helpful instrument, although to my mind nothing is so simple and easy. By retinoscopy, or the shadow-test, we can in a few minutes find out not only the quality of an error of refraction but we can estimate its quantity with the greatest accuracy. By the direct method of ophthalmoscopic examination we can scan the retina, the optic nerve, and the choroid. A few drops of *homatropine* hydro-bromate instilled into the palpebral sac about half an hour before the examination renders this quite a simple matter which can be learned from any modern text-book.

One of the best instances of its use is, I think, in the detection of malingerers. Although the conscription is not in force in the British empire at the present time yet we find many persons who believe or pretend that they cannot see. They generally complain of one eye only. Many of this class of patient belong to the school girl type, between the ages of 10 and 18 years. We frequently see them both in hospital and in private practice. A girl is brought by her anxious mother, who states that the girl cannot see with one eye. We examine the pupils and find them both equal, active to light, and normal in size. By retinoscopy we find there is no ametropia such as would cause blindness. By the direct ophthalmoscopic examination we find the fundus absolutely normal. The room has been darkened for this examination and the patient cannot very well see what we are manipulating An empty spectacle frame capable of holding lenses is placed upon the patient's face and she is told to read illuminated test type in the corner of this dark room, then, both eyes being open, a strong convex lens is placed in front of one of the eyes so as to obscure its vision, and she is told to read again, then the other eye is treated in the same way She does not know at the time that this glass obscures the vision. This is generally sufficient to confuse the patient to such a degree that she will read all the letters with either eye, not being quite sure with which eye she is actually reading. Having thus proved, to our own satisfaction, that the patient can read with either eye, we resort to Snellen's coloured test-types which are red and green. We also place a red and green glass in front of each eye respectively, and this isolates the eyes so that one eye can only read red and the other only green letters. Now she is told to read and she will at once read both the red and green letters, showing that both eyes are working and that she has been mistaken about her sight.

In these young people there seems to be no definite motive for malingering, and they really seem to think that they cannot see. I never accuse them of untruthfulness, nor do I think it well to tell even the parent that the young lady is untruthful. The parent is greatly distressed and often not a little indignant. It is, I think, better to be silent and to advise the parent to withdraw all apparent sympathy. The condition is no doubt an early phase of hysteria, although very different from actual hysterical amblyopia

Older women come with the same kind of complaint. In men the motive is often more apparent, but even then they fall into the same trap by the mystifying treatment I have just described and by the time we come to the coloured types they will read the red and green letters indiscriminately. I have recently had several cases where by the use of the ophthalmoscope and the coloured types just mentioned I easily proved to my own satisfaction that I was dealing with a malingerer, and I could mention many instances showing the great value of the ophthalmoscope in forming a correct diagnosis where it would have been difficult to do so without a knowledge of its use. If the instrument is so useful in this trivial subject of malingering how much more valuable must it be in the detection of actual disease.

Take, for instance, renal diseases. Nothing is more common in either hospital or private practice than the discovery of albuminuric retinitis The patient may be quite unaware of any trouble beyond defective sight and the ophthalmoscope demonstrates the existence of slight optic neuritis, white spots around the macula, and hæmorrhages scattered over the fundus of one or both eyes. The urine is examined and found to contain albumin and casts galore. These albuminuric affections of the retina are occasionally found in all forms of nephritis. They are most frequent in the later stages of contracted kidney, and when found in such cases they indicate not only a loss of vision but also a probable loss of life in the near future

Lastly, eye symptoms are of the greatest possible value in the diagnosis of diseases of the nervous system, intra-cranial and otherwise; but, alas, my time has expired and I should require a longer period for the development of this aspect of ophthalmology.

Gentlemen, I hope I have not wearied you, and before I finish this expiring effort of my year of office let me thank you for the honour of having been elected to act as your president for the past year.

NEWTON ABBOT (DEVON) HOSPITAL.—T
meeting of this institution was held on Jan
medical report showed that 184 patients had be
Mrs. Stephens had given £1000 to endow a bed.
was £2122, and there was a favourable balance o

A Clinical Lecture

ON

SOME COMPLICATIONS FOLLOWING ON INJURIES ABOUT THE ELBOW-JOINT AND THEIR TREATMENT.

Delivered at the Leeds Infirmary on Nov. 14th, 1899,

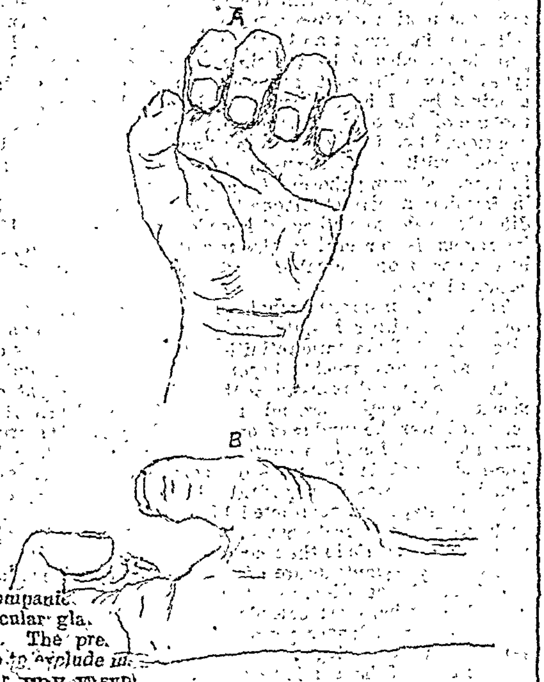
BY H. LITTLEWOOD, F.R.C.S. ENG.,

SURGEON TO THE LEEDS INFIRMARY; LECTURER IN PRACTICAL AND OPERATIVE SURGERY IN THE YORKSHIRE COLLEGE (VICTORIA UNIVERSITY).

GENTLEMEN,—There is one complication sometimes following on injuries about the elbow-joint which I want more particularly to discuss to-day, the more so as there is practically no mention of it in the ordinary surgical text-books. I am inclined to think that it is not so rare a complication as it is sometimes thought to be, as I have seen it in at least ten cases during the past 12 years. I have, however, discussed the condition with some hospital surgeons of considerable experience, who tell me that they have never seen a case. Here and there in the medical journals cases have been described, their pathology discussed, and various plans of treatment recommended. During the last 12 months two cases have come under my care and it is from a study of these that I shall base my remarks as to the pathology of the condition and advocate the treatment which I carried out.

The deformity is this, that when the wrist is extended then the inter-phalangeal joints of the fingers and thumb are strongly flexed, so that the tips of the fingers touch the lower part of the palm, and no reasonable amount of force appears to be capable of straightening them (see Fig. 1, A and B), but

FIG. 1.



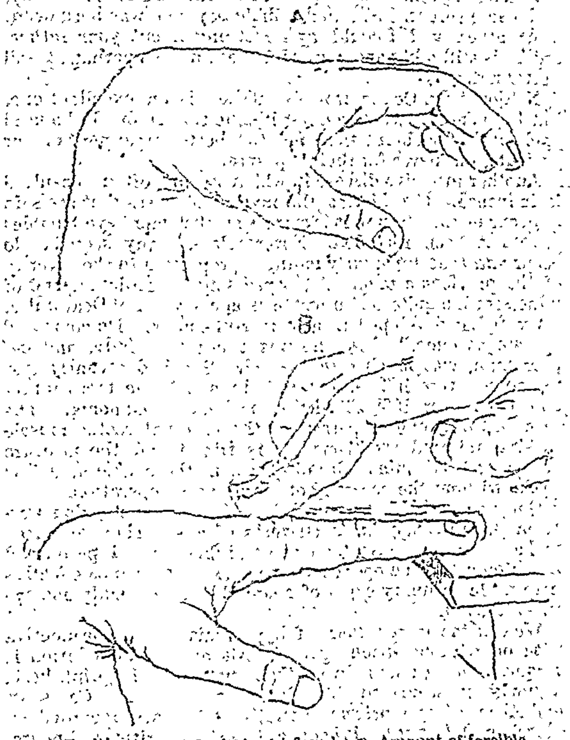
accompanie
auricular gla
also. The pre
help to exclude m
ulcer, ERY FR
chalazio
the pre-au
is different,

SUBSC
UNITED KI
F
One Yno
Six Mo
Three M
Subscr
advanc

ion assumed with wrist extended.

oint is flexed to a right angle then the £can be easily extended (see Fig. 2, A ed the deformity may be thought the nerves, probably the musculo- ll not account for the deformity, ses one or more of the nerves may was thought that there was some ulnar anæsthesia. You are all familiar with the characteristic deformities and anæsthetic areas associated with musculo-spiral, ulnar, and median paralysis, and none of these are like the condition which I refer to. The deformity appears always to occur in children after some severe injury about the elbow-joint, and generally after a fracture separation of the lower humeral epiphysis. I have once seen it after a dislocation of both bones of the forearm backwards. The cause of the deformity is, I believe, primarily in the muscular portions of the flexor muscles of the forearm. If the histories of these cases are carefully gone into it will be found that the injuries have been severe and that the flexor muscles have been torn, possibly by the displacement of the forearm backwards with the lower end of the humerus. The torn muscle is replaced by fibrous tissue, and this, contracting, is, I believe, responsible for the deformity. A lump varying in size can be felt in the flexor muscles in the upper third of the forearm, and it has been present in all the cases which I have seen. It is a well-recognised condition in the sterno-mastoid muscle. A swelling is found in about the middle of the muscle soon after birth, which is thought to be due to a tearing of its fibres during parturition; this sometimes produces wry-neck.

FIG. 2.

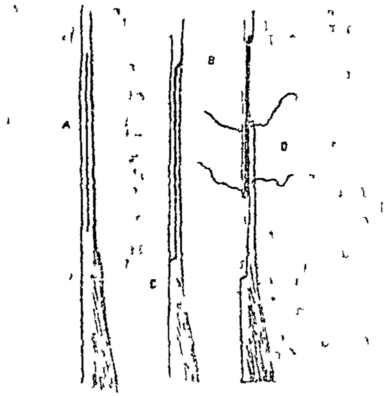


A, Position assumed with wrist flexed. B, Amount of forcible extension possible with wrist flexed.

I *do not* believe that splint-pressure has anything to do with the production of the deformity, although I am well aware that in most cases a sore—pressure-sore—is present; *but this is not always so, for in* Case 1 no abrasion of any kind was present and in Case 2 a sore formed but was on the extensor surface of the forearm. I am especially laying *stress on this point as it has* given rise to one theory—that the contraction is due to a secondary inflammation extending to the muscles from the splint-sore. That explanation clearly will not account for Case 1 in which there was no sore of any kind, and in Case 2 the sore was on the back of the forearm. One would imagine that any inflammation extending from this sore would have involved the extensor muscles and produced a hyper-extension of the wrist instead of involving the flexor muscles. For these reasons I am inclined to think that the pressure-sores are not causally related to the deformity; they may, however, be taken as some index of the amount of laceration of the soft parts at the time of the injury, producing a great amount of effusion which increases in amount after the application of splints Probably the effusion of blood into the skin and subcutaneous tissues renders them anæsthetic, acting in the same way as a hypodermic injection of water, and this may explain why a large sore may form and yet the patient will not complain of any pain, and on this account it is very important to examine the limb most carefully at short intervals, there is practically no fear of non union of the fracture If a splint sore forms you will very rightly have to bear the blame, and should unfortunately, contraction of the flexor muscles follow the friends of the patient will have no doubt that the result is due to tight splints In some of the cases pronation is limited and in others there is deformity about the lower end of the humerus the most serious being the presence of a mass of bone at the inner side preventing flexion of the elbow The removal of this mass generally produces satisfactory results Can anything be done to prevent this contraction? Of this I am doubtful If during the treatment, whatever method is adopted, any contraction of the fingers be noticed possibly the flexion contraction might be avoided by putting the arm in a straight anterior arm splint reaching to just above the bend of the elbow and posterior rectangular splint extending to the tips of the fingers, so that the fingers could be fixed in the extended position It would certainly be worth trying In one very slight case which I saw some time ago frequent massage greatly improved the condition I unfortunately lost sight of the patient, so I do not know what was the final result I will now describe to you the plan of treatment which I adopted in my two cases and then read brief notes of them

The parts having been made aseptic a tourniquet is placed on the arm and the forearm is held in the position of supination An incision about four inches long is now made in the middle line, beginning at the wrist and the skin is reflected The superficial flexor tendons are exposed and divided in the following manner A scalpel is thrust into the middle of the tendon and it is divided in the longitudinal direction for about one and a half inches (see Fig 3, A) At the lower part of this incision a transverse division of the tendon is made in an outward direction (see Fig 3, B), and at the upper part of the longitudinal slit a similar division is made directly inwards (see Fig 3 C) In this way the tendons are completely divided and the necessary lengthening can be obtained by sliding the split portions and suturing (see Fig 3, D) The exact amount of lengthening is determined by the ability fully to extend the fingers with the wrist in the extended position The superficial tendons after division are united with long threads of fine silk so they can be held apart and can be easily recognised for the final suture The deep tendons are now divided in the same way, the split portions sliding on each other to obtain the required increase of length and are at once sutured in two places with fine silk (see Fig 3 D) All the deep tendons having been divided, lengthened, and sutured, the superficial tendons are then sutured in the same way No vessels are ligatured The wound is closed with silkworm gut and a uniform firm wool and gauze dressing is applied from the fingers to the elbows, the fingers and wrist being placed in the extended position and the fingers separated by small pieces of wool, and only the tips of the fingers being exposed The tourniquet is then removed The operation takes about one and a half hours This form of dressing is sometimes painful for the first 24 hours If there is pain a small dose of opium or morphia should be given

FIG 3



Method of lengthening tendons

CASE 1—The patient a girl, aged eight years, was admitted to the Leeds Infirmary on Nov 17th, 1898 Four months before admission she had a fracture separation of the lower end of the humerus, with a good deal of swelling of the parts It was put up in an internal rectangular splint for four or five weeks When the splint was taken off it was noticed that the fingers were contracted and afterwards the contraction gradually increased There was some limitation of movement of the elbow joint, it could not be completely extended and could be flexed only to about a right angle Flexion was limited by a bony prominence at the inner side of the lower end of the humerus When the wrist was extended the inter phalangeal joints of the fingers and thumb were firmly flexed, the tips of the fingers touching the palm and the flexed thumb resting against the outer side of the flexed forefinger With the wrist in the extended position it was impossible to get any extension of the fingers If, however, the wrist joint were flexed then the fingers could be easily and completely extended. There were no cicatrices on the forearm the skin being perfectly normal At the upper third of the forearm in the flexor aspect a thickened mass could be felt in the substance of the muscles It was thought that there was some loss of sensation in the ring finger and the little finger

The operation already described was performed on Dec 5th, 1898 All the flexor tendons being lengthened about an inch a firm uniform antiseptic dressing of gauze and wool was applied from the fingers to the elbow, the fingers and wrist being extended The wound when dressed on Jan 1st, 1899, had quite healed and the silkworm gut sutures were removed The patient left the infirmary on March 30th, 1899 After leaving off the dressings for a few days it was found that there was some tendency to slight contraction of the sutured tendons To prevent this the limb was well rubbed and massaged and a back splint was worn for two or three hours every day The patient's condition greatly improved before leaving the infirmary, so that she could do some knitting The parents have persevered with the rubbing and she has now a very useful hand

CASE 2—A girl, aged six years, was admitted to the Leeds Infirmary on Jan 7th 1899 In May, 1898, the patient fell from a ladder and sustained a severe fracture about the left elbow joint and a fracture of both bones of the forearm The forearm was greatly swollen and the fractures were with *difficulty* kept in position A splint-sore formed about the middle of the back of the forearm, the condition was very similar to that in Case 1 The contraction, however, of the flexor tendons was more marked, so that when the wrist was flexed the fingers could not be completely extended Eight months had elapsed from the time of the accident Both fractures had united and the movements of the elbow joint were good The lump in the muscular part of the flexors was well marked

The operation was performed on Jan 9th, 1899 All the tendons with the exception of the flexor carpi ulnaris were divided, lengthened about an inch, and sutured Similar dressings to those used in Case 1 were employed. The wound was dressed on Feb 2nd; it had healed and the stitches were removed Daily massage was employed The patient left the infirmary on March 30th, 1899 The fingers were then quite straight and she had some power of flexion The condition is now greatly improved, and although at the present time the result is not as good as was the result in Case 1 yet I have very little doubt that ultimately the patient will have a very useful hand In both of these cases the nerves which were exposed, appeared to be healthy

In THE LANCET of March 12th 1898, p 722 Mr Raymond Johnson described a case of this kind in which he improved the condition somewhat by removing a portion of the radius and ulna Unfortunately he did not obtain bony union Mr Lawford Knaggs has kindly drawn my attention to a very instructive lecture in the *Guy's Hospital Gazette* for October 1898, by Mr Davies Colley on a similar case which he had had under his care and in which he first divided the muscles and got some improvement and later divided all the flexor tendons about one and a half inches above the upper border of the hand, the result being that the child's fingers were straight but could not be flexed.

The plan of treatment which I have described appears to me to be rational and from what I can gather from the description of other cases the results which I obtained will compare favourably with those obtained by other methods. I wish to thank my late house surgeon, Mr. Frank Talbot, for his help at the operations, for his care in the after-treatment of the cases, and for the drawings which he has made for me to illustrate this lecture.

DAY-TERRORS (PAVOR DIURNUS) IN CHILDREN.

By GEORGE F. STILL, M.A., M.D. Cantab., M.R.C.P. Lond.,

ASSISTANT PHYSICIAN FOR DISEASES OF CHILDREN, KING'S COLLEGE HOSPITAL; ASSISTANT PHYSICIAN TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET.

THE occurrence of day-terrors in children has received but little attention. Much has been written about night-terrors, for these are extremely common; but it would seem that the similar but much less common attacks which occur in the waking condition during the day have scarcely been noticed by English writers. Henoch[1] in the fourth edition of his lectures alludes to their occurrence by a brief note of two cases, but so far as I can ascertain no others have been recorded with the exception of two cases of somewhat different character described under this name by Dr. L. G. Guthrie. Two cases of pavor diurnus, and a third probably of the same nature, have recently been under my care and, as will be seen, they closely resemble the condition described by Henoch.

Case 1.—A boy, about six and a half years of age, about four years ago had night terrors which continued to occur, but with decreasing frequency, until seven months ago, when they ceased. Three months ago he awoke one night at 11 P.M., and although he was wide awake he seemed terrified, clutched at his mother, and said that he was afraid of the trains (which run near the house, but of which he had never shown the least fear before). Similar attacks occurred on several nights subsequently about the same time, the child being wide awake on each occasion. Two months ago, after having one of these attacks on the previous night, he began screaming in fright one morning at 8 A.M., but without knowing why, and during that day he had several similar attacks. After this he had many attacks both day and night. They occurred at any time of day. Often the boy would suddenly stop in the middle of his play, look terrified, and rush to his mother screaming. Sometimes he says he hears something which frightens him; sometimes he hears an imaginary person coming up the stairs whom, however, he is unable to describe; and sometimes he cannot explain why he is frightened. During these attacks he always seems to recognise people about him and there are no visual hallucinations. His face does not change colour during the attack. The whole duration of the terror is not more than half a minute. The child is said to be "terribly excitable." He is spare, with bright intelligent face, very quick of apprehension, talks in an eager excited way about his toys and games, and is obviously a child of very "nervous temperament." He is pale, and the mother says he has been getting thinner ever since the attacks began three months ago. As an infant he never had convulsions, and beyond measles and the night-terrors mentioned above he has had no other illness. He complained of headache once three months ago but not since. The family history showed acute rheumatism in the mother and the maternal grandmother, but no fits or neuroses of any kind.

Case 2.—A boy, aged three years, for the last six weeks has had sudden attacks of screaming with fright, occurring often many times in a day. The attacks occur at any time of the day. Whilst sitting quietly with the rest of the family or busy at his play he will suddenly begin to scream, turn pale, and look "strange about the eyes"; he rushes to his mother and hides his face in her lap saying that he is frightened. Sometimes he says that "somebody is coming after him," but he cannot describe his imaginary pursuer nor is it clear whether the hallucination is visual or auditory. The attacks last from two to three minutes. He has had night-terrors with visual hallucinations for some weeks past and is "a very excitable child." He is easily frightened by trivial things—for example, on crossing a railway bridge a few days ago he saw the smoke of a train and screamed with fright. He easily becomes passionate if thwarted. He has never had convulsions. The child is fairly nourished, quick, and intelligent, perhaps precocious; he is shy, but when this is overcome he talks in the rapid, eager fashion of an excitable child. There is a little puffiness about the lower eyelids suggesting some intestinal catarrh; the bowels are costive; the stools are said to be normal (subsequent observation *showed excess of mucus and a large number of thread*-worms). Physical examination showed nothing abnormal. As to his family history, his father is under treatment for epilepsy. His paternal grandfather and paternal grandmother, a paternal uncle, and probably also a maternal uncle, had rheumatic fever, another maternal uncle is "weak-minded," and the mother's aunt is in a lunatic asylum. One paternal uncle is said to have had similar "terrors" in early childhood but no definite account could be obtained.

Case 3.—A girl, aged four and a half years, for the last nine months has had attacks of screaming during the day. No satisfactory details of the attacks could be obtained, the mother's account being confused and contradictory, especially as to whether the child seemed frightened or not. In one at least of these attacks (of which she has had six in the last fortnight) the child was thought to be screaming with fright, but usually no cause whatever *could be found for the* attacks. Before they begin the child seems "strange" in her manner and then suddenly begins screaming. This has happened while the child was sitting amusing herself at the piano or in the midst of a game. The whole attack sometimes lasts about 15 minutes. No hallucinations or delusions were noticed, but the mother's lack of observation made this quite uncertain. For three months at least the child has had night-terrors, apparently with visual hallucinations, and for a long time has talked much in her sleep. She is extremely excitable and rather precocious. Occasionally she complains of vague abdominal pains. Physical examination showed a musical systolic bruit at the apex of the heart, but there was no history of rheumatism. As regards her family history, the mother is said to have had severe "rheumatism."

To these three cases may be added the two cases recorded by Henoch.

Case 4.—The patient was a boy, aged *seven* years, *the son* of an actor—a nervous, anæmic, delicate child. For some months as many as from 10 to 20 attacks took place daily, but never during the night. The child would shut his eyes and stop his ears, crying, "I'm afraid," and cling to his mother. The duration of the attack was only a few seconds. The child was otherwise healthy and, in particular, was free from other hysterical symptoms.

Case 5.—A "nervous" child, aged six years, had suffered from pavor nocturnus for seven months, with intervals of about a fortnight, and the attacks with hallucinations occurred occasionally by day. Unfortunately, both these cases were lost sight of.

The cases recorded as instances of day-terrors by Dr. Guthrie[2] in his very interesting article on Night-Terrors differ considerably from those mentioned above. In one case a girl of nine years of age was said to have "*gone out of her mind* during the night." At the middle of the following day she was still sitting in bed flushed and wide eyed and was screaming madly of "black dogs" and "men under the bed." She was removed to the hospital and a few hours later she recovered her senses. In the other case a boy, aged eight years, with hectic temperature due to spinal caries and abscess, awoke at 9.30 P.M. screaming, "Robbers! murderers!" and continued in a maniacal condition with various delusions for three whole days. In these two cases the condition is not the transitory paroxysm to which Henoch alluded as "pavor diurnus or day-terrors," but a much more permanent condition, lasting many hours, or even days, with no intermission, and it may be doubted whether it would not be better to include such cases under the head of mania rather than under that of day terrors The distinction is a fine one and perhaps only a verbal one for it occasionally happens that night terrors last fully half an hour with almost maniacal symptoms and it is quite conceivable that day terrors may run a similar course, but even so a paroxysm which usually lasts a few seconds or minutes and is occasionally prolonged to half an hour falls into a somewhat different category from a continuous state lasting from one to three days, such as Dr Guthrie describes The name "day terrors' seems more appropriate for such cases as Henoch has described—transient paroxysms of terror, closely resembling night terrors except that they occur in the waking condition

---

[1] Lectures on Children's Diseases, Translations of the New Sydenham Society, 1889, vol. i., p. 241.

[2] On Night-Terrors, Allbutt's System of Medicine, vol. viii., p. 228

The relation of these attacks to night-terrors seems to require some definition It is evident that the relation is very close, in four cases out of the five night terrors were or had been present, and it would seem that the day attacks may be associated with them or replace them But the difference between the night and the day attacks is not merely one of time of occurrence, there is the far more important difference that while the characteristic of the night terror is its onset during sleep the characteristic of the day terror is its occurrence in the waking condition It has happened that a child has fallen asleep in the daytime and then has had an attack exactly similar to night terrors but such an attack, although it occurred in the daytime is not a day terror Conversely, there is reason to believe that a "day terror" may occur at night In Case 1 the mother, a very intelligent observer, was familiar with the character of night terrors from the attacks which the boy had experienced some months earlier, and she particularly noticed that the supposed "night-terrors' at the later date differed from the previous ones in that the boy was wide awake when the attacks occurred I would suggest therefore, that it would be very much better to distinguish these conditions as ' sleep-terrors ' and "waking terrors '

The symptoms of waking terrors or day terrors are fairly constant A nervous, excitable child, in the midst of his play or while sitting quietly in a room with other people suddenly without any apparent cause begins to scream and looks terrified Sometimes he says that some imaginary person is coming after him or that he hears something which frightens him or he has some other form of hallucination or delusion He rushes screaming to his mother or to some other person for protection and no coaxing or attempts to soothe seem to have any effect in pacifying him In one case when the attacks occurred the child had a strange look about the eyes which the father described as "a vacant look This child also turned pale, as children very readily do with fear There was never any loss of consciousness in any of the cases and in all of them the children recognised those about them It must be mentioned however, that Dr J F. Goodhart states that in these attacks the child sometimes shows a definite dread of a nurse or of the mother, of whom in times of health the child is even inordinately fond and he also says he has known a child to be quite maniacal in the attacks The duration of the attacks varied from a few seconds up to about a quarter of an hour and their frequency varied from one in a fortnight up to 20 in a day It is important to notice that although the day attacks may be associated with night-terrors they may also occur without any nocturnal symptoms

The etiology of day terrors is as difficult to determine as that of night-terrors One thing seems clear that the children who suffer from day terrors are children of excitable nervous temperament The family history of rheumatism in all the three cases under my care seems to point in the same direction In seeing a large number of children one is struck with the sensitive nervous temperament of those who come from rheumatic families No small number of such children show one or other of the minor functional neuroses, it may be some habit spasm or nocturnal enuresis or it may be recurring headaches or ' nervous diarrhœa,' or it may be simply undue excitability The family history of rheumatism, therefore is probably more than a mere accident, and it is interesting to note that in night-terrors Dr Goodhart[3] found a family history of rheumatism in 19 out of 37 cases, and Dr Graham Little[4] found valvular murmurs in the heart in 17 out of 30 cases In Case 2 the neurotic inheritance was even more marked, for as stated above the father was epileptic, one uncle was 'weak minded,' and the mother's aunt was in a lunatic asylum

The determination of the exciting cause of these attacks involves some consideration of their nature As I have already mentioned there is no apparent objective cause, but it must be noticed that some of these children are exceedingly timid even in the intervals between the attacks In Case 1 the noise of the fall of an umbrella stand caused quite disproportionate terror, and Case 2 was terrified by the smoke of a train It might therefore be suggested that sometimes at least an objective cause is present which may be so slight as to be overlooked by the parents, but is magnified by a fanciful child into something terrific Such a possibility is difficult to exclude but in the cases recorded above the attacks seemed in almost every instance to be entirely independent of any objective cause

The question then arises whether these attacks are identical in their nature with night terrors The wide difference in the conditions under which they occur—viz, during sleep in the one case and in the active waking condition in the other—makes this a question of considerable interest Most writers have discussed the nature of night-terrors on the assumption that sleep was a necessary factor in the production of the terror, and the distorted fancies of the sub conscious condition of sleep, with or without some reflex stimulus, have been supposed to be the terrifying agent Such a theory evidently must be modified if it is admitted that day terrors are identical in their nature with night terrors It seems difficult to doubt this identity, the repeated association of the two conditions clinically the fact that day terrors may replace night terrors or *vice versa*, and the close similarity of the attacks, which in both consist of a sudden transient terror with the presence sometimes of hallucinations or delusions —all these points make it more than probable that the two conditions are identical in their nature This being so it is not sufficient to say of night terrors that they are simply "children's night-mare bad and terrifying dreams' for exactly similar attacks occur during the daytime when the child is wide awake and busy at play, and moreover, as I have pointed out above, it seems at least probable that attacks may occur at night which are really not ' sleep-terrors' but "waking terrors'

Some writers have considered night terrors as closely allied to or even identical with, epilepsy, and the occurrence of similar attacks in the waking condition might be thought to favour this view The aura of epilepsy, as is well known, sometimes consists of a feeling of fear, moreover, those who suffer from epilepsy may in abortive attacks experience the aura only so that it might be suggested that in day terrors we have an epileptic condition in which only the psychical symptoms corresponding to the aura of the major attack are present There are however, I think, some points which are opposed to this view So far as the very scanty experience before us is available there is as yet no evidence that these children are specially liable to ordinary attacks of *petit mal* or major epilepsy, as one might expect if these attacks were indeed a masked form of epilepsy The results of treatment moreover, in the two conditions would seem to be very different, for while epilepsy is usually difficult to cure day terrors seem to be easily cured by very simple treatment Further, although the administration of bromide produces a rapid improvement in day terrors apparently no such sedative is necessary Such treatment as an alkali to remedy the digestive disorder which is present in some cases or the removal of threadworms or of any other local irritant would seem to be sufficient These points, however, require the confirmation of further experience Although, however day terrors are probably not to be regarded as masked epilepsy it seems certain that they are to this extent allied to epilepsy that they are a form of paroxysmal neurosis, and as such no doubt fall into the same group of functional disturbances as migraine and *petit mal* At the same time there is obviously only a narrow line between day terrors and some forms of insanity, and perhaps one may sum up one's impression of pavor diurnus by saying that it is a paroxysmal psycho neurosis allied to, but not identical with epilepsy on the one hand and hysteria and insanity on the other

From what has been said above it will be seen that whatever view may be adopted of the nature of day terrors the same must also be adopted for night terrors and it is easy to imagine that just as the motor cortex is liable to be affected by a paroxysmal neurosis—viz, epilepsy—at night (and in some cases only at night), so also the higher centres may be specially liable to paroxysmal disturbance during sleep. The far greater prevalence of night-terrors than of day-terrors may well be related to the extraordinary sensitiveness and activity of some of the higher centres during sleep, which is seen in the readiness with which a stimulus which in the waking condition would produce little or no effect will during sleep start a whole series of reactions (dreams as we call them) in the higher centres. While, however, it seems most probable that both night-terrors and day-terrors should be regarded as paroxysmal neuroses, the attacks during sleep are in my experience *rarely, if ever*, idiopathic. Almost always an exciting cause can be found and its causal relation proved by the cessation of the attacks after its removal; and I should suspect, therefore, that day-terrors also will prove to be symptomatic rather than idiopathic. In the case of night-terrors my own experience has been that in the vast majority the exciting cause is some gastro-intestinal disorder, and by far the most common cause is that chronic catarrhal condition to which Dr. Eustace Smith gave the name of "mucous disease." The insidious character of this disorder may account for the discrepancy of opinion as to the part played by gastro-intestinal disorders in night-terrors. It is not the glaring case of diarrhœa or the troublesome case of vomiting that is to be looked for with night-terrors, but a much less obvious condition which has often not attracted the mother's attention at all. The children are "peaky" and thin, often languid and irritable, the face is pale or sallow with a bluish translucent puffiness of the lower eyelids, the appetite is capricious, the bowels are costive rather than loose, and the stools contain—not necessarily continuously but from time to time—an excess of mucus, or "slime" as the mother calls it. Sometimes there is some vague complaint of occasional abdominal discomfort and often threadworms are present. These are the symptoms which one finds so often with night-terrors, and whatever they may mean—and it seems probable enough that they indicate a chronic catarrh of the large intestine—their causal relation to night-terrors is made almost certain by the disappearance of the night-terrors when the gastro-intestinal disorder is cured. I have alluded to this point in some detail because it seems that day-terrors may be excited by this same reflex stimulus from the gastro-intestinal tract. In two of the three cases under my care this chronic catarrhal condition of the bowel was thought to be present and in both cases the good effect of potassium citrate, together with rigid dieting, was very marked. In Case 2 after a few weeks the child passed a large number of threadworms one day, and although the day-terrors had much diminished before this, both they and the night-terrors seem to have ceased since. The effect of constipation was marked in this case; it was particularly observed that the day-terrors were more frequent when the bowels were confined. In Case 3 the mother volunteered the information that the child complained frequently of stomach-ache, but apparently *not at the time* of the attacks. It *seems*, therefore, that the exciting cause of day-terrors is, in some cases at least, some gastro-intestinal disorder, but that the attacks are not due to any painful sensation. Some observers have thought that night-terrors are produced by respiratory difficulty, particularly by the obstruction caused by adenoids. So far as my own experience goes this is quite exceptional and there was nothing to suggest any such cause in the three cases mentioned above. At the same time it seems quite likely that if such peripheral irritation as the chronic disorder of the bowel mentioned above may be the exciting cause of day-terrors, other forms of irritation, such as interference with respiration by adenoids, might also cause them.

---

[3] Diseases of Children, sixth edition, p. 531.

[4] Brit Med Jour August 19th 1899

The immediate prognosis in day-terrors would seem to be good. They are easily diminished by treatment and probably the cure is permanent so long as the exciting cause, whatever it may be, is avoided. There is no experience at hand, however, to determine what the future of these children may be. It is an approved fact that epilepsy does occasionally occur in later years when night-terrors have occurred in childhood; and in such a case as the second, where there was a family history of neuroses, including epilepsy, the occurrence of day-terrors must cause some anxiety. The significance of day-terrors as a danger signal of tendencies to more serious neuroses in later life is probably graver than that of night-terrors, for the occurrence of day-terrors no doubt means that the nervous instability which favours night-terrors is present in larger degree.

The most important part of treatment is the cure of the exciting cause. The chronic intestinal catarrh mentioned above calls for rigid dieting, particularly the exclusion of potatoes, pastry, and sugar, and at the same time the administration of an alkali. Potassium citrate is the drug I have found most useful, and this may be given with iron and compound decoction of aloes as recommended by Dr. Eustace Smith. Threadworms or other causes of irritation must be removed by suitable treatment. The intestinal disorders are not likely to be cured off-hand, and it may be desirable therefore to use sedatives as well. The good effect of bromides is almost immediate, and given in combination with belladonna they produce a very rapid diminution in the number and intensity of the attacks. Lastly, if night-terrors are, as Dr. Goodhart puts it, the "slacken-speed" to the engine-driver, then *a fortiori* I think day-terrors must be regarded as an indication for the utmost caution in the matter both of school and of play. A child who has had day-terrors is not the child to be goaded up to the inspector's standard, nor is it to be made the show-child of a kindergarten. In school and in play the child must be kept as far as possible from all excitement and mental strain. The cruelty and baneful effects of frightening such children, whether in punishment or in jest, hardly need to be mentioned here.

Gower-street, W.C.

SOME REFLECTIONS UPON APPENDICITIS.

BY J. O'CONOR, M.A., M.D. T.C.D.,
SENIOR MEDICAL OFFICER, BRITISH HOSPITAL, BUENOS AYRES.

NOTWITHSTANDING the results universally obtained by the timely adoption of surgical measures in appendicitis many still maintain that a large percentage of recoveries follows medicinal or expectant treatment and that surgery is, to say the least, superfluous in those cases which they designate catarrhal or simple appendicitis. Also opinions are by no means in unison as to the etiology of this complaint; some claim the universal provider, uric acid; some attribute it to the irascibility of the bacillus coli; *others* give mechanical reasons; while not a few, including the writer, consider it to be of mixed origin. I should like to suggest for the consideration of bacteriologists the possibility of the germ (or a congener) of acute infective arthritis (rheumatic fever), which seems to have a partiality for waging war *viâ* the lymphoid tissue, taking a prominent part in the attack.

The general practitioner may well say, "For modes of faith let graceless zealots fight," but what am I to do or think when called on to treat a case of appendicitis? He may console himself with the idea that the majority of observers agree that the disease is primarily a local one, probably caused by some mechanical irritation which lessens the vitality of the tissues and thus renders them an easy prey to infective microbes, and that this apparently functionless organ is particularly prone to infection, congestion, ulceration, and gangrene on account of its peculiar anatomical formation, limited blood-supply, and trap-door situation. As to treatment, it may with advantage be remembered that "the heresy of one generation is the creed of the next." It appears somewhat paradoxical that pathology cannot be reckoned on to give much assistance in simplifying matters, for many medical men of high repute refuse to admit the justification, much less the necessity, of examining the affected organ except by touch through the thick layers of the abdominal muscles, and to a great extent they draw their pathological inferences from general clinical manifestations, while others hold that inspection of the lesion is a *sine quâ non* in arriving at a correct conclusion. Considering the ubiquitous prevalence of the malady and the thousands of operations which have been successfully performed for its relief, surely such confliction of ideas is not consistent with the advanced state of our science.

From a personal experience of 72 consecutive operations for appendicitis I have learned not to place much value on ante-operative classifications, such as catarrhal, suppurative, and gangrenous, for I have frequently observed that such fine-drawn distinctions are illusory; to say the most they only imply mere transition stages of the same disease, which cannot be differentiated with certainty without abdominal exploration. I should think there are few surgeons who if called into consultation in a case of appendicitis, and finding the patient with a drum abdomen, rapid pulse and vomiting, would not sum up the condition as perforation with diffuse infective peritonitis, or if they met with a tense, painful, circumscribed swelling in the cæcal region would not diagnose appendical abscess. Place aside these two obvious and late phases of the affection I venture to ask, Is there a physician or surgeon to be found who can define the pathological condition sufficiently correctly on which to base scientifically an expectant plan of treatment? Is it possible to exclude a rapidly thinning stricture? Can early abscess formation between adjacent coils of bowel be eliminated? Can it be positively stated that the appendix is only congested, not distended with feculent pus, or that it is not rapidly becoming gangrenous, that there is not some foreign body or infective concretion on the verge of *bursting into the abdominal cavity and can the formation of* protective adhesions be divined? I make bold to assert emphatically that these questions can only be answered by the introduction of the sense of sight and that clinical inferences are often miserable delusions in this disease. Imagine the feelings of an educated medical man on finding the patient whom he left at night with a flat abdomen and in a good general condition on his arrival the next morning with a blown out abdomen and all the symptoms of peritonism—no retreat but the grave. Is this a fanciful picture? I challenge anyone who has had any experience worth mentioning in appendicitis to deny the insidious rapidity with which a "simple" case may become converted into a fatal one.

Some may ask, Why operate in every case when a large percentage undergo spontaneous cure? My reply is (1) I cannot say at the onset of any case that spontaneous cure will take place, (2) I am unable to guarantee that perforation without previous formation of protective adhesions may not suddenly occur, which complication in my experience is invariably fatal, (3) cœliotomy with removal of the appendix is the most accurate method of diagnosis and cure with which I am acquainted, the operator is to be congratulated for his promptitude if he only encounters the catarrhal variety and moreover, the patient is com*forted with the assurance that the operation*, proved to be a simple one and devoid of risk, ensures that he will never again suffer from appendicitis, and (4) I am sceptical as to large numbers of expectant "cures." An appendix once infected is always infected and remains a weak spot, and although in some cases no actual recurrence takes place yet in a great many permanent adhesions have formed around the appendix and the cæcum which cause chronic digestive disturbance with or without dragging pain and tenderness in the right iliac fossa. The appendix during an attack frequently becomes glued to adjoining structures. On two occasions I found it adherent to the right ovary and in each instance it caused chronic ovarian irritation. Occasionally I found it adherent to the pelvic floor, tying down the cæcum in a tent rope fashion. In such cases pain, tenderness, and flatulence had been complained of for a long period. Removal of the adhesions and the tent rope appendix effected a permanent cure.

Another condition which deserves mention is the influence of an abnormally short *meso-appendix* on the movement and shape of the appendix. On four occasions I operated purposely to relieve chronic indigestion, with pain and tenderness at McBurney's point, and found that the appendix was bound down below the cæcum by a stunted meso appendix with kinking, at the point of the distal attachment of the mesentery. In each instance it was impossible to raise the appendix to the surface until the meso appendix was divided, whereupon it could with facility be lifted out of the wound. It is not hard to realise that each time the cæcum became distended with fæces and gas a kind of tent rope action came into play and caused the above symptoms. I cannot imagine a more dangerous condition in case of the supervention of an attack of appendicitis for it is obvious that stricture and perforation would rapidly take place at the site of kinking. I may mention that the four patients were cured of their chronic trouble by removal of the appendix.

The following case affords a good illustration of such a danger. A few months ago I had the pleasure of being assisted in an operation for appendicitis by Dr Barry of H.M.S. *Pegasus*. We found the appendix bound down behind the cæcum by a stunted meso-appendix and at the point of the distal attachment of the latter there was marked angulation. The distal end of the appendix was intensely inflamed and contained a concretion of about the size of a pea, while the proximal portion appeared to be perfectly normal. After removal it was found that there was a stricture at the site of the kink, with ulceration extending through all the coats excepting the serous one; and as no external adhesions were forming it may be reasonably inferred that the operation not only cured the appendicitis but saved the patient's life. He would indeed have been a far seeing clinician who could have inferred the pathological lesion of this most interesting case.

It would be superfluous for me to mention anything about the danger of intestinal bands forming after inflammation in this region further than to refer anyone interested in this matter to Mr Treves's most excellent work on "Intestinal Obstruction." Another proof of the difficulties which attend *diagnosis came under my observation on Nov 5th, 1899*. A strong young man was suddenly seized with severe pain in the umbilical region on Oct 26th. He vomited frequently during the next three days and complained of fever and constipation, with pain and tenderness in the right lower abdomen. The first medical man in attendance was said to have diagnosed gastric influenza and administered a purge which acted freely, nothing abnormal was found in the stools. A second medical man was reported to have said that it was inflammation of the liver and advised his removal to Buenos Ayres, which meant a long drive and a train journey of 350 miles. On admission to hospital on Nov 5th his temperature was 100° F, the pulse was 80, the tongue was furred, and his gait was "down on the right." He volunteered the statement "that he felt better"—in fact he thought "the trip did him good." Abdominal examination showed that there was no distension or limitation of normal respiratory movement and no redness or localised tumefaction. He complained of slight pain in the right inguinal and umbilical regions with slight tenderness on palpation, *not* particularly marked at McBurney's point. No tumour could be detected, but there was a distinct board like feeling of the right oblique muscles, and movement of the right lower limb caused him some pain. On Nov 6th the morning temperature was 99°, the bowels responded readily to a soap-and water enema, the tongue was cleaning, muscular resistance was diminished, and the pulse was 76. In the evening the temperature was 99 6°. On Nov 7th the morning temperature was 98 2°. There was no further development in the abdominal symptoms and he felt "almost well." Diagnosis, con*valescence from appendicitis*. *Considering the out of the* way place in which the patient resided I advised the removal of the appendix as a matter of future safety, to which he consented. The evening temperature was 98 6°; the bowels again acted with an enema. On Nov 8th the temperature and pulse were normal and the patient felt "quite well." Chloroform was administered and on deep palpation a hard tubular form of swelling was found in the cæcal region extending upwards along the line of the ascending colon. Cœliotomy was then performed, the cæcum presented a normal appearance, but on searching for the appendix the cæcum and the ascending colon were found to be densely adherent on their posterior surfaces to a hard mass deeply situated in the right iliac fossa. The adhesions were being gently separated from the outer side when a sudden gush of fœtid green pus (about four ounces in all) took place which came from a long narrow abscess cavity situated directly behind the cæcum and the ascending colon and extending from the brim of the pelvis almost *to the lower border of the liver*. *The pus was sponged* out and the pyogenic cavity was laid open in its entire length. After a prolonged and difficult search the appendix was found to be disorganised and firmly adherent to the posterior surface of the cæcum, with a small perforation at its junction with the latter. (The absence of marked tenderness at McBurney's point I presume was due to the position of the appendix.) The appendix was cut off flush with the cæcum in order to embrace the perforation and the wound in the bowel was closed by a layer of sutures. A large drainage tube was placed alongside the cæcal wound and the usual dry dressing was applied. Three days later a fæcal fistula occurred and an abundant discharge of fæces continued for a week and then spontaneously ceased. An uninterrupted recovery followed. I do not take the least credit for the successful result for I failed to recognise the true nature of the condition until chloroform was administered for quite a different purpose—viz., to remove the possibility of recurrence.

cases there have been four deaths—three due to ante-operative perforation with diffuse infective peritonitis and one to pyophlebitis in a suppurative case of one month's duration before admission to hospital. In 26 cases there was suppuration with localised peritonitis, which in some instances had invaded by direct contiguity two or three coils of adjacent bowel. Needless to state, no selective process was adopted in this series and the death-rate—5 5 per cent.—may not compare unfavourably with other methods of treatment.

It has been my practice for some few years past to operate as soon as possible after diagnosing the complaint. The local skin disinfection having been gently carried out McBurney's cœliotomy is performed, and if any tumefaction is felt the incision is made directly over it. I cannot see any necessity for semilunar or median incisions, for in the majority of cases by careful sponge packing the general peritoneal cavity can be more easily shut off through the oblique incision. Some time ago Sir William Banks called attention to the value of attacking an appendical abscess extra-peritoneally, and my experience tends in every way to confirm the teaching of that distinguished surgeon.

Many surgeons still advocate leaving behind the appendix when obscured by adhesions in the face of pus. In this I cannot agree, for I know of four cases where suppuration recurred, eventually necessitating removal of the organ. I make it a rule never to quit the abdomen when operating for appendicitis without removing the appendix, and on three occasions I proved the value of my resolve, for I discovered a second collection of pus when searching for the appendix which undoubtedly would have been otherwise overlooked. I have over and over again broken down intestinal adhesions and have never yet caused fresh infection, which I attribute to the fact that I strive to let the light into a pus collection and clean up before proceeding further.

The key of the situation is, without doubt, *patience*. It is surprising what changes can be wrought in a foul appendical abscess cavity by five minutes' gentle sponging and a pair of good retractors. The trouble and time taken are amply rewarded when the *fons et origo mali* is brought into view nd removed. Leaving a moribund appendix in a living abdomen is not sound surgery.

Buenos Ayres

FURTHER OBSERVATIONS ON PERNICIOUS ANÆMIA (SEVEN CASES): A CHRONIC INFECTIVE DISEASE;

ITS RELATION TO INFECTION FROM THE MOUTH AND STOMACH; SUGGESTED SERUM TREATMENT.

BY WILLIAM HUNTER, M.D.EDIN., F.R.C.P.LOND.,
PHYSICIAN TO ELECTRICAL DEPARTMENT, JOINT LECTURER ON PRACTICAL MEDICINE, AND PATHOLOGIST, CHARING CROSS HOSPITAL, SENIOR ASSISTANT PHYSICIAN TO THE LONDON FEVER HOSPITAL.

(*Continued from page 224.*)

THE first part of this paper will serve to explain the origin and development of my interest in the mouth in connexion with pernicious anæmia. In all of the cases, it will be seen, there was found some morbid condition sufficient by its character or its intensity to attract the special attention of either the patient or myself. The actual conditions met with were:—1. Marked cario-necrosis of the teeth, antecedent or existing, in all cases. 2. Conditions of glossitis or stomatitis, characterised by great tenderness, presence of sores, and salivation (in four cases): (*a*) In no fewer than four cases the condition of the mouth formed one of the chief subjects of complaint on the part of the patient (Cases 1, 2, 4, and 8). (*b*) In all of the four cases the morbid condition of the mouth seemed to be connected with the origin of the disease, either preceding the weakness (Cases 1, 2, and 8) or being most troublesome in the early stage of the disease (Case 4). In other words, the condition was not simply the result of weakness; on the contrary it was most marked at the commencement where the anæmia was slight, and in each case became less marked as the anæmia increased. (*c*) In two cases (Cases 2 and 8) the patients themselves in their own minds connected the onset of their weakness in some mysterious way with the stomatitis As one of the patients strikingly put it, "the trouble of the mouth seemed to go right through him." 3. In all cases there was evidence of gastric or intestinal trouble, or both—discomfort, sickness, retching, vomiting, diarrhœa—and in two cases (in which were present morbid conditions of the mouth, dental caries, glossitis, or stomatitis) there was gastritis (Case 1) and infective gastric catarrh (Case 8). 4. Lastly, the possibility of any connexion between the dental and oral condition and the gastric condition was elucidated by the case (Case 7) in which I was able to demonstrate in the most striking manner the origin of infective gastric catarrh from infection with the organisms of dental necrosis.

IV.—DENTAL DISEASE AS A CAUSE OF INFECTIVE GASTRITIS.

Case 7 I regard as specially interesting. It demonstrates to my mind a relationship between cario necrosis of the teeth and gastric catarrh, of a closer and more direct character than I had hitherto recognised, or, so far as I know, had been recognised by others. That relationship I may thus describe: that there is a limit to the capacity even of the stomach to resist indefinitely for periods of years the continuous presence of pyogenic (pus-forming) and other organisms in its contents derived from cario-necrotic conditions of the teeth; that its powers of destroying such organisms, although great, are never complete even in health; that these powers become progressively weakened when through any cause an increased and continuous supply of infective organisms is associated with a diminished and continually lessening acidity of the gastric juice; that these two conditions are precisely those produced by chronic cario-necrosis of the teeth; and that in time the catarrh of the stomach, so common a sequel of imperfect dentition—possibly of simply irritant nature to begin with—may in time become infective in its character, leading in time to the deeper-seated changes which always result from chronic catarrh—viz., atrophy of secreting structures, with increase of fibrous tissue (chronic gastritis with atrophy of the glands).

These statements as to the relation between dental cario-necrosis and gastric catarrh I have elucidated and supported elsewhere;[1] but some brief reference to the subject is here necessary to a right understanding of our present subject—to wit, the meaning and significance of the dental and oral conditions met with in pernicious anæmia.

The relation between dental disease and ill-health.—That health is to a large degree conditioned by the state of the teeth—their presence or absence, their soundness, their freedom from pain—is generally recognised; but if inquiry were made as to the nature of the connexion opinions would be found to differ. 1. In the minds of most, probably, the relation is what one may term a "mechanical" one. Carious teeth mean imperfect mastication, consequent increased and unnecessary work for the stomach, this leading in course of time to the various ills and worries connected with impaired digestion. Such a mechanical relation is by no means the only or the most important relation of dental disease to general health. 2 In the minds of others the connexion between bad teeth and bad health is supposed to be of another kind—viz., that bad teeth denote bad nutrition and bad health. They are the result of ill-health rather than the cause of it. 3. A third possible relationship—one that appears to me to be altogether insufficiently recognised, still very obscure, but in my opinion even more important than either of the two above mentioned—is dental disease as a cause of ill-health in consequence of being a continual source of septic poisoning and septic infection, both local and general.

Local infections —Among the obvious conditions of this nature are the various local inflammatory and suppurative conditions met with in the mouth (periostitis, alveolar abscess, suppuration around decayed teeth, and pyorrhœa alveolaris); or in the jaws (periostitis, osteitis, osteomyelitis, necrosis, and suppuration in maxillary sinuses), or in tissues adjacent to the mouth (inflammation and suppuration of the glands of the neck, cellulitis of the neck, post-pharyngeal abscess, thrombosis of the vein, and even meningitis by direct extension).

Remote infections —Among the remote conditions of infective nature the origin of which is still obscure and which may in certain cases be traceable back to infection from the mouth are such *conditions as acute osteomyelitis*, acute necrosis occurring apart from injury, suppurative meningitis, empyema, ulcerative endocarditis, and acute nephritis. The *special interest of dental disease in connexion* with this class of cases arises from this: that dental cario-necrosis is the commonest and most prevalent infection in the *body*; and *that this infection is of a "mixed" character*, including not only harmless organisms, but also the most active pathogenic blood-poisoning organisms—viz., streptococci and staphylococci.

---

[1] Relations of Dental Disease to General Diseases and to Infective Gastritis, Transactions of the Odontological Society of Great Britain, Feb. 6th, 1899.

Bacteriology of dental caries.—On this point—the infective nature of dental caries—I need not dwell. The evidence so abundantly furnished by the laborious bacteriological observations of Miller (1884-1894) on no fewer than 250 cases of diseased teeth, of Galippe and Vignal (1889), of Jung (1893), and most recently of Professor Arkovy of Budapest (1878-1898) seems to me conclusive. With the minutest bacteriological precautions, which I have detailed elsewhere,[2] the last-mentioned observer has in 43 cases studied in detail the organisms found in the most various conditions of teeth—e.g., gangrene of pulp (both acute and chronic), chronic alveolar abscess, old stoppings, &c. The chief result of the observations from the dental point of view is to show that one organism is constantly to be found in diseased pulps and in dental caries (the bacillus gangrænæ pulpæ), possessing the power single-handed of producing gangrene of pulp and of effecting softening of a tooth *even in an alkaline medium*. Its frequency as compared with other organisms was 95·3 per cent. Next most frequent and from my present point of view even more important, were various forms of pus-organisms—viz., staphylococcus pyogenes aureus, 34·8 per cent. of cases; streptococcus pyogenes, 23·2 per cent.; staphylococcus pyogenes albus, 18·6 per cent.; bacillus pyocyaneus, 9·3 per cent.; and staphylococcus pyogenes citreus, 4·6 per cent., with nine other organisms, mostly harmless, in varying frequency. The pyogenic organisms were always absent in teeth successfully dealt with antiseptically.

The *significance attaching to these observations* in the present relation is not the mere presence of such organisms in connexion with dental caries. Their mere presence in the mouth *does not constitute* disease of the *mouth or elucidate* the pathology of stomatitis, any more than the almost constant presence of the pneumococcus in the mouth constitutes pneumonia or elucidates its pathology. Infective disease in the mouth as elsewhere is not, fortunately, a mere question of the presence of an organism, however pathogenic, but a question of *dose* and *resistance*. And in the case of the mouth the question of dose becomes a very important one when we have to deal, not with an isolated carious tooth but with a whole series, sometimes a whole mouthful, of such teeth, not only dark and necrotic themselves, but lying in inflamed, possibly (as in Case 7) actively suppurating, sockets. The effects of such a condition I consider to be twofold: one a general and the other a more local effect. The general effect is a septic absorption from the diseased teeth and sockets, which, continued as it often is over many years, must in the aggregate be of remarkable extent. The local effects are primarily on the mouth itself, and are sufficiently obvious in the oral *sepsis so common in such cases*; secondarily on the stomach. The continous swallowing of mouthfuls of pus organisms is not tolerated indefinitely by the stomach mucosa. The number of organisms that enter the *stomach* from the mouth is very large, the most of them to be destroyed, fortunately, by the gastric juice. But this is by no means true of all. A very considerable proportion (as many as eight out of 25 according to Professor Miller) are to be found in the stomach contents. The observations of Macfadyen and others show that only a certain proportion are destroyed by the gastric juice. It is only when the acidity of the gastric juice is considerable—e.g., an hour or two after food—that it exercises any direct bactericidal action.

In long-standing dental disease the conditions are thus precisely those most likely to produce infection of the *stomach*—viz., on *the one* hand, *diminished* resistance, i.e., diminished acidity as a result of the chronic indigestion and catarrh, and, on the other hand, increase of dose, i.e., increased supply of pus organisms from the necrotic teeth. That under such circumstances disturbances may arise, and

the stomach is a fact to which both clinical and pathological *experience testifies*, and one, too, that is generally recognised. What, however, Case 7 demonstrates is that the effect is not limited to a mere fermentation of food products, but that *actual infection of the mucosa* with pathogenic organisms may itself occur. The mucosa of the stomach continuously exposed to infection—e.g., of pus organisms from *the teeth—becomes eventually infected*. An infective catarrh is set up and sustained by continuous influx of organisms into the stomach, and if continued long enough this chronic catarrh leads *to the usual effects of a glandular catarrh*—viz., glandular atrophy with increase of interstitial tissue around.

These considerations as to the possible effects, both general and local, of long-continued dental and oral sepsis are of no mere theoretical interest. On the contrary, they are, to my mind, of supreme practical importance, exemplified as they are (to a degree which I consider altogether insufficiently recognised) in almost daily experience by the cases one meets with of gastric catarrh in association with dental decay. The ashy-grey look and general languor which such patients, in my experience, characteristically present I regard as manifestations of long-continued septic absorption; while the local symptoms of clamminess of the mouth, distaste for food, coated tongue, and indigestion, which one simply looks upon as manifestations of gastric catarrh, may really be, as in the case which I have described (Case 7), the result of infective gastric catarrh produced by direct infection of the stomach with the pus organisms. Case 7 appears to me to present points of unique interest in demonstrating the actual relations between dental infection and gastritis—viz., the history of nausea and vomiting; gastric pain extending over a period of months; the pain so severe as to necessitate the use of opium and suggesting cancer; the scrupulous cleanliness of tooth-plates and the healthiness of the gums; the absence of all teeth except three carious ones, these latter discharging pus from their roots; the removal of these three; the immediate improvement, *temporary* in character; the recurrence of sickness and vomiting; the vomit three weeks after removal of the teeth still loaded with pus organisms; the *administration of salicylic acid as a local antiseptic*; the entire cessation of all gastric symptoms in three days; in three months a gain of a stone in weight; and, lastly, the permanency of the cure. Fifteen months later the patient wrote that she had never had any return of the sickness.

V.—THE RELATION OF DENTAL CARIES AND STOMATITIS TO PERNICIOUS ANÆMIA.

I have been careful in the foregoing section to define as clearly as possible what I consider to be the relation which frequently exists between *dental-cario-necrosis* on the one hand and gastric catarrh with general ill-health on the other. I have done so by way of clearing the ground for what now *remains to be considered*—viz., *the significance* to be attached to the oral conditions met with in the foregoing cases of pernicious anæmia and their relation to the anæmia. The first statement which I have to make is that *to the various* morbid conditions of the alimentary canal occasionally met with in cases of pernicious anæmia must be added certain morbid conditions of the mouth—viz., dental cario-necrosis, glossitis, and stomatitis. The other morbid conditions include—(1) atrophy of the mucous membrane of the stomach or of the gastric glands and chronic gastritis (Fenwick, Nothnagel, Nolen, and Hunter); (2) ulcers of the stomach and duodenum (Zahn); (3) duodenitis (Homollo); (4) chronic fibrotic changes, with more recent hyperæmia and necrosis of colon (Morley Fletcher[3]); (5) cicatrices of healed ulcers and a little diphtheritic exudation in the larger intestine (Hale White[4]); (6) degenerative changes in the abdominal sympathetic ganglia (*Banti*) or *in the nerves and* ganglia of the intestinal walls (Sasaki); (7) the presence of intestinal worms (Baumber, Reyher, Rimeberg, Sahli); and (8) cancer of the stomach.

In estimating the significance of these conditions in relation to pernicious anæmia, the standard of criticism I used was, that only in isolated cases had such changes been found; and that similar changes, sometimes even more marked, were constantly met with without any of the features of pernicious anæmia. As the causes of the anæmia sometimes found associated with them I could not now described I have to apply the same standard, and with a like result. Dental cario-necrosis is far too common to be itself the cause of so rare a disease as pernicious anæmia. Stomatitis and glossitis although not so common are also too common to be the direct cause of so rare a disease; as the essential anatomical condition underlying the disease, even in the cases in which they are present, they cannot therefore, in my opinion, be regarded. Nevertheless, while they cannot be regarded as causes of the disease, they have, I consider, a very special significance, especially the conditions met with in the tongue. Their mode of onset, their character, and their progress, all denote, I consider, their infective nature, *and the special significance attaching to them in my mind is that their existence points to an infection of a definite character localised to the alimentary tract.*

Special Features of the Stomatitis.

Mode of onset.—The origin of the stomatitis was in all cases as mysterious, sometimes as sudden, as the weakness itself. The conditions were not simply the result of the anæmia. On the contrary, when they were of a character (by discomfort or painfulness) to attract the attention of the patient, they were always noticed at the onset of the disease or early in its course, and in most cases they actually subsided as the anæmia progressed. So closely connected were they, indeed, with the origin of the disease that in three cases they were among the first symptoms noticed and complained of, and in three cases the patients dated their weakness from the onset of the trouble in the mouth, one patient of his own accord describing his illness "as if the trouble in his mouth had gone right through him."

Definite character of the infection.—In the first case I observed, I was struck by the curious character of the sores on the tongue—localised inflamed patches sometimes showing vesicles filled with clear serum situated under the tip of the tongue, the inflamed areas shifting from time to time, with atrophic appearance of the intervening mucosa. The condition thus described is not one of ordinary stomatitis or glossitis such as one meets with as the result of the local irritation of decayed or irregular teeth. And this appears to hold true for the other cases described, as much from the intensity and character of the glossitis as from the situation of the sores. Thus in Case 1 the terms used to describe the condition of tongue are "tongue extremely raw and tender," "presenting a red and fiery appearance," "tenderness on swallowing extending down the throat to the stomach," likened by the patient to that of "swallowing fire." Nine months later the description was: "Whole tongue tender. On dorsum and along edges patches of more fiery redness, some under the tip of tongue showing small inflamed vesicles free of serum." Compare this with the description given by the patient (Case 3) of the condition of his tongue for a period of seven months of his illness: "Tongue raw and tender, looking like a piece of raw liver . ... causing great pain." Or with that given by the patient (Case 8) when illness began: "Some sort of painful sores in mouth under the tongue ...... not connected with the teeth ...... causing great discomfort," of such a character and intensity that his subsequent illness he described—"as if the trouble in his mouth had spread down into stomach and right through him." These are not, I conclude, the characters of an ordinary stomatitis. They appear to suggest an infection more deep-seated and severe.

"*Periodicity*" *of the stomatitis.*—Another feature I have had to note is what I may term the "periodicity" of the stomatitis—its variability from time to time, independently apparently of treatment, notably its greater severity at the outset of the disease, usually tending to subside or at least to give less discomfort as the disease advances. This feature was very noticeable in Case 1. Thus the illness was ushered in (in the autumn of 1886) with sore throat and diarrhœa, from which time "he continued to suffer at times from an inflammatory condition of throat and tongue, and his strength began gradually to fail." In January, 1888: "With the exception of some congestion of the throat and certain pale red spots on the tongue nothing further objective to be made out" (note by Sir T. Lauder Brunton). June, 1888: "Tongue extremely raw and flabby, fiery, and tender, inflamed patches with smooth mucosa between." March 9th, 1889: "Tongue not so raw-looking. Presents a more atrophied appearance, still inflamed vesicles full of serum, whole tongue tender, and mastication painful and difficult." March 20th: "Tongue lost its former fiery-red appearance, much paler, inflamed patches less marked, and vesicles entirely disappeared." And from this time onward till the death of the patient two months later the tongue ceased (for the first time since his illness began) to give him any trouble. It continued to present a smooth, flabby appearance, but the tenderness on eating was entirely lost—"he could take all kinds of food and even condiments without the slightest discomfort." The same "periodicity" is noticeable in Case 3. For a period of some seven months (October, 1894, to May, 1895) at the commencement of the illness the tongue was raw and tender, "like raw liver," causing great pain. When seen by me (October, 1895) the tongue showed nothing to attract my attention. So also in Case 8. When the illness began (June, 1898) there were painful sores under the tongue causing great discomfort. When seen by me in April, 1899, there was nothing noticeably wrong about the tongue, although there was constant salivation. During the latter part of the patient's illness (he died on Dec. 3rd, 1899) "salivation occurred when he had stomatitis; the latter was always a bother. The mouth was always clammy and uncomfortable."

I note this feature of the mouth condition, its periodicity, for this particular reason—that it recalls one of the most striking characters of the disease itself. There is perhaps no single feature of the disease more notable than the mysterious way in which, whether under treatment or not, it varies from period to period without known cause. Here, then, locally in the mouth and tongue, one has had occasion to note equally striking and unaccountable variations in intensity of what is obviously a local infective process—an intensity varying from a fiery-red inflamed appearance of tongue with intense tenderness lasting more or less over a period of several years—to a condition seen for a short time before death, when nothing was observable in the mouth except a slight atrophic appearance of the tongue and all kinds of food and drink could be taken without discomfort of any kind. Had I first seen the patient during these last weeks of his illness I could never have judged from the condition of his tongue that anything special had been wrong, the only sequel of the inflammation being a pale and atrophied appearance of the mucosa of the tongue.

This remarkable periodicity I desire to emphasise. For it irresistibly suggests the thought that if an infective process so severe in its character, so distressing, can affect one portion of the mucosa of the alimentary canal and yet disappear without leaving any obvious lesion—at most a slight atrophy, a similar infective lesion may affect other portions of the mucosa of the alimentary tract lower down, cause grave symptoms, and yet leave no obvious trace behind. In other words, an infection similar to that found in the tongue may well exist lower down, especially in the stomach, possibly in some cases in the intestine.

Such an infection of the stomach or intestine or both I consider to be the true pathogeny of this disease, and to be evidenced by and accountable for two of the striking features of the disease—(1) the prevalence of gastric and intestinal symptoms (vomiting and diarrhœa) during life; and (2) the frequency with which no obvious morbid lesions are discoverable after death, or when discoverable are found confined to the gastro-intestinal tract, especially to the stomach (gastritis, atrophy of glands, &c.).

Frequency of stomatitis in 200 cases.—The interest I attach to the condition of mouth which I have described is altogether apart from any question of its frequency or of its importance as a stomatitis. Nevertheless, in the light of these observations I have been interested in examining the records of cases with special reference to the conditions observed in the mouth. I have so far examined 200 cases, and I find references to stomatitis in 18 cases. These I append. Few as the references are, they are, I think, of interest in respect chiefly of the remarkable similarity of the appearances described by independent observers to those which I have above described. The fullest notes are those of Laache, who found the condition in four cases out of 11. His description of Case 3 might have been written for Case 1 of my own, in respect especially of the features which I have above described as specially noteworthy—viz., the tenderness, the excoriations, and the "smooth polished" (or, as I have said, "atrophied") appearance subsequently presented by the tongue. It is also notable as being the only one I can find where attention is drawn to a specially carious condition of the teeth. Of Laache's cases, Case 4 and Case 10 are also to me noteworthy in respect of the mode of onset In both cases the condition of the mouth was noted "at same time' as the onset of the illness Dr Bramwell's case is also noteworthy in the same connexion, there the condition of the mouth preceded the illness

I do not suppose for a moment that the smallness of the number (18 out of a total of over 200 cases) represents accurately the frequency of this morbid condition of the mouth When once noted the condition is so striking that it is looked for in other cases, and in this connexion I note that out of the total of 22 cases no fewer than 15 are reported by four observers—five by Müller, four by Laache, two by McPhedran, and four by myself Only one observer (Müller) draws special attention to the condition, and he was disposed to regard it as an effect of the blood condition Eichhorst thought that on account of the pain which it caused it might not be without significance

References to stomatitis —(The italics are mine)

1 Muller[5] (62 cases) Cases 20 and 23 "Stomatitis" Case 29 "Complains of very painful spots on the tongue which make eating almost impossible' Case 38 "Small ulcers in mouth which make eating almost impossible Case 39 "Stomatitis (small ulcers on the tongue and on the mucous membrane of the mouth)' Muller notes in general with regard to them ' that they were very resistant to local treatment, disappearing spontaneously or with temporary general improvement, to recur again without special cause, causing great discomfort to the patient, and great pain on eating and drinking" He thought that the stomatitis probably had some connexion with the alteration of the blood, that certain chemical products in the blood mixing with the secretion of the mouth caused irritation and ulceration in a manner similar to that described by Mosler for the parotid secretion in other diseases

2 Eichhorst[6] (91 cases) mentions the above observations of Muller, concluding that sometimes possibly on account of the pain they caused "they were not without significance I find no mention of the condition in any of his own (seven) cases except one (Case 6) where he speaks of a "bad taste in mouth

3 Laache's[7] cases (11) —Case 1 "Post mortem —On the left aryteno epiglottidean fold a round, greyish white raised spot, the size of a pea resembling an aphthous *erosion*, but showing on microscopic examination no mycelium of oidium albicans On the back wall of pharynx a slightly raised ulcerating patch the size of a bean ' Case 3 *Tongue smooth* clean, without *sign* of *papillæ* It is considerably *hacked at edges* and *painful* here Some small *excoriations* in both angles of the mouth *The teeth partly fallen out, the remainder very carious* Later "He complained not so much of weakness as of the *mouth*, which is *sensitive* and *tender* (one sees as before fissures in angles of mouth, the tongue is smooth, clean hacked at edges) He mentions he has of late lost all taste and that he had no sense of smell for several years" Two months later "*Tongue* and throat to a considerable degree *smooth* and *polished*" Case 4 The illness began with sudden onset of diarrhœa '*At same time* he became skinless' (*hautlos*) in mouth" (mouth feeling skinned) Case 8 "Tongue moist, slightly furred, no excoriations here or on lips ' Case 10 History —"In course of last winter and spring his appearance became bad, and *at the same time* he had a feeling '*of a wound*' in mouth and down the throat which prevented him taking anything but cold, fluid, and bland foods '

4 Dr Hale White[8] (29 cases). Case 14 'Complains of a coppery taste in the mouth" Case 20 "Tongue pale and flabby, partly furred, partly *raw* and *fissured* ' Case 27 'Vomiting and a *burning sensation in the mouth* with epigastric pain '

5 My own collected cases (44) Among 44 cases which I have so far analysed (from the literature of the disease between 1890 and 1894) I find the following (1) Subject to attacks of diarrhœa at short intervals and irregular vomiting The mouth sore and anus excoriated ' Arsenic always caused disturbance of stomach and bowel in a few days, "with a *metallic taste and soreness of the mouth* and increase of the anal affection.[9] (2) A child, aged two years admitted for ulceration, stomatitis, and anæmia *Exacerbations in the stomatitis*, the latter finally extending until it involved the alveolar spaces and caused the loss of two or three teeth, and finally a sequestrum three quarters of an inch long was removed from the jaw Post mortem —Stomach "*evidence of acute or chronic gastritis*"[10] (3) Often vomited *Stomatitis was troublesome* and also diarrhœa "[11] (4) Bleeding of the gums first noticed, then profuse nausea, "Tongue was clean, on left side was a deeply-drilled out *ulcer* which accounted for some of the blood which escaped The gums were spongy and bled on being touched "[12] (5) "For some time his mouth had felt very rough and dry Nausea was present[13]

6. Dr Byrom Bramwell[14] (48 cases) Case 43 (1898) Illness of several months' duration Apparent *cause* the patient herself blames mental worry A year ago she began to be troubled with sore gums (inflammation of the gums, buccal mucous membrane, and side of tongue) '

(To be concluded)

SOME

EXPERIMENTS ON THE STERILISING PROPERTIES OF UNCONFINED SUPERHEATED STEAM

BY L COBBETT, M D CANTAB, F R C S ENG,
AND
J H C DALTON, M D CANTAB
(From the Cambridge Pathological Laboratory)

As long as there remain infectious diseases the *contagium virum* of which is undiscovered the conditions necessary for the sterilisation of things suspected of being contaminated by them must remain a matter of conjecture We have to ask ourselves may we reasonably assume that these unknown germs succumb to conditions which are fatal to the most resistant of the known *pathogenic* microbes? or must we allow as a reasonable possibility that they may be still more resistant or even as much so as the hardiest micro organisms known? In other words must we aim at killing the dried spores of the hay bacillus? or may we reasonably be content with an amount of sterilising sufficient to kill the dried spores of the bacillus anthracis?

We do not attempt to answer this question, nor do we claim, though this paper deals with unconfined steam only, that it, whether saturated or superheated, is capable of destroying, within a reasonable time or in one operation, the spores of the most resistant of *non pathogenic* bacteria The object of the present paper is to report some experiments which we have made for the purpose of comparing the efficiency, for the purposes of disinfection, of current unconfined saturated steam with that of current unconfined steam which had been superheated by being passed through a series of hot pipes

I —THE PHYSICAL PROPERTIES OF SUPERHEATED STEAM

Steam or water vapour may be said to be *saturated* when no lowering of its temperature or increase of its pressure is possible without condensation The temperature at which condensation occurs varies and depends upon the quantity of steam present in a given volume—in other words, it depends upon the pressure exerted by the steam The closer together the molecules of the steam the higher is its pressure and the more readily does it condense We may therefore say that the greater is the pressure of steam the higher is its condensing point

Steam whose temperature is above its condensing point for the existing pressure is said to be *superheated* Its temperature may be lowered or its pressure raised to an extent which is proportional to the degree of superheating without condensation occurring Consequently it does not readily scald Of course, a sufficient amount of cooling or of compression will convert superheated into saturated steam

---

[5] Die Progressive Perniciöse Anämie Zürich 1877

[6] Die Progressive Perniciöse Anämie, Leipzig 1878

[7] Die Anämie Christiania, 1883

[8] Guy's Hospital Reports, 1890.

[9] Dr McPhedran: Medical News Philadelphia, 1890, pp 367-368.

[10] Dr Holt Medical Record New York 1891 p 410

[11] Dr McPhedran: Internat Clinics, Philadelphia, 1892, vol i, pp 33-47

[12] Sir R Douglas Powell Clinical Journal London, 1893, vol ii, pp 241 244

[13] Dr Russell: Brit. Med. Jour vol i. 1894 p 278

[14] Anæmia and Diseases of the Blood forming Organs, Edinburgh, 1899

It is the property of air or other gases when mixed with steam in an unconfined space to separate its molecules and so to diminish its pressure on a given area. The pressure exerted by a mixture of gases is equal to the sum of their individual pressure. Consequently in an unconfined mixture of steam and air the pressure of the steam must be less than that of the atmosphere, for the pressure of the mixture is equal to that of the atmosphere, and some of this pressure is supported by the air. For steam to be saturated at 100° C. it is necessary that its molecules should be close enough together to exert a pressure equal to that of the atmosphere. Consequently steam at 100° C. when mixed with air at that temperature and unconfined cannot possibly be saturated; it is, in fact, superheated. It may, however, become saturated if cooled to a lower temperature or if pressure be increased so as to bring its molecules nearer together. The amount of cooling necessary to bring the steam in such a mixture to the saturation point depends upon the amount of air present. Consequently it follows that the temperature may be lowered below 100° C, and considerably so if a large proportion of air is present, without the steam, or perhaps we should now say water-vapour, becoming saturated. Superheated steam, or at least superheated vapour, therefore does not necessarily have a temperature of over 100° C.

It has been pointed out that the steam in an unconfined mixture of steam and air at 100° C. cannot possibly be saturated. It is probably for this reason that the presence of air in porous articles of clothing, &c., is so important a hindrance to sterilisation. Von Esmarch,[1] by means of experiments made with threads containing anthrax spores, found that superheated steam at atmospheric pressure was greatly inferior as a germicidal agent to saturated steam at 100° C. In the case of bulky articles, such as folded blankets, exposed to superheated steam he found that anthrax spores on the surface might remain alive even during an exposure of 30 minutes. In the interior, however, the case was different; the steam was robbed of its superheat when it penetrated into the blankets and it was then found to have the same sterilising power as saturated steam at 100°. He found that superheated steam penetrated no quicker than did saturated steam.

II.—THE HEAT GENERATED BY THE ABSORPTION OF MOISTURE BY VARIOUS ORGANIC MATERIALS.

It is, of course, well known that paper, cotton, flannel, such things have an affinity for water. But it is not generally recognised that the combination of water with these things may be sufficiently energetic to considerably raise their temperature. Dr. R. E. Dudgeon[2] seems to have been the first to point out that abnormally high temperatures (106° F.) might be registered in the mouth by merely wrapping some cotton-wool or the corner of a silk handkerchief round the thermometer bulb, and then forcing the expired air through this material, but he erroneously concluded that these high temperatures were attributable to the temperature of the breath, which he concluded must be higher than that of the mouth. Sir W. Roberts[3] confirmed the observations, but contested the conclusions of Dr. Dudgeon, and attributed the rise of temperature within the thermometer wrappings above that of the breath to the "conversion of latent heat into sensible heat by the rapid condensation of aqueous vapour"; and he showed that the phenomenon was rendered much more marked by previously drying the material used to surround the thermometer bulb. On the other hand, it became less and less marked when the experiment was repeated with the same strip of flannel until on the third attempt the temperature recorded was only 98 6° F. "It is probable," he says, "that with the super-exsiccated flannel the first portions of the aqueous vapour condensed at the beginning of the experiment pass from the gaseous into the solid form and constitute that portion of water which is incorporated in intimate union with all organic tissues." Dr. H. F. Parsons[4] repeated the experiments with the clinical thermometer and showed that the same action took place at a higher temperature by means of the following experiment. "A thermometer," he says, "was wrapped in a few rolls of flannel and was heated in dry air to 220° F. for some time; it was then allowed to cool a little, and as the mercury fell the index was shaken down till it stood at 212° F. The dry roll of flannel was then placed in a tin cylinder and exposed for five minutes to steam at 212° F., at the end of which time the thermometer included was found to register 239° F." Similar experiments to this have recently been made by Max Rubner, Professor of Hygiene in Berlin,[5] who has observed the temperature in the interior of a mass of wool, previously dried and warmed, rise when placed in a current of steam at 100° to 146° C. in 10 minutes, and remain above 140° C. for over an hour.

The experiments with the clinical thermometer are easily verified; cotton, paper, and woollen materials are all effective. When these are thoroughly dried and wrapped round the thermometer bulb we have frequently seen a temperature of 110° F. or more registered in the mouth of a healthy individual within a minute. It is not even necessary to dry these things artificially to register a temperature considerably over that of the mouth; and we have found the thermometer rise to 100° F. or more in the mouth when the bulb has been merely wrapped in a few turns of one's pocket-handkerchief taken direct from one's pocket, and to 102° F. in a strip of linen torn from a towel which had been hanging in the room. It is doubtless in some such way that abnormally high temperatures are occasionally produced in the clinical thermometer by persons feigning to be ill. We have also had no difficulty in obtaining temperatures considerably over 100° C. in the interior of rolls of paper, cotton, or flannel dried, warmed, wrapped round a thermometer bulb, and then placed in a current of steam.

Mr. Winter Blyth[6] considers that the heat which is evolved in the moistening of dry porous substances favours the disinfecting action of steam. But this is not generally true. It is, of course, conceivable that the heat so generated might under certain circumstances raise the temperature no higher than 100° C., in which case it would accelerate the process of disinfection; but whenever the temperature reached is above 100° C., provided that the pressure does not exceed that of the atmosphere, the steam is superheated and its sterilising action is much impaired. Our experiments have shown us that anthrax spores enclosed in the centre of a roll of thoroughly dried flannel or paper exposed to a current of saturated steam for ten minutes and more have not been destroyed, although the internal temperature of the roll has exceeded 120° C.

The following curve (Table I.) shows the rise of temperature inside a roll of flannel exposed to saturated steam at 100° C.

After 10 minutes the roll of flannel enclosing the thermometer bulb was taken out of the steam and allowed to cool. Five minutes later the thread containing spores was taken out from the centre of the roll and put into a tube of broth. A growth of anthrax bacilli on the following day showed that the spores were still living.

We will describe one more experiment of this kind because it illustrates the state of dryness of a hygroscopic substance which, after having being thoroughly dried, has been exposed to saturated steam.

A long strip of grey filter paper was weighed and then thoroughly dried in hot air and weighed again. It was found to have lost 11 per cent of its weight in the process. It was then rolled tightly round the bulb of a thermometer. In order to prevent the outer portions from becoming unduly wetted during the subsequent exposure to steam the roll was surrounded on all sides with a further quantity of the same kind of paper. The whole was then placed in a copper cylinder, in which steam was being rapidly generated at atmospheric pressure, and there it was allowed to remain for half an hour. After this the outer coverings of paper were removed and the original roll weighed again. The changes in weight were as follows Before drying the roll weighed 23 9 grammes; after drying it weighed 21·5 grammes, being a loss of 2 4 grammes, or 11 per cent.; and after steaming it weighed 21·8 grammes, being a gain of 0 3 gramme, or 1·5 per cent. The temperature in the centre of the roll rose rapidly above that of the steam and reached a maximum of 132° C in eight minutes. It remained at this point for five minutes, after which it gradually fell, so that at the end of half an hour's exposure to steam it was 128° C.

When the paper was unrolled after its exposure to steam, and in spite of its having taken up 1·5 per cent. of its weight of water, it felt perfectly dry and even crackled when crumpled Indeed, its weight showed that it had not taken up nearly so much water as it contained originally. We therefore think we are justified in concluding, with Sir William Roberts, that this 1 5 per cent of its weight of water, which it had taken up in the steaming, had entered into some form of combination with the substance of the paper and had indeed been converted into the solid state, and that the rise of temperature above that of its environment is to be attributed partly, perhaps, to the energy set free in the process of combination, but chiefly to the setting free of the latent heat, both of steam and of water That the setting free of the latent heat of water accounts for some of the rise of temperature is rendered the more probable by the following experiment The bulb of a thermometer was wrapped round with a small roll of filter paper dried in hot air and cooled over sulphuric acid When the thermometer registered the temperature of the room the paper was moistened with a few drops of water at the same temperature, whereupon the mercury rose a few degrees This rise of temperature above that of its environment, which occurs when porous organic substances are placed in steam, does not take place in asbestos which has been heated to redness and cooled over sulphuric acid It is, therefore, not a purely physical phenomenon, but depends upon some chemical combination of a hygroscopic substance with water That this combination is a loose one is shown by the ease with which the water is driven off by hot air

---

[1] Zeitschrift fur Hygiene, 1888, pp 196 and 399

[2] Nature, 1880, vol xxii, p. 241, and 1880, vol. xxiii, p 10

[3] Ibid, 1880, vol. xxiii, p 55

[4] Supplement to the Fourteenth Annual Report, Local Government Reports, 1884.

[5] Hygienische Rundschau, Berlin, 1898 and 1899

[6] A Manual of Public Health, Macmillan, 1890

It is clear from the experiments which have just been related that extreme dryness may interfere with the sterilisation of such things as are composed of hygroscopic materials; and it is important to know whether such things are ever naturally dry enough for this to occur

We have already stated that a temperature considerably above the normal may be registered in the mouth if the thermometer bulb be wrapped up in the corner of one's pocket-handkerchief But we have not been able to record any temperature above 100° C in the interior of rolls of flannel, cotton, or paper exposed to saturated steam at this temperature unless these substances had been artificially dried But it must be added that these experiments were made in the damp atmosphere of an English November, and they therefore by no means show that in places and at times when the air is dryer the affinity of these things for water may not form some practical impediment to rapid sterilisation. But if this should prove to be the case the difficulty could be got over by a preliminary sprinkling of the things to be sterilised with water

In the following experiments, which were made with the object of comparing the sterilising properties of unconfined superheated steam with those of saturated unconfined steam, we made use of an apparatus constructed for another purpose which was kindly placed at our disposal by Mr H Higgins of Cambridge, the inventor It will sufficiently describe the apparatus if we say that steam generated in an ordinary boiler was allowed to pass, either directly or through a superheater composed of a series of heated iron pipes, into a long chamber. The latter was provided with a door at one end and an opening for the escape of steam at the other The means of escape for the steam were so ample that by no possibility could the pressure inside rise above that outside The superheater was placed over a gas furnace, so that by controlling the supply of gas and the rate of flow of the steam through the hot pipes it was possible to regulate the temperature of the steam and we could continually pass into the chamber either saturated steam at 100° C or steam which had been superheated to any extent desired up to a temperature at which it scorched articles of bedding which were exposed to it

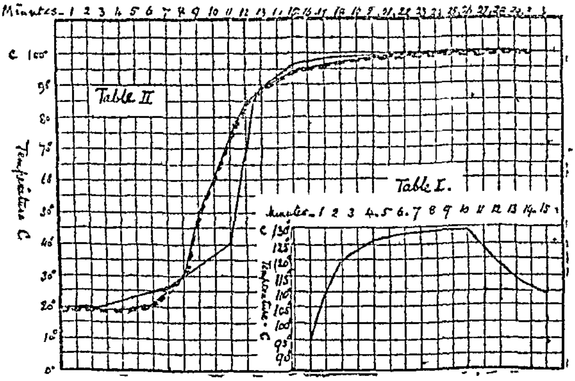


TABLE I shows the temperature inside a roll of dry flannel exposed to saturated steam at 100° C The temperature within the chamber was shown by a naked thermometer which projected through the roof of the chamber When saturated steam was used this thermometer rose in a few minutes to 99° C. or 100 C. and remained there When the superheated steam was used a temperature of 120° C was reached in five minutes 125° C in 10 minutes, and 127° C in 15 minutes After this it slowly rose to 130° C

TABLE II shows the rate of penetration of heat into a basket of tightly packed flock weighing about five and a quarter pounds when exposed to a current of saturated steam at 100° C. (continuous line) and to a current of superheated steam at a temperature of from 120° to 130° C (broken line)

III —THE PENETRATING POWER OF SUPERHEATED STEAM AT ATMOSPHERIC PRESSURE COMPARED WITH THAT OF STEAM AT 100° C INTO BULKY ARTICLES SUCH AS PILLOWS AND MATTRESSES

In our early experiments we made use of a thermo-indicator containing a piece of fusible metal which caused an electric bell to ring when the temperature reached 95° C This little apparatus was enclosed in the centre of a pillow which was then placed in the steam chamber and the time required to raise the temperature of the interior of the pillow to 95° C. was noted We were careful to use in our comparative experiments pillows as nearly identical as possible and more particularly in regard to dryness In the case of pillows which were used more than once on the same day we dried them until they regained their original weight before commencing the second experiment We used steam at 100° C and at various degrees of superheat up to 150° C, and we found that it made no difference to the rate of penetration whether the steam was superheated or not, such small differences as we

and easily explained by the fact

in

two comparative experiments that the thermo indicator should be surrounded by exactly the same amount of material.

In other experiments we watched the rate of penetration of the steam by means of a long three-foot thermometer, the bulb of which was buried in the middle of a basket of tightly packed flock, while the stem, projecting through the room of the chamber, carried the index to the outside, so that the movements of the mercury could be continuously watched. The stem of the thermometer was enclosed in a larger glass tube containing air, so that it was unlikely that any appreciable quantity of heat reached the bulb by conduction along the stem.

Experiment.—The walls of the chamber were heated to 100° C. by the passage of steam. The basket of flock was carefully weighed, packed with a maximum thermometer, the bulb of the long thermometer just described, and the electric bell fuse in its centre. Together with these was placed a thread containing anthrax spores. On the surface of the flock in the basket was another thread containing anthrax spores and another maximum thermometer. The basket was then put into the chamber, the stem of the long thermometer being put through the hole in the roof. The door was then closed and a good current of saturated steam at 100° C. passed through the chamber. The temperature indicated by the long thermometer was observed from time to time, and after half an hour's exposure the basket was taken out and weighed, the instruments having been removed, and the anthrax threads were placed in tubes of broth. The flock was then turned out of the basket and spread out on the floor. Being hot it rapidly became dry again and when collected and put back in the basket was found to be practically of the same weight and therefore just as dry as at the beginning of the experiment. Having thus assured ourselves that we were starting with the flock in the same condition as before we repeated the experiment, using superheated instead of saturated steam. Table II. shows the results of this experiment.

The rate at which the central portion of the flock was heated was practically the same in both cases, the variations shown in the table being unimportant and being probably due to some variation in the conditions which were not completely under our control. The maximum temperature reached was the same in each case—viz., 100° C. After exposure to saturated steam the basket of flock had gained three and three-quarter ounces, or 4.36 per cent. After exposure to superheated steam it weighed the same as before. In both experiments the anthrax spores exposed on the surface and in the interior of the flock were found to be dead.

It will be observed that in neither case did the temperature in the interior of the flock exceed 100° C., although the temperature of the steam to which the basket was exposed was in one case over 120° C. for 25 minutes, and this is in accordance with all our experiments in some of which considerably higher temperatures have been used and the heating has been continued as long as four hours. We believe the explanation of this curious fact to be as follows. Those substances of which our clothes and bedding are usually composed have, under ordinary conditions, a quantity of water loosely combined in the solid state with their molecules. When superheated steam comes into contact with these substances its superfluous energy is devoted to setting free, liquefying, and evaporating this combined water, and the steam becomes saturated and may be partly condensed in the process. On the other hand, when saturated steam comes into contact with these substances in a very dry state water passes from it to them and energy in the form of heat is liberated.

We may ask, What will happen when superheated steam comes into contact with these things in a very dry state? Each exerts an attraction for water and may be said to be trying to dry the other. The result will depend on the degree of dryness of the organic material and the degree of dryness of the steam. If the material is drying the steam then H_2O will be passing from the gaseous to the solid state and energy in the form of heat will be liberated in the process and the temperature will rise. But if the steam is drying the material then H_2O will be passing from the solid into the gaseous state, energy in the form of heat will be locked up in another form, and the temperature will fall to the condensing point of the steam. In any case the process, whichever it be, will continue until a balance is established between the attraction exerted by the steam and that exerted by the organic substance. As long as any excess of water remains on the side of the organic material the steam cannot remain superheated, for steam in the presence of water cannot have a higher temperature than the boiling point of the latter any more than water in the presence of ice can have a higher temperature than the melting point of ice. Thus, whether we place the pillow or other similar article in superheated or in saturated steam, the conditions within it are exactly the same. The rate of penetration of heat is therefore identical. We should consequently expect to find the sterilising effects identical also.

IV.—THE STERILISING ACTION OF UNCONFINED SUPERHEATED STEAM COMPARED WITH THAT OF SATURATED STEAM AT 100° C.

As already mentioned von Esmarch found that anthrax spores contained on threads suspended in the steam were not so easily destroyed by unconfined superheated steam at temperatures above 100° C. as by saturated steam at this temperature, and, moreover, that superheated steam did not always destroy these micro-organisms when placed on the surface of articles of bedding exposed to it. In the interior of these things they were, however, destroyed equally easily by unconfined steam, whether it was heated to 100° C. or to higher temperatures. Our own experiments confirm these statements. In all our experiments anthrax spores in the interior of baskets of flock or of pillows have been destroyed by exposure to superheated steam, as well as to saturated steam, whenever an inside temperature of over 96° C has been maintained for 10 minutes. Anthrax spores placed on the surface of the articles exposed to steam were, in all cases but one, killed, both when superheated and saturated steam were sent into the chamber. But it must be pointed out that in practice it is difficult to expose bulky articles at once to superheated steam unless these have been at first warmed and dried, for some amount of condensation is almost certain to take place on their surfaces. And in our experiments with superheated steam it may have been that the spores were destroyed, not by the superheated steam itself, but by the saturated steam in which they were for a short time unintentionally exposed.

The single experiment in which the surface spores were found to be still living was as follows. A smaller current of steam than usual was used and the temperature within the chamber rose rapidly from 92° to 143° C.; but nevertheless we found that an exposure of 50 minutes had not sufficed to destroy the anthrax spores on the surface of the pillow, although those in its interior were dead. It is probable that in this experiment the current of steam was insufficient to drive the air rapidly from the chamber and that consequently the pillow was at no time exposed to saturated steam, for even when the temperature was between 92° and 100° C., if any air remained, the pressure of the steam would never have reached one atmosphere, which is necessary to bring it up to its point of saturation at the higher of these limits.

In other experiments the very resistant spores of a micro-organism which was probably the bacillus subtilis were used. Neither saturated nor superheated steam sufficed to kill them in the interior of a pillow, though the sterilisation was continued for 10 minutes after the temperature inside had reached 96° C On one occasion the spores on the surface were found dead, but the temperature had then been so high as to scorch the surface of the pillow. In other experiments neither 20 minutes' exposure to saturated steam at 100° C. nor exposure for the same time to superheated steam at from 100° to 108° C. sufficed to destroy them.

From our experiments we feel justified in concluding that the sterilising effect of superheated steam at atmospheric pressure upon the interior of articles of bedding is identical with that of saturated steam at 100° C., but that its action upon living germs upon the surface of these things is inferior. In practice, however, it will generally happen that the surfaces of articles get a preliminary exposure to saturated steam and in a machine like that which we used this can easily be made a matter of certainty by using for the first few minutes a current of saturated steam and continuing with superheated steam for as long a time as is necessary to sterilise the interior. We may therefore conclude that as far as concerns its penetrating power superheated steam is identical with saturated steam and that its sterilising power upon the interior of porous articles of clothing, &c., is the same, and that its inferior sterilising action upon the surfaces of these things can be easily overcome. It remains to be seen whether it has any advantage in leaving articles exposed to it drier than those exposed to saturated steam at 100° C.

V.—THE DRYING PROPERTIES OF SUPERHEATED STEAM.

Current superheated steam has great drying properties. We have already alluded to the loosely combined water ordinarily present in articles of clothing and bedding and stated that superheated steam is able to drive off this water. Coming into contact with water-holding substances, the superheated steam rapidly transfers its superheat to them and becomes saturated steam. It is probable, too, that if there be much cold water present the superheated steam will even become condensed and the article rendered wetter than before. But, in condensing, the steam will part with its great latent heat and the temperature of any part of the article in question will be thereby quickly raised to 100° C. and when this point is reached the further action of the superheated steam will be to evaporate the water, both that which is held mechanically in the interstices of the substance and that which is loosely combined with the latter. Thus it is that articles submitted to superheated steam may come out lighter than before. The influence of steam in drying or wetting such things as we are considering is best shown by comparing their weight before and after exposure. Table III. gives the results of some of our experiments

TABLE III.—*Showing the Gain or Loss of Weight of Articles of Flock Exposed to Saturated and Superheated Steam.*

—	Duration of experiment (minutes)	Temperature of steam (degrees centigrade).	Weight.				Percentage loss or gain.
			Before		After.		
			lb	oz.	lb.	oz.	
Saturated steam at 100° C.	19	100	3	9¾	3	11	+2·2
	20	100	3	8	3	10¼	+4·2
	30	100	5	6	5	9¾	+4·2
Superheated steam at various temperatures above 100° C.	15	150–160	3	7½	3	6¼	−1·8
	20	170–190	3	6¼	3	5¾	−1·4
	25	120–128	5	5	5	5	0·0
	40	120–143 (mixed with air)	5	4½	4	15	−6·5
Saturated steam 13 minutes, followed by superheated steam 17 minutes	13	100	3	9	3	9½	+0·9
	17	100–144					

These results show that superheated steam may be relied upon to leave articles of bedding exposed to it for a sufficient length of time drier than before, and that the length of time necessary to attain this result is in the case of those articles which ordinarily require sterilisation not inconveniently long.

Note on the anthrax spores used in these experiments.—The anthrax spores were obtained from a culture which killed a mouse in 30 hours. They were scraped off on agar tubes and suspended in sterile salt solution of 7 per cent. Threads of silk and cotton, previously washed in distilled water and sterilised, were then placed in the suspension of spores, taken out and dried over sulphuric acid for 24 hours. Their powers of resisting heat were tested as follows: Threads were placed in a chamber full of steam at 100° C for one, two, three, and four minutes respectively, then placed in beef broth and incubated at 36° C. In No. 1 alone a growth took place, the others remained sterile. A thread dropped in boiling broth which was rapidly cooled gave a culture. A thread dropped into boiling broth and boiled for half a minute gave a culture. A thread dropped into boiling broth and boiled for two minutes gave a culture which, however, grew very slowly, no growth being apparent until the third day

---

BRISTOL ROYAL INFIRMARY.—The committee of this institution recently offered to make 24 beds available for soldiers of the Gloucestershire Regiment invalided from South Africa and requiring active medical or surgical treatment. The War Office has accepted the proposal.

LANGPORT DISTRICT COUNCIL.—At the meeting of the Langport District Council held on Jan. 16th a letter was read from the Somerset County Council asking what steps were being taken to provide an isolation hospital. One of the members stated that there was not so much disease by one half as there was 20 years ago and that "it was the half-crown notification fees that accounted for the number of cases" Eventually the clerk was instructed to inform the county council that an isolation hospital was unnecessary.

SEPTIC LYMPHANGITIS ALONG THE URETERS AFFECTING THE KIDNEYS TREATED WITH ANTI-STREPTOCOCCIC SERUM; RECOVERY.

BY J. W. STENHOUSE, M.B., C.M. EDIN., M.R.C.S. ENG., L.R.C.P. LOND.

ANTI-STREPTOCOCCIC serum is still in the experimental stage. Negative results are numerous and a positive result is therefore of interest. The case about to be recorded was not a hopeful one and as a last resort the serum was tried very much in the nature of an experiment. The coincidence of the combination of quinine in the treatment is perhaps worthy of attention.

A married woman, aged 28 years, gave birth to a child seven years ago and made a very fair recovery. She had a "whitish" discharge for two years when it became "yellow-like matter" and increased to such an extent that it gave her a great deal of discomfort and pain on walking (I may here interpolate that the husband denied ever having had any venereal complaint). This discharge went on for a couple of months when she consulted a gynæcologist who discovered that she had also a urethral discharge which could be expressed on pressure of the anterior vaginal wall. She was treated with astringents to the vagina and urethra and sandal-wood oil internally. She carried on this treatment for above five years, during which time the urethra was additionally treated with numerous drugs, but without any effect. The vaginal discharge was kept in check with the astringents and she could get about with tolerable comfort. About Whitsuntide in 1899 she used protargol for the urethra, and shortly after she had begun to use it she developed cystitis which lasted for a month. The urine, however, never properly cleared. On July 20th she went into a home to have the urethra treated and had Skene's tubules split open and cauterised. On the 26th she began shivering, had a sore throat, and pains in her limbs. She left the nursing home on the following day. As the throat did not improve she sent for me, but as I was away for my holidays Dr. E G. Yonge kindly saw her. He was of opinion that she was suffering from septic tonsillitis and treated her for five days with iron and quinine internally and carbolic locally.

Bicycling had been recommended to this patient for her uterine condition, so she resumed that amusement about August 17th. On the 20th she went for a run of 29 miles and on her return in the evening she began to shiver and developed another attack of cystitis. She was able to be out of bed on the following day but in the evening she had a rigor with pains in the limbs and in the right side of the abdomen and back followed by sweating. The rigors were very frequent during the night and were repeated during the day. She was now confined to her bed and unable to sit up in it. I was called to see her on the evening of the 22nd. The pulse was 116 and the temperature was 104° F. Her face was pinched and the skin had a dirty greyish look. The abdomen was slightly distended and the muscles on the right side resisted pressure while those on the left were tolerably flaccid. The kidney on the right side was easily palpated; it could be felt to be enlarged and was very tender. A line of tenderness ran along the line of the ureter and on pressing it over the brim of the pelvis it could be felt as a thickened cord and the pressure gave much pain. The urine had a cloud of pus and there was pain at the end of the act of micturition. The cervix uteri was in a condition of ectropion and the uterus was retroflexed. The heart and lungs were normal. I prescribed 10 grains of salol every four hours and a mixture containing boric acid, buchu, hyoscyamus, and uva ursi. The next morning her pulse was 94 and the temperature was 101·8°. During the night she had only modified rigors which produced a sensation of cold followed by one of heat. The right kidney was as tender as on the preceding evening and slightly larger. She kept very much in the same condition all that day and the following, the temperature oscillating between 99·8° and 102°. On the 25th the right kidney was larger; it was close to the abdominal wall and [illegible] the af[illegible] of this ureter to the kidney and by the evening the left kidney could be easily palpated and was also tender. Some enlarged glands could be felt about the iliac arteries.

I called Mr. J. Collier to see her in consultation. He confirmed the diagnosis and we thought it had gone on to suppurative nephritis. The prognosis was grave indeed. Mr. Collier suggested that quinine should be tried (five grains every four hours) and urotropine (10 grains three times a day). On the following day the left side was worse and the patient was losing ground. Her face was more earthy-looking and she was rapidly losing flesh and strength, so much so that she could hardly move in bed, apart altogether from the pain which any movements caused her. As the prognosis was so bad I thought that the serum treatment held out a ray of hope and in any case if it did no good it could not make her worse than she was, so, with Mr. Collier's approval, I determined to make a trial of it. I therefore stopped the quinine and injected into the left flank about 20 cubic centimetres of serum. This injection and the subsequent three were made with all antiseptic precautions, the syringe being boiled and the hands and skin being thoroughly washed and carbolised. The next morning the pulse and temperature had both fallen, the former from 96 to 80 and the latter from 102·2° to 98·2°. This was encouraging. The serum had modified the pulse and temperature more than the drugs. In the evening there was a rise in the pulse to 90 and in the temperature to 101·2°, so I injected 10 cubic centimetres of serum into the right lumbar region. Instead, however, of getting the expected fall next morning the pulse and temperature had both risen, the pulse to 100 and the temperature to 103°, and at 8 P.M. the pulse had further risen to 108 and the temperature to 102·4°. I resumed the quinine every four hours and injected 20 cubic centimetres of serum into the left lumbar region. On the 29th, at 8 A.M., the pulse was 84 and the temperature was 99·8°; at 4 P.M. the pulse was 84 and the temperature was 101°; and at 8 P.M. the pulse was 84 and the temperature was 99·4°. 20 cubic centimetres of serum were injected into the right flank. On the 30th the pulse was 68 and the temperature was 98°, and it remained normal all day. The patient was feeling better and the pains were diminished. On the 31st there was a slight rise of the pulse (to 80) and of the temperature (to 99·8°). On examination I found the left pupil slightly smaller than the right and somewhat oval in shape. She had no headache, but said there was "a slight mist over the left eye." Percussion of the abdomen showed the spleen to be normal in size. The enlargement of the right kidney was diminished, the tenderness was less, the ureters were not so tender, and no glands could be palpated. On Sept 1st there was a slight rise of temperature from normal to 99·2°. The left pupil was slightly irregular, the iris was retracted at the upper and inner quadrant, and both kidneys and ureters were less tender. At the seat of injections on the right and left sides there were two extensive patches of erythema which gave the patient great discomfort, especially at night, when it rose up in wheals like urticaria. The intolerable itching was most difficult to control; but what gave most relief, after trying various remedies, was an ointment containing hydrocyanic acid, carbolic, and chloroform in lanoline. On the 2nd the pulse was 60 and the temperature was 97·4°. On the 3rd the right kidney was much smaller and the abdomen could be more freely palpated without giving much pain. The pupils were normal. The urine was much better but there still remained the urethral discharge. On the 6th I dilated the urethra with Hagar's dilators till I could get my small finger into it but could feel nothing abnormal, either cicatrices or pouching. The dilatation did good, however, as the discharge from Skene's tubules on one side dried up, while that on the other became serous. The temperature and pulse remained normal during the week until the 11th, when there was a slight rise of the pulse to 82 and of the temperature to 99·2°. Coincident with the rise there was pain in the left leg; the glands in the groin, which had previously been slightly enlarged, were now tender on pressure; there was pain along the line of the femoral artery; the veins in the calf of the leg were enlarged and cord-like; and there was slight œdema of the leg and foot. The thrombosis was treated with elevation of the limb and lead and opium fomentations and the glands with iodine ointment and carbolic compresses, and the condition had practically disappeared by the 20th. The patient felt perfectly well and had put on flesh. The foot required to be bandaged as it became slightly swollen with use. The urethral discharge remained. Five months after the patient stated that she had not felt better for years.

Remarks by MR. J. COLLIER.—On examination of this patient I came to the diagnosis mentioned by Dr. Stenhouse above, mainly from the thickened condition of the ureters. The prognosis seemed to be the very gravest, for the general condition was so extremely bad as to make it appear certain that the kidneys were riddled with small abscesses. The further history of the case after it was seen by me points sufficiently to the general pyæmic state. Dr. Stenhouse and I agreed at once as an alternative treatment to inject the anti-streptococcic serum, and this was done with a surprising and most satisfactory result. Since the above case in two equally desperate cases—one an adult and the other a child who was apparently dying at the Pendlebury Children's Hospital from acute general pyæmia—I have been delighted with the result of the administration of full doses of quinine associated with repeated serum injections.

Manchester.

THE TREATMENT OF IMPERFORATE RECTUM: AN ANALYSIS OF TEN CASES, IN NINE OF WHICH COLOTOMY WAS PERFORMED.[1]

BY W. P. MONTGOMERY, M.A. OXON., M.B., B.S. LOND., F.R.C.S. ENG.,

SURGEON TO THE CRUMPSALL HOSPITAL AND TO THE ANCOATS HOSPITAL, MANCHESTER

DURING the last few years I have operated upon 10 cases of imperforate rectum. The series is unusual in length and some of the cases present special points of interest. I am much indebted to the honorary surgical staff of the Manchester Royal Infirmary, where the majority of the cases were seen, for permission to record them.

The accompanying table gives a brief account of the cases. The last case on the list does not illustrate any of the points to which I wish to call attention and I leave it out of consideration altogether. Three of the children were sent home to their mothers immediately after operation. Two of these are alive; the other died five days later and no post-mortem examination could be obtained. The other six died in hospital and were all carefully examined after death.

Operation.—The two considerations influencing the choice of operation were: (1) the size of the pelvic outlet; and (2) the general condition of the child. In no single instance was any bulging of the perineum during crying made out. One case had been unsuccessfully explored with the trocar before I saw it. In three others an attempt was made without success to find the gut by the perineum after a resection of the coccyx. In the other five immediate colotomy was performed on the left side. The incision was made an inch below and internal to the anterior superior spine. The small gut presented in five cases, the cæcum in three cases, and the sigmoid in one case. In this and one other case only was distension of the sigmoid and rectum at all marked. There was considerable difficulty in bringing the gut up to the level of the abdominal wall in all of the six cases in which the cæcum did not present. This was apparently due to the great distension of the small gut and the cæcum and not to any shortness of mesentery. In eight cases the gut was simply fixed to the muscle and fascia by sutures passed through its outer coats. It was then opened and further fixed by four sutures transfixing the whole thickness of the gut wall and including the skin. The difficulty in bringing the loop well up out of the abdominal cavity prevented the application of any supporting mesenteric suture except in one case. In this an attempt was made to fix the gut according to a plan which I have found very successful in the adult and which I hope shortly to record. This was with a view to lessening the great tendency to prolapse in these cases. The child, however, suffered from congenital heart disease, which was most embarrassing during the operation and led to death on the third day. This tendency to prolapse has been observed in nearly all recorded cases of recovery after colotomy and was quite marked in both of my cases. It is a necessary result of the difficulty in bringing up the sigmoid loop and the consequent inability

---

[1] A paper read before a meeting of the Manchester Medical Society on May 5th, 1899.

SYNOPSIS OF TEN CASES OF OPERATION FOR IMPERFORATE RECTUM.

No.	Sex.	Age.	Operation.	Result.	Remarks.
1	M.	Three days.	Immediate colotomy.	Death on fourth day.	There was no proctodæum. Exploration by trocar had been performed before the case was seen. Necropsy.—The whole rectum was replaced by a fibrous cord four inches long passing to the prostate and the base of the bladder. There was much old hæmorrhage in the pelvis.
2	M.	Four days.	Immediate colotomy.	Alive, age 18 months.	There was no proctodæum. The patient was sent home immediately after operation.
3	F.	Three days.	Immediate colotomy.	Alive, age two years.	The proctodæum was half an inch deep. The patient was sent home after operation.
4	M.	Three days.	Colotomy after perineal exploration.	Death in five days.	There was no proctodæum. The cæcum presented much distended and dil coloured and was opened. The sigmoid could not be found on the left side. The patient was sent home to the parents. No necropsy was held.
5	M.	Two days.	Immediate colotomy.	Death in three days.	No proctodæum was present. Necropsy.—The pouch descended to three quarters of an inch of the skin. There were patent auriculo-and ventricular septa.
6	M.	Five days.	Immediate colotomy.	Death in seven days.	The proctodæum was half an inch deep. The cæcum presented and was opened. Necropsy.—The sigmoid loop passed over to the right iliac fossa.
7	F.	Two days.	Colotomy after perineal exploration.	Death in three days.	The proctodæum was half an inch deep. Necropsy.—The gut three quarters of an inch above the proctodæum was attached to the upper end of the vagina.
8	M.	Three days.	Colotomy after perineal exploration.	Death in 17 days.	There was no proctodæum. Prolapse of the small gut through the abdominal wound occurred on the twelfth day. Necropsy.—The gut one inch from the skin was fixed to the prostate and the base of the bladder.
9	M.	Two days.	Immediate colotomy.	Death in three days.	There was no proctodæum; the sigmoid and rectum were distended. Necropsy.—The gut was three quarters of an inch from the skin.
10	F.	One month.	Perineal dissection and plastic operation.	Alive, age six months.	The rectum was imperforate; there was a small gradually closing recto-vaginal fistula. The rectum was opened at the perineum and the fistula was closed.

to pass a supporting suture through the mesentery. However, with a well applied pad the inconvenience did not seem great. One further point requires notice, which is that the tendency to peritoneal repair in these small children does not seem great. One lived seven days and another 17 days, yet it was found at the post-mortem examination that the line of union fixing the gut was in each case very thin. In one case the sutures gave way on the twelfth day and some inches of small intestine prolapsed. The coils were cleaned and reduced and the child lived five days longer, yet there was no sign of any adhesion in these coils after death. The suture of the gut to the abdominal wall ought to be especially carefully performed.

Pathology.—Six of the cases were carefully examined at the necropsy with a view to proving the case or otherwise of the perineal operation. Allowance need not be made for any distension of the blind end, for in only two of the whole number of cases was distension of the sigmoid and rectal pouch at all marked. In one case the rectum was entirely wanting, a fibrous cord four inches long descending from the termination of the bowel in the iliac fossa to be attached below to the base of the bladder. In three cases there was no proctodæum. The pouch descended to distances of one inch, three quarters of an inch, and three quarters of an inch respectively from the skin and ended in a thick mass of fibrous tissue connected with the prostate and the base of the bladder. In two of these cases the pelvis was very narrow, both laterally and antero-posteriorly, and a resection of the coccyx would hardly have given sufficient room for the successful opening of the gut at the perineum. In the other an attempt had been made to find the blind end after a resection of the coccyx. The pelvic outlet was comparatively large, but the exploration had been confined, as we are advised it should be, to the concavity of the sacrum, and the pouch, which was one inch from the surface, was passed by. In two other cases there was an anal cul de sac of over half an inch in length, the gut cavity ending half an inch and three quarters of an inch respectively above this. In one of these the perineal operation had been tried. The pelvic outlet in each case was very narrow; in one the blind end was far forward fixed to the upper end of the vagina and cervix, and in the other it was fixed to the region of the prostate.

Abnormal position of the sigmoid flexure.—In two cases (Case 4 and Case 6) the sigmoid could not be found in its normal position. The cæcum presented itself much distended and was opened in the left groin. In Case 4 the flexure, hardly distended, could be felt passing over to the right side above the pelvic rim. The child was sent home and no post-mortem examination could be obtained. In Case 6 a similar condition of the parts existed and at the necropsy the flexure was found in the right iliac fossa. These children lived five and seven days respectively with their cæcal openings. These two cases illustrate Huguier's[2] suggestion that in cases of imperforate rectum it is better to look for and to open the sigmoid in the right groin. Giraldès[3] found the sigmoid on the right side 20 times in 134 cases and quotes Bourcart as having found it 30 times in 150 cases of newly born children. Including the nine cases above mentioned I have examined the bodies of 20 newly born infants for this abnormality. In six of these it is possible that the sigmoid might have been missed in the operation of left inguinal colotomy. This includes my two cases in which it certainly was missed. These two cases are interesting in another way, for they point to one of the causes of failure after the rectum has been found and opened at the perineum. In Case 6, where the patient was five days old at the time of operation, the cæcum was extremely congested and distended and so twisted on its mesenteric axis as to give rise to a volvulus. The acute obstruction was certainly at that point and not at the rectal imperforation, for the sigmoid was almost undistended. In Case 4 the condition was similar but not so acute. The right course in each seemed to be the relief of symptoms of acute obstruction by opening the cæcum.

Conclusions.—Before deciding on the relative merits and demerits of the perineal and iliac operations they must be considered (1) as urgent operations for acute obstruction; and (2) as methods of permanent relief. The careful analysis of these cases points to certain limitations in the perineal operation from a life-saving point of view. In Curling's[4] tables out of 57 cases of the type we are now considering the gut was not found on perineal exploration in 23. Owen[5] did not find it in four cases out of five. Excluding the two cases of recovery and the one death in which no post-mortem examination was obtained, of the six cases carefully examined I could only have been reasonably sure of finding the gut in two. These feeble children are in no sense the proper subjects for prolonged operation. Further, as two of the cases seem to show, the acute obstruction is often in the cæcum and will have a better chance of relief if treated by the abdominal route. The fact that there is considerable difficulty in the finding of the gut and a possible chance that an opening in it at the perineum may not relieve the obstruction is decided evidence in favour of routine colotomy in these cases.

---

[2] Bulletin de l'Académie Impériale de Médecine, tome xxiv., 1858-1859.

[3] Leçons Cliniques, p. 121.

[4] Transactions of the Royal Medical and Chirurgical Society, vol. xliii.

[5] Harveian Lectures, 187[illegible].

1 3

The operations may be compared as methods of permanent relief. We hear much of the terrible condition of the individual with an acting anus in the groin; but it must be remembered that the alternative is not a controllable anus near its normal situation. I should be inclined to say that an inguinal anus is more comfortable and more easily attended to than a perineal anus. Further, the majority of children who recover from the perineal operation need almost constant attention to prevent stricture of the new passage. In Carling's tables out of 26 cases in which there was no proctodæum (the worst form) five lived long enough to be called cures, but the author could only call one a real success. All the others suffered from more or less pronounced stricture-incontinence. Of 31 cases with a proctodæum 10 were called successful, but many were mild cases with a mere membranous diaphragm between the two parts of the bowel. A case reported by Walford[6] is much to the point. The patient died at the age of 17 years from ulceration and perforation of the sigmoid above a perineal anus made a few days after birth. Owen in two cases tried some time after colotomy to make a perineal anus by cutting down upon a sound passed through the colotomy wound. Both children died, but Maylard[7] and Goëde[8] have recorded successes. We are probably justified in saying that if more than half an inch separates the rectal pouch from the surface a perineal anus will be a continual source of trouble. Even viewed in the light of the series collected by Ourling, Cripps, and Anders the evidence of my cases seems to support the argument that on most accounts immediate colotomy is the preferable operation.

Manchester.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

BIRMINGHAM GENERAL HOSPITAL.

A CASE OF FIBRO-MYOMA OF THE UTERUS; LEFT HYDRO-SALPINX; CARDIAC DILATATION AND DEGENERATION; TOTAL ABDOMINAL HYSTERECTOMY; DEATH ON THE TENTH DAY FROM PERFORATION OF A LATENT DUODENAL ULCER.

(Under the care of Dr. THOMAS WILSON.)

THE serious influence exerted by abdominal tumours on the heart is often overlooked. Hofmeier in 1884 collected 18 cases of tumour of the abdomen in which sudden death occurred from heart-failure, and in all of these there was degeneration of the heart fibre. Penrose[1] attributes the change in the cardiac tissue to the increased blood-pressure which is always present in abdominal tumours. This serious effect is an additional argument in favour of early operation in these cases. The perforation of the duodenal ulcer in Dr. Wilson's case was an unfortunate accident which no care could have guarded against.

A thin, spare widow, aged 42 years, was first seen on Dec. 14th, 1897, when she complained that for six months there had been pain in the right lower abdomen and discharge from the vagina. She had had one child 22 years before and no other pregnancies; her husband had been dead for 16 months. A firm multi-nodular fibroid of the uterus of the size of a fœtal head occupied the hypogastric region and extended to within two inches of the umbilicus. The catamenial periods began at the age of 15 years, had occurred regularly once a month, lasting a week, and had been preceded for a day and accompanied during the whole of the flow by a dull, aching sacral pain. The beginning of the present illness was marked by a profuse period lasting 14 days and confining the patient to bed, and for the past six months the periods had been very irregular, usually recurring about every three weeks, with varying but not on the whole increased flow. For the same time there had also been yellow discharge, clearer in appearance and more profuse just before the periods.

On Oct. 25th, 1898, the patient was rather thinner and paler than before and the fibroid appeared to be of about the same size. There had been no menorrhagia, but the yellow discharge had been profuse and the pain severe. The cardiac impulse was much diffused over an area extending to three-quarters of an inch outside the left nipple line and to about one and a half inches below it; the impulse was forcible and deliberate but not distinctly heaving. A soft systolic murmur was heard all over the cardiac area, best at the lower end of the sternum and at the base, especially over the aortic cartilage. There had been palpitation and shortness of breath for about two years; previously the woman had been quite well and she had never had rheumatic fever.

In April, 1899, the patient was obviously losing ground and had become rather thinner and distinctly more anæmic. Paroxysmal stabbing pains, not constant and better in bed, were felt in the lower part of the back and in the lower abdomen, especially in the right inguinal region. The pains doubled the woman up and were sometimes followed by vomiting. The periodic losses and the discharge continued to be about the same; the fibroid had apparently somewhat increased in size; the cardiac signs were more marked, the impulse being now more diffused and extending to one inch outside the nipple, and being also distinctly less forcible and more slapping in character. For about two months there had been occasional nausea and on a few occasions actual vomiting after food. The patient was admitted to the General Hospital on April 22nd, 1899, and on the 25th the tumour was removed by total abdominal hysterectomy.

The usual median lower abdominal incision was made. Much difficulty was experienced in delivering the tumour because of numerous firm membranous adhesions between its posterior surface and the front of the rectum and sigmoid flexure: some of these adhesions required to be divided by the knife and scissors. The left tube was closed and distended with clear fluid, some of which escaped into the peritoneal cavity. The peritoneum was exceedingly thin; the omentum, fine and transparent, with almost no fat, was torn a little, and a considerable portion was removed at the end of the operation. After the tumour was delivered the left ovario-pelvic ligament and the left round ligament were successively tied and divided between pairs of fine silk ligatures; the upper part of the right broad ligament was treated in the same way; the bladder was then stripped down and the vagina was opened into the anterior fornix. The uterine vessels on each side were now secured and the tumour was cut away. One or two small bleeding points were secured with thin silk; the peritoneum was then sponged out and a strip of gauze was pulled down from above into the vagina and left with its upper end in Douglas's pouch; finally, the abdominal wound was closed with deep silkworm gut sutures. During the operation the patient became much collapsed and received twice four minims of strychnine solution by hypodermic injection, saline infusion under the skin of the axilla, and finally intravenous transfusion of saline fluid.

The tumour removed weighed 2 lb. 3 oz. and consisted of the uterus with numerous fibroids affecting its body and of both sets of appendages. After being hardened in formalin it measured 13·5 centimetres in length, 11 centimetres in width, and eight centimetres in the antero posterior direction. The cavity of the body measured five centimetres and was distended by a submucous fibroid growing from the fundus and measuring 4·5 by 3·75 centimetres. In the fundus and anterior wall were numerous interstitial fibroids measuring from three centimetres to 0·5 centimetre in diameter, and there were also many small subperitoneal fibroids. On the median section about 10 tumours were cut through and showed the usual whorled appearance and bright silvery sheen. The cervical canal measured 3·5 centimetres and the cervix was free and normal. There were numerous old adhesions about the tubes and ovaries, especially on the left side. The left ovary was much enlarged, the right ovary contained a distinct Graafian cyst, the diameter of which was larger than the rest of the organ, and a recent corpus luteum at the outer end. The left tube had been distended with clear watery fluid, and its peritoneal ostium was closed with withdrawal of its fimbriæ into the lumen. The right tube was shortened and on section showed an empty, small, and extremely tortuous lumen; the walls were not thickened; the folds were distinct and not thickened; the fimbriæ were covered by a thin membranous layer continuous with the peritoneal and muscular coats of the tube.

---

[6] Brit. Med. Jour., vol. ii., 1897.

[7] Glasgow Medical Journal, 1896, vol. xlv., No 2.

[8] Quoted by Cripps in St. Bartholomew's Hospital Reports, vol. xviii.

[1] University of Pennsylvania Medical Magazine, January, 189[illegible]

Two hours after the end of the operation the patient had a fair radial pulse of 100 and in seven hours she was looking well and had a good pulse of 108. There was vomiting several times the last four hours after the operation; urine was passed naturally seven hours and flatus 18 hours after the operation. Hypodermic injections of strychnia solution and saline enemata were ordered and gradually left off as the patient improved. On May 1st it was noted that the apex beat was in the fifth space in the vertical nipple line; the systolic murmur was softer in character, but was still heard all over the cardiac area. The condition of the patient gave rise to no anxiety until the ninth day after the operation; on the morning of that day at Dr. Wilson's visit the woman was looking well. In the afternoon of the same day she did not appear to the ward-sister to be quite so well; a dose of castor-oil at 8 P.M. was followed by severe pain in the epigastrium which was promptly relieved by hot fomentations; pain became very severe afterwards in the lower abdomen, especially on the right side of the wound. The pulse began to run up and in the course of the night increased from 120 to 156 beats to the minute. On the next morning (May 4th) Dr. Wilson was called to the patient at 5 A.M. and found her in a state of collapse and complaining of pain in the lower abdomen; the pulse was 156 and the respirations were 36 to the minute. The limbs were becoming cold and there was profuse perspiration all over the body. There had been no vomiting and there was no distension of the abdomen. The wound was perfectly healed and the packing which had been removed from the vagina was sweet and merely moist. In spite of the free use of stimulants the patient rapidly sank and died at midday, 16 hours after beginning to be ill.

Necropsy.—A post-mortem examination was made at 11 A.M. on May 5th by Dr. Stuart Macdonald, to whom Dr. Wilson is indebted for the following notes. The abdomen was a little prominent. The operation wound was firm, dry, and healthy; after opening the abdomen the wound was found to be free from adhesions and there were no stitch abscesses. On opening the abdomen some gas escaped from the peritoneal cavity and there was a distinct gastric odour. There was general suppurative peritonitis, most marked in the upper abdomen; some sour-smelling fluid, milk curd, and partly digested bread were found free in the peritoneal cavity. The omentum was covered with flabby lymph and was adherent to the right pelvic brim. The stomach was contracted and there were large tracts of fine recent adhesions over both its surfaces, as well as over both the upper and lower surfaces of the liver. On raising the stomach fluid was seen to escape from a perforation of about the size of a sixpenny piece on the posterior wall of the first part of the duodenum about half an inch beyond the pylorus. The ulcer had rather thickened smooth edges and appeared to have been adherent to the head of the pancreas. There was no other ulcer in the alimentary tract and there was no post-mortem digestion of the stomach wall.

The vermiform appendix was adherent by plastic lymph to the upper part of the stump of the right broad ligament. The uterus and its appendages had been entirely removed. There was a little extravasated blood in the stump of each broad ligament, rather more on the left side, but the operation wound looked perfectly healthy and there was free drainage per vaginam. The broad ligaments were adherent by plastic lymph to the surrounding parts; a small amount of flaky fluid was present in Douglas's pouch, but there was no free blood. The liver was extremely fatty; the pancreas and spleen were healthy. The kidneys both showed fatty degeneration and in the right kidney were numerous small cysts in the cortex, medulla, and pyramids; the capsule, however, stripped easily and the cortex was not markedly diminished. There was œdema of the upper lobe of each lung and some passive congestion of both bases was observed.

The pericardium contained about two drachms of clear fluid; there was a fair amount of pericardial fat; no adhesions were present. The right auricular appendix contained some small ante mortem clots; the left was two inches long and had a very small lumen in three-quarters of its extent. There was a little atheroma of the aorta with some thickening of the cusps of the valve, and small patches of atheroma surrounded the orifices of both coronary arteries. The openings of both the coronary arteries were rather patulous, the right being especially so, and the latter was somewhat dilated throughout, but showed no atheroma. The aortic valve was competent; the cone diameter measured 0·9 inch. The pulmonary valve was competent, the cusps were healthy, and the diameter was 1·5 inches. The mitral valve measured 1·28 inches; it showed evidence of slight chronic endocarditis at the base of the anterior cusps. The margins of both the cusps were slightly nodular and there were no vegetations. The tricuspid valve, similar in appearance to the mitral, measured 1·4 inches in diameter. The heart-muscle was soft and flabby and was uniformly brown in colour, with a somewhat hyaline appearance. There was no obvious fatty degeneration. The left ventricle was three and a quarter inches long and the right was four and a quarter inches. The wall of the left ventricle was 1·4 centimetres in thickness all over; that of the left auricle was 0·6 centimetre; that of the right ventricle was 0·85 centimetre and of the right auricle 0·5 centimetre. Under the microscope the heart muscle showed some brown atrophy with slight fatty degeneration of the fibres. The organ weighed nine and a quarter ounces and contained extensive post-mortem clots in all the cavities, with a few ante-mortem clots in the right ventricle.

Films from the peritoneal exudation showed great numbers of micro-organisms of various kinds: large bacilli, small bacilli resembling bacterium coli, diplococci, streptococci, and a few staphylococci. Cultures were rapidly overrun with growth and the organisms were not differentiated.

Remarks by Dr. WILSON.—The above case is worthy of being placed on record for two reasons—in the first place because of its sudden and unexpected catastrophe and in the second because of the serious heart disease which was present in a patient suffering from fibro-myoma of the uterus. Sudden rupture of a latent intestinal ulcer in the course of convalescence from a severe operation on the uterus forms a rare but not unique coincidence, at least two examples having been previously recorded. Professor A. R. Simpson[2] is stated to have shown the specimens from a case of perforation of a duodenal ulcer following myomectomy; and Dr. Harris,[3] speaking of deaths from Cæsarean section, &c., says: "Even peritonitis has been found on autopsy to be entirely independent of the operation or the parturient state; as, for example, where it was produced by a perforating ulcer of the intestines, cicatrices of previous ulcers being found, as in the third case of Professor Chiara of Florence, Italy, operated upon Jan. 5th, 1888."

In such a case as the above it is of course easy to be wise after the event, and on looking back upon its history several symptoms are found noted which may possibly have been due, wholly or in part, to the presence of a duodenal ulcer. Such symptoms are the nausea and vomiting after food which occasionally occurred in the last two months of life, and to some extent also the wasting and anæmia which had progressed very rapidly in the same time. None of these symptoms were very obtrusive and most of them had been gradually progressive, while the pains complained of continued to the last to be experienced in the same positions as those which had so long tormented the woman—namely, in the sacral region and in the lower abdomen, especially on the left side. The whole of the very serious and progressive change in the patient's condition appeared fairly to be explained by the presence of the fibroid tumour of the uterus and by the accompanying heart disease.

The second point of interest is one of the highest importance and raises the question of the relation between the affection of the cardiac walls and the growth of fibromyomata of the uterus. The relation is in my opinion one of causation, the dilatation and degeneration of the heart having been in some way set up by the growth of the uterine tumours. The frequency of serious heart affections in cases of fibroids is in my experience considerable and calls for more consideration than it has hitherto received. A fibroid may give rise to heart affection by reason of the anæmia which is often present or in a more direct but less easily understood manner by setting up hypertrophy that only later leads to dilatation and degeneration. A somewhat analogous relation to the latter may be found in the hypertrophic dilatation of the heart that arises during pregnancy, but there is the important distinction that the causing condition in this latter case is of *definite duration*, whereas in the case of the fibroid the duration is indefinite. The question of the connexion between the affection of the heart and that of the uterus has an important bearing upon the treatment of the latter. If the affection of the heart in any case appears to have arisen as a consequence of the growth of the uterine tumour, and if it is progressive in spite of medical treatment, the condition of the heart becomes an urgent indication for the removal of the tumour by operation.

---

[2] Transactions of the Edinburgh Obstetrical Society, vol. xix.

[3] American System of Gynæcology and Obstetrics, vol. ix., p. 262.

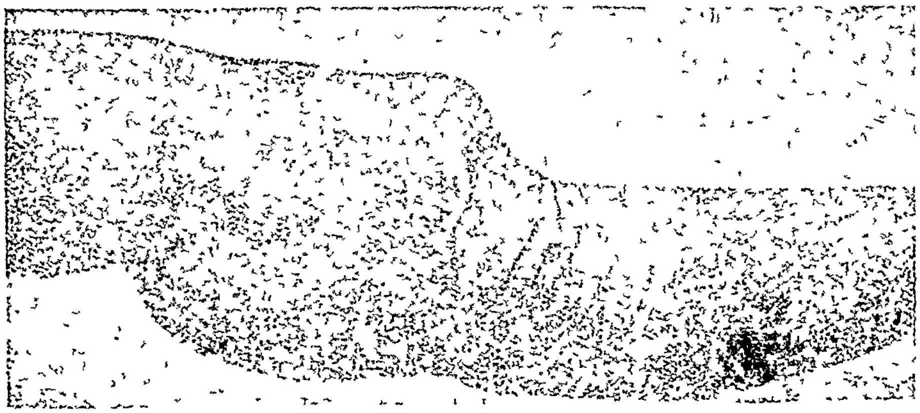
PENRHYN QUARRY HOSPITAL, BETHESDA.

A CASE OF DISLOCATION OF THE HEAD OF THE TIBIA BACKWARDS, UPWARDS, AND INWARDS, AND OF THE PATELLA UPWARDS AND OUTWARDS

(Under the care of Dr E. A. MILLS-ROBERTS)

THERE are few dislocations which are more rare than those of the knee. The ligaments of the joint are so numerous and so strong that a fracture is much more likely to occur than a dislocation. In the dislocation upwards and backwards of the tibia the posterior ligament, and at least the posterior crucial ligament, must be ruptured The popliteal vessels are very likely to be compressed by the displaced tibia or they may be torn completely across. Reduction is usually easy, but cases have been reported by Bagnall-Oakeley[1] and by Karewski,[2] in which, although reduction was not effected, very fair movement at the knee-joint remained. In one case of irreducible dislocation Spence[3] opened the joint and was able after division of the external lateral ligament to get the bones into position, a useful limb remaining Dr. Mills-Roberts's case is remarkable for the great amount of displacement and for the very satisfactory movement which resulted.

A man, aged 55 years, was admitted into the Penrhyn Quarry Hospital on May 24th, 1898. On examination he was found to be suffering from a complete dislocation of the right leg backwards, upwards, and inwards, the patella being displaced outwards and upwards. (The illustration gives a very good idea of the appearance of the limb on admission) There was a severe laceration of the skin about the middle of the leg, on the inner aspect The left shoulder, back, left thorax, and left thigh were badly bruised on the next day these parts were severely ecchymosed. His left thumb was also lacerated. The patient gave the following history. He was employed at his usual work of a "slate miner" at the Penrhyn Slate Quarries, working on the "face" of the rock between two galleries, the distance between the galleries being 54 feet. Having fastened himself to the usual rope he was removing some loose slate from the "face" of the rock about nine feet below the surface of the upper gallery. He would thus be fastened to a rope nine feet in length and his position would be much of the nature of a pendulum. While thus employed some loose *débris* "ran" and struck him on the left side and back, swinging him free of the rock. On his return he was again struck on the left shoulder and again swung free of the rock. On his second return his foot and leg caught between two stones; at the same time more *débris* came down and struck him on the back and shoulder, on this occasion jerking, as it were, the body free of the leg that was caught and giving rise to the above condition. The appearance of the boot and leg verified the history of the accident. On admission the limb was found to be extended with an appearance of being bent forwards (*vide* illustration). The skin about the injured parts was perfectly normal in appearance, there being no sign of any abrasion or injury of any kind. It was tensely stretched over the condylar end of the femur, the whole of the articular surface being quite distinct. The absence of the patella from its normal position was perfectly evident to the naked eye. The rounded shape of the external condyle was very distinct, the internal condyle being less so The skin below the lower end of the femur appeared in well-marked folds and wrinkles (*vide* illustration). On the inner aspect of the leg, about the middle and to the inside, there was a laceration (with a deep puncture) about two inches long. The foot was everted. About four inches above and behind the condyles on the posterior aspect of the thigh was a well-marked swelling in which the head of the tibia could be made out (*vide* illustration) The patella was easily recognised displaced outwards and upwards.



Reproduction of a photograph of a sketch of the leg

With the assistance of Mr. Pritchard Roberts the patient was anæsthetised. When well under, Dr. Mills-Roberts flexed the hip and applied extension to the leg in the axis of the limb. The dislocation was easily reduced. After reduction the sensation of holding the leg was as if the knee-joint was a mass of flabby jelly, a feeling never to be forgotten There was a little difficulty in reducing the patella, the first attempt at tilting being a failure; however, it readily and easily went over on the second attempt Dr. Mills Roberts put him up on a long posterior splint, applying evaporating lotions for three weeks On May 25th there was a good deal of swelling, but it was rapidly amenable to treatment. On June 15th Dr Mills-Roberts felt justified in removing the splint and in beginning passive movements and massage. This treatment was continued till July 6th. The movements were done with the greatest care and gentleness, and on the least sign of inflammation were discontinued for a day or two. On July 6th the patient had full flexion and extension and was dismissed with a very good limb. He wears an Arnold's knee apparatus and is able to follow his usual employment of a slate miner without any inconvenience to the present date (Jan. 15th, 1900).

Remarks by DR. MILLS-ROBERTS —The patient on admission was emaciated and badly nourished. He had been for years a sufferer from chronic dyspepsia and had a bad tuberculous family history. His temperature during the time that he was in hospital ranged from 99 4° to 99·8° F. with one exception. On May 28th he complained of severe pain in his side. The morning temperature was 102 8° and the evening temperature was 103 4°. His breathing during the whole of this day until about 5 A.M. on the 29th had a distinct Cheyne-Stokes character. On the night of the 28th he had severe diaphoresis. By 8 A M. on the 28th his breathing had become normal and the pain had disappeared. This condition was in all probability due to the injuries his body had received from the different falls of débris. Taking his tuberculous history into account I felt greatly tempted to give him a stiff knee, but the inflammatory condition of the knee was so amenable to treatment that I decided to try passive movements and massage and to give him a moveable knee.

---

[1] THE LANCET, Jan 14th, 1882, p 53.

[2] Archiv fur Klinische Chirurgie, 1886, vol xxxiii, p 525

[3] THE LANCET, Oct 14th, 1876, p 534.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Primary Resection of Gangrenous Intestine.—Primary Abdominal Section for Wounds of the Abdomen.

A MEETING of this society was held on Jan. 26th, Sir R. DOUGLAS POWELL, Bart, the President, being in the chair.

The PRESIDENT referred in graceful terms to the loss which the society had sustained by the death of Sir James Paget who had been not only an honorary member of the society but was the first surgeon to occupy the presidential chair.

Mr. JONATHAN HUTCHINSON, jun, read a paper on Resection of Gangrenous Intestine in Cases of Hernia based on a comparison of 42 cases. He related two cases of successful primary resection of small intestine during herniotomy, both operations being performed by simple enterorraphy without mechanical aids. One case was that of a woman with a strangulated femoral hernia on whom he had operated in 1893, removing five inches of damaged gut; she was in good health six years later. The second case was that of a man with strangulated inguinal hernia in which it was necessary to excise ten inches of intestine; this was done by Maunsell's method—that is, one in which an artificial intussusception was made. The patient made a perfect recovery, but died three years later from ulcerative colitis, and the specimen was fortunately obtained for Mr. Hutchinson by Mr. H. L. Barnard. It was shown at the meeting and proved that there had not been the slightest narrowing at the site of the resection. Mr. Hutchinson remarked that it was probably the general impression that the use of Murphy's button had rendered resection of intestine not only quicker but safer. To test this belief he had collected from hospital records (including all the cases he had himself operated on both with and without this apparatus) 15 examples of primary resection for gangrenous gut performed with Murphy's button and 16 cases in which suturing alone was employed. Of the former only one (7 per cent.) had recovered and of the latter six (37 per cent.). 11 cases treated by conservative measures (e g., formation of an artificial anus) without resection had all died. None of these cases were included in Dr. Kendal Franks's paper published in 1893, and they were not selected in any way excepting that they had all been under the care of hospital surgeons. This was a very striking comparison, but besides this the fatal cases treated by suturing alone had lived on an average twice as long as those in which Murphy's button had been used; in other words, they had given much more promise of survival. Three out of the 10 fatal cases of simple suturing would probably have recovered but for accidental complications (multiple strictures of small intestine, obstruction of intestine by an omental band, and tuberculous phthisis causing constant cough). Moreover, the post-mortem records showed, on the whole, better union of the divided ends after suturing than after the use of Murphy's button. The latter was apt to cause acute congestion by its bulk; its weight was also a disadvantage, and even should the patient recover it was probable that a stricture might result. At any rate, the openings made by operations with Murphy's button in gastro-jejunostomy sometimes showed a marked tendency to contract. The greater time required for the accurate performance of suturing did not appear to be of much practical importance—it had probably been a little exaggerated. The after-shock had not been dangerous in his experience. Whilst primary resection of gangrenous, perforated, or irretrievably damaged intestine in a hernia must always be attended with high mortality, yet it offered the best chance of recovery. This agreed with the results previously brought forward by Dr. Kendal Franks, Mr. C. B. Lockwood, and other surgeons. Turning to the details of the operation in performing resection it was of great importance to excise enough of the damaged intestine so that the sutures might be placed in healthy tissue, and it was nearly always advisable to do it through a median abdominal wound. Special care had to be taken with the mesenteric edges of the two ends, for leakage most readily occurred at this point. Maunsell's method was probably one of the best to employ. If the intestine could be emptied and made to contract this would favour sound union and tend to prevent infection of the stitch apertures by the septic contents. It was probable that the administration of an aperient immediately after the operation would lead to better results than in the past. Mr. Hutchinson had operated on 140 cases of strangulated hernia with a total mortality of 25 per cent. 65 were inguinal hernia, of which 54 recovered; 54 were femoral, and of these 40 recovered; whilst 21 were umbilical, and of these 12 recovered, 34 deaths in all. The great majority were due to the gangrenous or acutely inflamed condition of the intestine and omentum at the time of operation. Five of the fatal cases were possibly due to the employment of too conservative methods.—Mr. ARTHUR BARKER remarked that the question of how to deal with the intestine during operation was a very important one. He did not think that Mr. Hutchinson had resected the gut too lavishly. He quite agreed that primary resection was preferable to Murphy's button. He mentioned a case in which the weight of the button had dragged the paralysed bowel down into the pelvis and caused death. He had given it a very fair trial and had had considerable success with it, but there was no better method than the simple suture. As to the question of time occupied in suturing as compared with the use of the button, that depended very much on the operator The condition of the intestine was the key to the position and it was of the greatest importance to remove sufficient and suture healthy tissues to healthy intestine beyond the strangulation. In one case he had removed 35 inches of the gut and the case had made a perfect recovery. Out of 11 "anastomosis" operations which he had recently performed he had used the Murphy's button on three occasions. Two of these 11 were gastro-enterectomies in both of which the button was used and both recovered; two were pylorectomies, both were sutured, one recovered and one died; three were resections for gangrenous intestine, one with the button died and two with suture recovered. Three were lateral anastomosis operations, all with suture, and all three recovered; one was a case of excision of the *cæcum* in which the suture was used and this recovered. Thus, out of eight cases in which a simple suture was used one died, and out of three in which the button was used one died, results which supported the method of simply suturing the bowel.—Mr. HOWARD MARSH referred to the great difficulty in deciding as to the true condition of a piece of intestine. It was often impossible to say if the intestine would recover or not. The bowel was often completely paralysed and obstruction resulted from this. On the whole, it was better to excise the piece of gut if in doubt. Resection was not nearly such a dangerous procedure as was formerly believed. It was most important, he thought, to remove it freely, and he quoted cases in illustration. He had no doubt that the continuous suture was better than Murphy's button. He congratulated Mr. Hutchinson on the excellent results that he had achieved which were a distinct advance on previous statistics.—Mr. CHARTERS J SYMONDS hoped they should save many more lives by modern methods and by dealing more boldly with the intestine. He referred to the difficulty of emptying the intestine at the time of the operation. This was very important, for in this way it was possible to prevent symptoms of paralysis of the bowel. He quite agreed with the advantages claimed for the direct suture as compared with the use of the button —Mr HUTCHINSON, in reply, said that he had used interrupted sutures of fine silk passed through all the tissues of the intestinal wall. The sutures became absorbed or at any rate disappeared. He wished to draw attention to the fact that in the specimen exhibited there-were no adhesions around the bit of intestine and the serous surface was perfectly smooth. This patient had died from ulcerative colitis, wholly unconnected with the illness for which the operation had been performed some years before. He wished to refer to the advantage of sewing up the abdominal wound layer by layer. He quite agreed with the importance of emptying the bowel at the time of the operation and he saw no harm in the use of a mild aperient afterwards. In gastro-jejunostomy he had been equally impressed with the advantage of direct suture.

Mr. A. **PEARCE GOULD** read a paper on a case of Bullet Wound of the Abdomen, with four wounds of the small Intestine and two of the Mesentery; Operation; Recovery: The patient was a young man, aged 20 years, who was accidentally shot with a small revolver on the evening of Oct. 30th, 1899. A medical man, who was called to him found him in great pain and at once administered a hypodermic injection of morphia, and then took him to the Middlesex Hospital where he was seen by Mr. Pearce Gould about an hour after the accident. The wound in the abdomen was two inches below the navel and one inch to the left of the middle line. There was still some pain, the respiration was easy, the abdomen moved freely, and the pulse was 96. The liver dulness was not obliterated and there was no dulness in either flank. There was no paralysis. Six ounces of clear normal urine were drawn off by catheter. Under an anæsthetic the wound was explored and was found to extend into the peritoneal cavity. This was freely opened and blood flowed out from it, but neither gas nor intestinal contents were observed. The intestine was examined and four wounds were found; three of these were apparently in the jejunum perforating and the other involved the serous and muscular coats only. There was no visible escape of intestinal matter. These wounds were closed with Halsted's sutures of sterilised silk and two wounds of the mesentery which were close by were also sutured. No other lesion was found. The peritoneal cavity was cleansed, the bowel was returned, and the abdominal wound was closed. The man made an uninterrupted recovery and left the hospital well on Dec. 4th. The bullet was found lying deep in the left buttock and was allowed to remain. In commenting on this case Mr. Pearce Gould drew attention to the following points: (1) the multiple lesions produced by a single bullet; (2) the absence of serious symptoms; and (3) the necessity for exploration, even in spite of the absence of all symptoms, to determine whether the wound was perforative, whether any viscus or large vessel was injured, and, if so, to treat them. He emphasised the importance of the hypodermic injection of morphia immediately after the accident, both in relieving pain and shock and in controlling the movements of the intestine, and so lessening the chance of fouling of the peritoneum with germ-laden intestinal contents. The case illustrated the necessity for careful and thorough exploration of the abdomen (by operation) in all cases of perforating wound and severe contusion of the abdominal wall.—The **PRESIDENT**, referring to the use of opium in abdominal injuries and wounds, said that although it had been discarded, not without reason in these cases, it was one thing to give it before diagnosis and another to give it after the diagnosis was made. The morphia syringe might be of great use on the battle field. When gangrene of the intestine had been diagnosed there might be no harm in giving morphia. As to the absence of symptoms in Mr. Gould's case this was possibly due to the narcotism of morphia.—Mr. **ARTHUR BARKER** remarked that there was no more difficult class of case to deal with than that narrated. The amount of shock in such cases varied very considerably, and he mentioned the case of a patient shot through the abdomen who walked downstairs and professed himself as feeling quite well. In another case with the same kind of wound there had been great shock. As to the procedure adopted that must vary with the time which had elapsed since injury. If seen early the abdomen should be searched, but if not seen till later it might be well to wait. The velocity of the bullet was another factor. If the speed was great then the intestinal wounds would be very small. In general an operation might well be undertaken in any doubtful case. He quite agreed with the remarks made on the value of opium.—Mr. **HOWARD MARSH** referred to the possible absence of symptoms even with very grave internal lesions and mentioned a case in point of ruptured colon. In another case of injury in the hunting field the patient went to the city and was well for two days. Then he passed into a state of shock and died. The necropsy revealed rupture of the super-mesenteric artery as a consequence of which part of the small intestine had become gangrenous. He certainly thought it well to operate more freely. An exploratory operation was not attended with much risk. He believed in saline injections as a most valuable method for the treatment of shock.—Dr. **NEWTON PITT** referred to the remarkable way in which a "cow-doctor" would puncture a distended intestine with a large trocar. He inferred from this that small bullets with high velocity would not do great damage to the intestine.—Mr. **PEARCE GOULD**, in reply, said that the patient was not narcotised but he was only relieved from pain by the morphia. The amount of shock in such cases seemed to depend very much on the parts which were damaged. If the great sympathetic plexuses were injured then probably there would be great shock. In his case the shock at the end of operation was not great enough to call for saline injection. His main object in bringing forward this case was to emphasise the importance of operation in all perforating injuries of the abdomen.

OPHTHALMOLOGICAL SOCIETY.

Experimental Exophthalmos and Enophthalmos.—Cicatrix Horn growing from the Cornea.—Glaucoma following the use of Homatropine.—Exhibition of Cases and Card Specimens.

AN ordinary meeting of this society was held on Jan. 25th, Mr. G. **ANDERSON CRITCHETT**, being in the chair.

Dr. **WALTER EDMUNDS** read a paper on Experimental Exophthalmos and Enophthalmos in which he remarked that there were three ways in which prominence of the eyes could be affected experimentally: (1) by acting on the sympathetic, either stimulating it or dividing it; (2) by the administration of certain preparations or drugs; and (3) by operations conducted on the thyroid gland. With regard to the first, stimulation of the cervical sympathetic produced: (1) prominence of the eye; (2) widening of the palpebral fissure; (3) at first increase and later decrease of the intra-ocular tension; and (4) erection of the hairs of the head. Division of the sympathetic produced the opposite effect. Cocaine was one of those drugs which produced proptosis, widening of the palpebral fissure, dilatation of the pupil, and decrease in the intraocular tension. Cunningham had shown that feeding a healthy animal on thyroid extract produced similar results. Dr. Edmunds then showed photographs of monkeys and rabbits both before and after feeding on this substance. Exophthalmos after the administration of thyroid had once been observed in man by Beclère, where it appeared after excessive doses had accidentally been taken by a patient suffering from myxœdema. The third method of effecting the prominence of the eyes was by operations on the thyroid. Removal of the thyroid might produce either exophthalmos or enophthalmos, but in the monkey usually the latter. Numerous lantern slides were shown of animals in which this had been done, as well as drawings of animals in which the sympathetic had been divided. Dr. Edmunds summed up his results by saying that the discussion of these phenomena was particularly interesting in its bearing on the pathology and treatment of Graves's disease; the fact that the most important eye symptom of Graves's disease could be produced by the administration of thyroid preparations certainly suggested that the eye affection was secondary to the goitre. He had not tried the effect of division of the sympathetic in feeding with thyroid extract, but with the administration of cocaine it diminished the effect produced. It therefore suggested itself that the exophthalmos might be benefited by division of the cervical sympathetic, and, indeed, the operation had been tried several times in man. The results were said, however, not to be very satisfactory, at least as far as the general disease was concerned.—Mr. J. B. **LAWFORD** referred to a case reported by him in which exophthalmos had resulted from thyroid-feeding in a woman, aged 34 years, who had suffered from myxœdema for five years. She was treated with the extract with great benefit; but relapsing four and a half years later the treatment was resumed, this time with the development of severe exophthalmos. Her subsequent history was unknown.—Mr. G. **MACKAY** described a case in which exophthalmos followed an operation on the cervical glands in which the sympathetic had evidently been divided. He also quoted a case of extreme exophthalmos benefited by the removal of half the thyroid gland.—Mr. W. H. H. JESSOP cited a case in which death followed division of the sympathetic.—Mr. H. E. JULER stated that he had seen in Paris a case of glaucoma in which division of the sympathetic had produced many unpleasant symptoms without enophthalmos.—Dr. W. A. BRAILEY also spoke on the subject and Dr. EDMUNDS replied.

Dr. ARNOLD LAWSON read a paper on a case of a Cicatrix Horn growing from the Cornea. He said that a careful search through ophthalmological literature had failed to discover another example of this curious condition. The patient was a female child, aged eight years, a hydrocephalic idiot. The history given was that about one year previously a white spot had appeared on the right eye and that the eye began to project. Six months later a growth was first noticed on the right cornea and this had constantly increased in size. Latterly a white spot had appeared on the left eye. On examination of the eyes there was seen a large conical tuberculated excrescence protruding between the lids of the right eye. It was half an inch in length and its base attached to the cornea covered about four-fifths of its surface. The left cornea exhibited a yellowish infiltration just below the pupil over which the cornea was bulging; the anterior chamber was deep, the iris was immobile, the tension was slightly raised, and the eye was quite blind. Both globes were very anæsthetic and there was considerable muco-purulent discharge from a chronic inflammation of both conjunctival sacs. The growth upon the right eye was accidentally detached a few days after admission into the hospital and it was then seen to have been attached to the cornea at the apex of a central staphyloma which was left covered by a fleshy soft core which had formerly been embodied in the centre of the growth. The cornea was entirely opaque and the eye was quite blind. After removal of the right eye a few days later examination of the globe revealed a co-arct retina with evidences of chronic degenerative changes in all the various structures. The anterior chamber was completely abolished, the iris throughout its extent being firmly adherent to the back of the cornea, which was bulging centrally. The apex of the corneal staphyloma had evidently been the site of a large perforation which was closed by the fleshy granulations which formed the core of the growth. The growth itself measured half an inch from apex to base and one and a half inches round its base. The interior portion was soft and crumbling, but the external layers were hard and horny and cut with difficulty. A wedge-shaped piece was cut away from the growth and specimens were cut and stained with carmine. The microscope showed that the external layers consisted of several faintly fibrillated strata of a dense homogeneous nature. The layers occupied about one-quarter of the entire thickness of the walls, the rest being entirely composed of small nucleated cells, those most external being stratified. Adopting Mr. Bland Sutton's classification of human horns, this growth would be an example of a cicatrix horn, the rarest of all varieties of horn, and one which had been usually found in connexion with the cicatrices of burns and scalds. The probable etiology in this case was an overgrowth of granulation tissue closing the perforation in the cornea, which, owing to an unhealthy condition of the wound and eye, which was anæsthetic and atrophic, had become exuberant, simulating exactly the condition known as "proud flesh" elsewhere. By a process of accumulation and heaping up the granulations gradually formed a cap over the cornea, whilst the external layers gradually became stratified and horny from the pressure of fresh growth from the central core and by the action of the air. The nature of the growth was evidence that the corneal epithelium bore no share in its production and discounted the possibility that it might be due to a huge crust of inspissated conjunctival discharges.—Remarks were made by Mr. TREACHER COLLINS and Mr. DEVEREUX MARSHALL.

Mr. C. H. B SHEARS read notes of a case of Acute Glaucoma following a Single Application of Homatropine. A woman, aged 52 years, went to the Liverpool Eye and Ear Infirmary in October, 1899, for reading-glasses. With her hypermetropia corrected her distant vision was nearly two-thirds of normal. One or two drops of homatropine, four grains to the ounce, were put into the right eye. When she came again to the hospital a week later she had all the signs of acute glaucoma in this eye and she could only just count fingers. Pain and vomiting and great loss of sight came on the same evening that the homatropine was used. Eserine and leeches were tried for two hours but without benefit. Iridectomy was then performed, with the result that the tension and sight were quite restored in ten days and had remained satisfactory up to the present. Mr. Shears was of opinion that no mydriatic should be put into the eyes of persons over 30 years of age without careful consideration; that if homatropine were used it would be well to instil eserine before the patient left the hospital; that cocaine followed by eserine was usually quite sufficient for ophthalmoscopic examination; or the new pupil dilator—euphthalmine—would be found very satisfactory for this purpose. Very few cases were published of glaucoma after homatropine and the accident appeared to be very rare.

The following cases and card specimens were shown:—

Dr. E. E. HENDERSON: Microscopic Sections of Growth from the Upper Palpebral Conjunctiva.

Mr. A. Q. SILCOCK: Persistent Hyaloid Artery arising from a Central Coloboma of the Choroid.

Mr. W. T. HOLMES SPICER: (1) Detachment of the Choroid; and (2) Primary Optic Atrophy associated with Diabetes Insipidus.

Mr. L. V. CARGILL: Fibromata in the Eyelids.

Mr. R. W. DOYNE: (1) Peculiar Appearance in the Cornea; (2) Extreme Cases of Essential Shrinking of the Conjunctiva; and (3) Unusual Case of Striated Keratitis.

Dr. G. F. STILL: Infantile Cerebral Degeneration with Symmetrical Changes in the Macula

Mr. H. E. JULER: A case of Pemphigus of the Conjunctiva.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

The Application of Bacteriology to Public Health.

A MEETING of this society was held on Jan. 12th, Dr. A. NEWSHOLME, the President, being in the chair.

Mr. WALTER PAKES read a paper on the Application of Bacteriology to Public Health. This, he said, had already resolved itself into two branches, the pathological and the technical, each demanding long study and practice; indeed, there was no department of research in which a little knowledge was so dangerous a thing or so prone to lead to the grossest errors. He felt this very strongly in connexion with the bacteriological examination of water, milk, and even of pathological secretions by the public analysts, who, though rightly required to be highly qualified chemists, if not Fellows or Associates of the Institute of Chemistry, are not required to have the knowledge and training essential to the exercise of functions which, if not committed to professed bacteriologists, should be jealously retained by the medical officer of health This officer if he had undergone a course of laboratory instruction, might easily become an adept in the examinations required for purposes of public health. These examinations were—(1) diagnostic and (2) preventive. Perhaps the most important of the former was the identification of the tubercle bacillus in milk, the more so since it appeared to acquire greater virulence in the bovine organism, and infants were far more susceptible than adults. With proper precautions as to the complete decolourising of the tissues or the milk residue, it could be identified with certainty and distinguished even from the smegma bacillus which most nearly resembled it both in appearance and in its behaviour towards stains, and had been found in the sputa, urine, and milk. Mr. Pakes described the precautions to be observed in taking samples of these secretions and of fæces, and the details of a modification of the Ziehl-Nielsen and Honsell's staining processes. Next in importance was the diagnosis of diphtheria. He had examined the secretions from nearly 3000 sore throats, of which 1836 during the last five years had been systematically examined for the different microbes, with results which he exhibited in tabular form. The Klebs-Löffler had been found alone in 289 and associated with Hoffmann's in 18, and with strepto- or staphylo-cocci in 36, making 343 of true diphtheria, Hoffmann's alone in 89 and with cocci in 10, strepto- or staphylo cocci or both in 339, while the rest showed other forms or none. Hoffmann's gave rise to an infectious and specific sore-throat, and the so-called "septic throats" were caused by streptococci, differing morphologically from those present in health, and by staphylococci, especially staphylococcus aureus, which as well as the saccharomyces albicans produced a membranous exudation indistinguishable clinically from that of true diphtheria. He gave examples of the value of bacteriological examination in verifying and in correcting clinical diagnosis, whether positive or negative, and explained the circumstances under which the Klebs-Löffler bacillus, though present in the throat, might fail to appear in the cultures. He believed that whatever the cost of the bacteriological examination of every "sore throat" among school children, it would, as a means of preventing outbreaks of diphtheria, effect a saving of public expenditure as well as of lives. More difficult was the detection of the Eberth-Gaffky or typhoid bacillus; to look for it in the blood was useless and in the urine it appeared far too late for diagnostic purposes. It was present in the spleen and Peyer's glands from the first, but these were inaccessible. In the fæces it might be found late in the second week, but only when set free by ulceration, and then its isolation from the bacillus coli communis was beset with difficulties as yet well-nigh insuperable. In all cases in which the diagnosis during life had been doubtful the splenic pulp should as soon as possible after death be examined by cultures and by the so-called Widal's test. He felt it a duty he owed to his master, Gruber, to state that the credit of the discovery of this test was really due to him, that he had suggested its employment in the diagnosis of enteric fever and cholera, whereas all that Widal did was to diagnose enteric fever during life by the application of Gruber's reaction. Mr. Pakes then described at considerable length the procedure as practised at Guy's Hospital, the cultures, dilutions of the serum to various degrees, and the conclusions to be drawn from the occurrence or absence of a reaction with each at successive stages in the course of the disease. One remarkable observation was that there were cases of undoubted enteric fever in which the organism made no attempt to combat the disease, and for that very reason the patient's serum failed to react. With these rare exceptions Gruber's test was almost conclusive even when opposed to the clinical diagnosis, for with the precaution of successive observations the error due to the patient having been immunised by a previous attack might be avoided. Preventive examinations were quantitative or qualitative. In the quantitative examination of water, which was essentially a comparative observation, it was of the utmost importance that all the conditions of collection, media, inoculation and plating, temperature and periods of incubation, and the mode of enumeration should be identical. These he explained at great length, indicating at each step the most frequent causes of discrepancies and errors, some of which had received little if any attention. Thus in very foul waters insufficient dilution led to almost incredible under-estimation of the numbers of the bacteria, the stronger colonies saturating the gelatin around with toxins fatal to other and weaker forms in their vicinity. Thus, having made two dilutions of a sewage effluent of 1 in 10 and 1 in 1000 respectively the means of several plate cultures of each gave estimates of 386,000 and 4,600,000 to the cubic centimetre, or nearly 12 times as many in the case where there had been a hundredfold dilution. The sample should be packed in ice until the incubation had begun and the enumeration made on the third day, the temperature giving the most valuable results being 20° C. Pathogenic germs, however, grew best at 37° C, the temperature of the blood, but they and others flourishing at the same temperature were usually as 1 to 10, 15 or 20 of those thriving at 20° C., and relatively less numerous as the total numbers were greater. Discussing the qualitative examination he referred to the inadequacy of most descriptions of bacteria for their identification and enumerated the points that he felt requisite for a complete definition. The organism that in this country was most desired to identify in water was that of typhoid fever, but this was very rarely possible, it being necessarily associated with numerous intestinal bacteria, especially the bacillus coli communis, which was not only far more numerous and stronger, but yielded a toxin extremely fatal to that of enteric fever. None of the procedures hitherto adopted for their separation were satisfactory. He then explained his own method based on the facts that practically none but the Eberth-Gaffky, the bacillus coli, and the bacillus enteritidis of Gaertner would grow at 42° C. and anaerobically. He used Kitasato's glucose formate broth and Buchner's tubes incubated at 42° C. for 24, 48, and 72 hours, transplanting any growths to Petri's dishes at 20° C. The water to be examined he concentrated to $\frac{1}{100}$th of its volume by filtration through a "bougie" from within outwards under a pressure of three atmospheres. He thus found in the 300 samples of water examined 50 per cent. of them to contain bacillus coli. The quantity of water operated upon varied from 200 cubic centimetres to as little as 20 cubic centimetres, the smallest volume of the same waters yielding colonies under the carbolic process having been at least 600 cubic centimetres. It was futile to look for, or at any rate to rely on, the possible but improbable detection of the typhoid bacillus, but the bacillus coli was synonymous with sewage, although almost ubiquitous. For practical purposes water containing it in 20 cubic centimetres or less should be condemned, in quantities between 20 and 50 cubic centimetres deemed highly, and in those between 50 and 100 cubic centimetres slightly, suspicious. Only when still larger volumes were required could a water be pronounced probably safe, or if none could be found in the two litres used absolutely so. He would not depreciate chemical analysis, but if bacteriology could not demonstrate previous contamination by organic matter, long since completely transformed into nitrates, chemistry could not differentiate between infective and inert organic matter, or even between sewage and vegetable matter. He had found the bacillus coli in every five cubic centimetres of a water which yielded only 0 004 part of albuminoid ammonia and used up only 0 02 part of oxygen per 100,000, in which when on a previous occasion these figures had been 0·003 and 0 01 respectively there were no bacilli coli found when 50 cubic centimetres of water were examined. The examination of milk was attended by special difficulties; the bacteria varied under circumstances from a few scores, hundreds, or thousands to 30,000,000 per cubic centimetre, London milk usually containing from 3,000,000 to 4,000,000. It therefore required dilutions from 1 in 10 to 1 in 1000, as did sewage. Then as a product of the living body it was very apt to contain organisms like the streptococci thriving at 37° C, but easily crowded out at 20° C, while for sterilising he found neither Pasteurising at 65° C. nor exposure to 100° C for ten minutes sufficient, undiluted milk requiring half an hour's boiling, and milk with an equal volume of water a like exposure to a temperature of 80° C. Centrifugalisation of the milk in stoppered tubes was indispensable, and the cream and the sediment should be spread separately on cover-slips, dried, flamed, stained, and examined, the removal of every trace of fat being imperative, especially in the application of the Ziehl-Nielsen process for the detection of tubercle bacilli. Failure to demonstrate these, certainly in the case of mixed dairy milks, had no more value than other negative evidence. The streptococcus of bovine mastitis was often found, of course accompanied by numerous pus cells and leucocytes; and though a few leucocytes were always present and the streptococcus had not been certainly proved to be pathogenic to man, yet milk the product of an inflamed udder, the sediment from which had been taken by a pathologist for pus from a psoas abscess, was not fit for human, much less for infants', food. He would put the limit at a dozen or so leucocytes in the field of a one-sixth objective. Inoculation experiments on guinea-pigs were always desirable in doubtful or negative cases, but the sediment used should first be submitted to a temperature of 56° C. for 10 minutes by which means certain organisms often present and speedily fatal to guinea-pigs were rendered innocuous. The bacilli of enteric fever and of diphtheria might be introduced from without; the latter might be detected in cultures on inspissated blood serum, but the search for the Eberth-Gaffky was even more hopeless in milk than in water, while the bacillus coli was almost always present. He concluded with a few remarks on ice creams, the examination of which was the same as that of milk, though the enormous numbers of the bacteria made extreme dilution imperative. But though from 20,000,000 to 30,000,000 might be present the effect of boiling the milk, often done to prevent souring, must not be forgotten. He had himself with no other precaution than this made from milk containing 4,000,000 bacteria per cubic centimetre ice creams with only 1000. One can thus understand how by boiling the milk, &c., ice creams prepared amidst the least cleanly surroundings may be made to contain the fewest bacteria.

CLINICAL SOCIETY OF MANCHESTER.

The Prevention of Tuberculosis.

A MEETING of this society was held on Jan. 16th, Dr. JUDSON S. BURY, the President, being in the chair.

Dr. JAMES NIVEN, medical officer of health of the city of Manchester, opened a discussion on the Prevention of Tuberculosis. He remarked that a great reduction had taken place in the mortality ascribed to phthisis during the last 50 years, especially in the earlier decades of life. This had been ascribed to what might be called indirect methods of prevention, such as improved conditions of dwelling, the drainage of the soil, an improved standard of cleanliness, the diminution of overcrowding, improved ventilation, the lighting and cleansing of workshops, and the diminution of the hours of work. To these factors might be added others certainly no less important, such as the abolition of child labour, contrivances for the removal of injurious dusts, better and cheaper food, and cheaper clothing. Some of these were precarious in their tenure and, unfortunately, they were amongst the most important—viz., the possession of better and cheaper food, cheaper clothing, and the diminution of overcrowding. Another set of indirect conditions making for betterment were those pertaining to the knowledge of disease and especially to a knowledge of this disease. The pathology of tuberculosis was, thanks to the discoveries of Villemin, Chauveau, Koch, and others, now so much better understood than was previously the case, and the conditions under which the disease was held in check were so much more fully appreciated, that the proportion of complete recoveries was steadily improving. Moreover, cases treated by a skilful physician or surgeon would now under his instruction cease to be a source of infection. Although they might confidently expect the influences just enumerated to continue to exercise an effect on phthisical mortality, that influence would be limited and there would be always counteracting forces at work tending to the production of overcrowding, alcoholism, and dirt—each of them potent factors in maintaining the disease. It was certain that the indirect means of prevention were inadequate to reduce tuberculosis to a negligible quantity. Could they do better by direct means of prevention? The answer was that they could, and that in any case they were bound to use their knowledge of known dangers to remove them. The all-essential condition in the direct campaign against tuberculosis was an educated, rigorous cleanliness. By the side of this condition others fell so completely into the background that they might for their present purpose neglect them. This educated cleanliness implied two sets of operations: (1) those directed against allowing sputum (or other infective discharges) from phthisical or bronchitic persons to be dried and broken into dust; and (2) those directed towards preventing the possible accumulation of such dust should the direct interception of discharges fail through ignorance or inadvertence. How, then, were they to pervade all ranks of society with a working belief in the necessity and efficacy of such measures, and in particular to bring them home to tuberculous people and their relatives? For this purpose they might be said to have three main forces. Of these probably the most powerful was the medical profession. No medical man should now be allowed to leave any medical school or to pass his final examination without a working knowledge of the measures by which he was obliged to counteract the propagation of tuberculosis from any person who might consult him. The drilling required for the purpose was little compared with the advantage to be reaped. Then, again, the sooner the nature of an attack was perceived, the sooner would effectual measures of prevention be taken. Hence every medical practitioner should know how to examine discharges for tubercle bacilli and he should also know how to diagnose obscure illnesses by the use of minimal doses of tuberculin It would, no doubt, usually happen, especially in difficult cases, that busy practitioners would refer such examinations to a bacteriological expert in the former case and to hospital physicians in the other But the knowledge would be both useful and valuable all the same. It was necessary to recognise at the same time that busy practitioners in the poorest quarters of large towns would not have the time to give the instruction required, much less to see that it was carried out. It was in the poorer districts, then, that the work of prevention which they were entitled to expect from practitioners would absolutely need much supplementing. In fact, the work in such districts would have to be done by other agencies. It was at this point that their second force came in—viz., the sanitary authority. The work of the sanitary authority was chiefly concerned with instruction and cleansing. The work of instruction had been carried on by the Manchester Corporation on a tolerably large scale. In three different years handbills had been distributed to every house in the city giving instructions in the precautions to be taken in the presence of phthisis. The Ladies' Health Society had also given a great amount of instruction in the poorer districts. A great work of education had been carried on by the medical staff of the Manchester Hospital for Consumption for many years, aided by leaflets prepared by Dr. Ransome. Not a few popular lectures had been given and the subject had been of late frequently mentioned in the newspapers. There was no doubt that the general public was beginning to know more about it and to take precautions, although this would not apply to the poorest class. Young medical men ought to instruct the people by suitable lectures, which would render their own ideas precise and do much good. The sanitary authority was extending its sphere of instruction. Voluntary notification of phthisis had now been in force in Manchester for four months and Dr. Harold Coates was carrying out the administration which had ensued. In order to establish their methods and to advance with a sure foot they had requested notifications, so far from public institutions only. During the four months they had had some 450 notifications. In each case reported, Dr. Coates visited the house and saw that the requisite measures of disinfection were carried out, gave precautionary instructions, and investigated the etiology of the case when possible. Generally disinfection was carried out in their usual manner. When the patient could not be shifted from his room the bedclothes were all changed, and the bedclothes, &c., disinfected with steam as usual, the room was disinfected with solution of lime, and not with solution of chloride of lime. Fortnightly visits were generally paid by the visitors of the Ladies' Health Society, who saw that strict cleanliness was kept up In this way the rooms were rendered free from infection; all that was subsequently necessary was, not successive disinfections, but a sustained cleanliness. It would be noted also, that, so far, they had completely surmounted the objection to notification, but that it would be impossible to keep such precautions up. There had been no real difficulty, nor did he anticipate any if the present organisation were extended. Not only so, but what had really surprised him was that, with, he thought, one exception, the agents of house property had readily acceded to his request that they should agree to the disinfection of the house or of particular rooms. As they had to repaper and sometimes to repair the rooms disinfected the expense entailed was not inconsiderable. In the instance in which exception was taken an explanation was found sufficient to remove all objection. The third force at their disposal was treatment in hospital. The difficulties in the way of this resource lay in the great expense which it would involve. A sanatorium for consumptives was of great value in the way of educating patients in the means and habits of personal prevention. What was even more wanted for direct prevention was an isolation hospital which would receive not early cases, but patients in a more advanced stage. Patients who were bedridden had, naturally, a considerable objection to go to any home for dying cases, although they went, but very reluctantly. It would be an excellent thing if, with the sanatorium about to be provided for the treatment of tuberculous patients from Manchester, there could be combined at the public expense an isolation hospital in the same grounds. There would then be no difficulty in getting suitable cases admitted. These would be selected as the result of notification from among those households in which the greatest benefit in the way of prevention could be conferred. There was now a strong feeling growing up, largely in consequence of the action taken at Liverpool, that the guardians of the poor should make suitable provision for tuberculous patients. Such provision would necessarily be largely in the nature of isolation blocks, but might usefully be sub-divided into a sanatorium and an isolation hospital. If this movement extended it was to be hoped that there would be no idea of pauperisation attached to the tuberculous poor, so that the benefit of these institutions might be extended to those who had not sought relief. Meanwhile, it was to be hoped that a full response would be made by the medical profession to the request of the corporation for a notification of cases, so that they might know what hospital provision would be required and on what shoulders it might best fall. This was, of course, only one of the results of notification, but it might prove to be one of great importance. He would again repeat that in the interests of prevention hospital provision for consumptives would, in his opinion, most usefully take the shape of a joint sanatorium and isolation hospital.

A vote of thanks was given to Dr. NIVEN and the following gentlemen took part in the discussion: the PRESIDENT, Dr. T. C. RAILTON, Dr. H. R. HUTTON, Dr. A. WAHLTUCH, Dr. T. HARRIS, Professor W. J. SINCLAIR, and Dr. E. VIPONT BROWN.

MIDLAND MEDICAL SOCIETY.

Exhibition of Cases and Specimens.—Treatment of Mastoid Abscess and the Radical Cure of Suppurative Otitis Media in Children.

THE fifth ordinary meeting of this society was held on Jan. 17th at the Medical Institute, Birmingham, Dr. E. RICKARDS, the President, being in the chair. The following gentlemen were elected members of the society: Dr. W. D'Este Emery and Dr. W. R. McCamon.

Mr. H. G. BARLING showed a patient who had suffered from Chronic Intestinal Obstruction which he had relieved by the formation of a fæcal fistula and subsequent intestinal anastomosis. The patient was a male, aged 52 years, and for 15 months had suffered from attacks of abdominal pain of great severity. During the last four months before he came under observation he had suffered much from constipation and his abdomen had during this time increased steadily in size whilst he had lost in weight; later he only passed flatus per rectum and no motion at all. Finally, there was no escape of flatus. The abdomen at this time (Oct. 24th, 1899) was extremely and generally distended and was very tense, no tumour could be palpated, and there was nothing in the rectum. Vomiting was entirely absent and had been so all along; the pulse was about 90 and the temperature was 100° F. As it seemed probable that the sigmoid flexure was distended an opening was made with the intention of performing sigmoid colotomy, but this part of the bowel was found to be empty, as was the small intestine. The finger in the wound detected a huge coil of distended bowel towards the middle line of the abdomen, but this could not be brought into the wound. This incision was therefore closed and another was made between the middle line and the first incision, exposing the distended coil of gut, and to it by a complete circle of sutures the peritoneum and transversalis fascia were secured. A small opening was now made into the gut and a huge fæcal escape took place for days. On Nov. 10th the abdomen was opened in the middle line below the umbilicus and the cause of the obstruction sought. It was found to exist in the large intestine just below the splenic flexure; the exact nature of the obstruction could not even then be determined, but there was extreme narrowing of the bowel for about three inches in length, and the intestine was firmly bound down to the posterior abdominal wall and there were some enlarged glands in the meso-colon. The piece of intestine which had been opened proved to be the transverse colon which had made a V-shaped bend downwards towards the pelvis. An anastomosis was made between the transverse colon and the sigmoid flexure with the largest sized Murphy button. A very good recovery followed and in a few days the fæcal fistula had healed. The patient was passing a satisfactorily formed motion every day and had gained weight to the extent of ten pounds. The button was still retained. The patient was shown to illustrate how complete a barrier the ileo-cæcal valve formed, preventing any regular regurgitation from the distended large intestine into the small, and as an example of the advantage during the period of obstruction in chronic cases of simply giving relief by fæcal fistula, leaving more radical treatment to a later period when the obstruction had been thoroughly removed.

Dr. O. J. KAUFFMANN showed a man, aged 33 years, suffering from Scleroderma. The patient had been exhibited to the society on Oct. 11th, 1899, and was now again shown because the sclerotic condition was improving markedly in the thigh, whilst in the leg it appeared to be at a standstill. Some doubtful fresh patches had meanwhile appeared in the neck. The general health had remained perfectly good.

Mr. J. FURNEAUX JORDAN showed two specimens of Uterine Myoma. The first specimen was an interstitial *myoma of about the size of a* Tangerine orange It had been removed by vaginal hysterectomy in August last from a woman, aged 51 years. The menopause had taken place three years previously, but although there had been no hæmorrhage the uterus had given her more and more trouble. It had become retroverted, by which change the growth was certainly felt more distinctly, and it had caused increasing pain and difficulty in defæcation, so much so that she was unable to work. She had been so relieved by its removal that she was now working hard as a charwoman and did not suffer at all. The second specimen was a uterus with a large subperitoneal fibroid growing from the fundus and with three smaller nodules in the uterine wall. The patient had suffered very little from pain and hæmorrhage, but for some weeks she had had the most obstinate vomiting. *The vomiting came on soon after food* was taken and did not yield to any form of treatment. She was losing flesh rapidly. The uterus was removed by that form of hysterectomy known as the combined method, in which the vaginal portion of the separation was done from below and the separation from the broad ligaments done from the abdomen. The operation was performed in October last and the patient made a good recovery.

Mr. LEONARD GAMGEE read a paper on the Treatment of Mastoid Abscess and the Radical Cure of Suppurative Otitis Media in Children.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—The general meeting of this society was held on Jan. 12th, Dr. Barclay Baron, the President, being in the chair.—The President showed an obscure Naso-pharyngeal Case. A middle-aged man after having a discharge of pus and blood from the naso-pharynx and deafness for several months, began to suffer from severe paroxysmal pain in the right side of the head, becoming gradually worse and more extensive. Later there was numbness of the skin of the same side of the face. Examination revealed a small hard circumscribed swelling with a smooth surface in the upper part of the naso-pharynx.—After a few remarks by Mr. Mayo Collier, Mr. Wyatt Wingrave said that he could detect a hard swelling, apparently on the internal pterygoid plate, which was suggestive of a new growth.—Mr. J. Bark (Liverpool) related a case of Painful Spasm of the Muscles on one Side of the Face cured by removal of a naso-pharyngeal polypus.—Mr. Wyatt Wingrave showed a case of Lupus of the Fauces with extensive ulceration extending down to the larynx, causing much destruction of tissue.—Dr. R Woods (Dublin) expressed a doubt as to the case being lupus and advised specific treatment.—Mr. Mayo Collier gave reasons for similar views and Mr. Wyatt Wingrave replied.—Dr. Dundas Grant showed (1) a case of Emphysema of the Orbit in a labouring man due to blowing the nose; (2) a case of Laryngitis secondary to Rhinitis; (3) a case of Bridge-like Synechiæ between the Septum and the Inferior Turbinal Body without ascertainable cause; and (4) a case of Lupus of the Inferior Turbinal.—Dr Furniss Potter showed: 1. A woman, aged 47 years, with Post-nasal Growths which he considered to be persistent adenoids After giving *his reasons for* this view he mentioned other cases of post-nasal growth in adults which had proved to be *malignant*. 2. A case of a Growth on each Ventricular Band in a man aged 39 years 3. A case of Extensive Papillomatous Growth of the vocal cords.—Mr. Atwood Thorne showed (for Dr. William Hill) a case of Stammering in a youth.—Dr. Dennis Vinrace thought that, the cause being neurotic, the treatment indicated was careful tuition with avoidance of attempts at conversation when excited and attention to the general health.—Mr. Mayo Collier advised the removal of the adenoids present and exercise for the thickened palate.—Mr. St. George Reid observed that in some cases where the velum was sluggish and pendulous and articulation was indistinct it was advantageous to remove a small piece of its posterior edge.—Dr. Brown Kelly (Glasgow) read a paper upon Epistaxis from the Ethmoidal veins. He reported several cases of severe epistaxis in which the stream of blood had been traced to the septum above the anterior end of the middle turbinal. He showed that the vessels ruptured were probably the anterior ethmoidal veins and that these were closely connected with the intracranial circulation. The absence of valves in the veins and the pressure in the longitudinal sinus would allow of a profuse flow in a backward direction. Hæmorrhages from this source were easily checked by packing gauze between the middle turbinal and the septum anteriorly.—Mr. J. Bark observed that recurrent epistaxis in adults usually occurred in the position indicated by Dr. Kelly and that a small plug inserted between the middle turbinal and the septum was effectual and caused little discomfort.—Dr. R. Woods (Dublin) alluded to the constitutional treatment of such cases.—Mr. Mayo Collier and the President also joined in the discussion.—Dr. R. Woods showed a skiagram of a Foreign Body in the Œsophagus of a Child which was successfully removed.

Glasgow Pathological and Clinical Society.—A meeting of this society was held on Jan. 15th, the Vice-President, Mr. Henry E. Clark, being in the chair.—Dr. T. K. Monro and Dr. Charles Workman showed a Heart with Stenosis of Mitral, Aortic, and Tricuspid Valves, with an old Abscess in the Wall of the Right Ventricle. The patient was a female, aged 27 years, who eight years before had suffered from "cold in the chest" followed by rheumatic pains in the legs. From that time she had continued liable to winter cough, while breathlessness on exertion and later palpitation of the heart had supervened. She was admitted to the Royal Infirmary on account of breathlessness and swelling of the abdomen and legs. She died three weeks after admission apparently through weakness brought on by vomiting. In addition to the widespread lesion of the endocardium a small abscess cavity was found on the posterior wall of the right ventricle. This contained greenish caseous pus and some calcareous material. The contents of the abscess presented on cultivation Fraenkel's diplococcus. The lungs showed some passive congestion and the liver, spleen, and kidneys were similarly affected. The case seemed to Dr. Munro to be one of recovery from ulcerative endocarditis, death being due to the effects of the cicatricial valvular lesion.—Dr R. Barclay Ness and Dr. A. R. Ferguson showed a Heart in which mitral and tricuspid stenosis existed; also the brain from the same case, in which the right internal carotid artery was occluded by embolism. There was a history of the patient having suffered from breathlessness and palpitation on exertion since the age of nine years. She was aged 28 years when she died. Ten days before death she had a splenic infarction and death was due to cerebral implication. The embolus was found near the termination of the internal carotid artery at the base of the brain.—Dr. Beatson showed: 1. Multilocular Cystoma of the Left Ovary from a patient aged 67 years. The tumour on section appeared to have the characters of a carcinoma. 2 A similar tumour from the right ovary of a patient aged 35 years. This growth consisted of smooth-walled cysts with cylindrical epithelial lining

Windsor and District Medical Society.—A meeting of this society was held in the Guildhall, Windsor, on Jan. 24th, Mr. W. B. Holderness, the President, occupying the chair.—A collection of Microscopical Sections, chiefly Embryological, of the Chick was shown by Dr. Elgood, Dr. R S. Miller, and an anonymous exhibitor.—Dr. G. E. Hale showed (1) a case of Spontaneous Cure of Popliteal Aneurysm in a man who had had syphilis; and (2) a case of Chronic Disease (? Atrophic Scirrhus) of the Left Breast in an elderly woman who had an abscess 40 years ago, which was lanced in the site of the present disease, and a tumour had been present there ever since.—Dr. A. J. Anderson (Ashford) read a paper on the Use of Anti streptococcic Serum. The first case was that of a primipara who came under his care a fortnight after her confinement with all the signs of puerperal septicæmia. Despite tonic, stimulant, and antiseptic treatment of a vigorous kind her condition became desperate, and three weeks after the birth of the child the serum was brought into use Five injections of 10 cubic centimetres each were made on successive days and the woman made a good recovery. A bacteriological examination showed the presence in the lochia of the streptococcus brevis, staphylococcus, and a "large bacillus." The serum was supplied by Messrs Burroughs, Wellcome, and Co. The second and third cases were those of erysipelas in a severe degree. In the former, treated unsuccessfully by the usual remedies for nearly three weeks, three successive daily injections of 10 cubic centimetres each brought about a great change for the better and the man made a complete, though tardy, recovery. In the latter, which was treated from the outset by the serum, four successive injections of the same strength resulted in a rapid convalescence. Dr. Anderson thought very highly of the treatment, but considered that it should be used with caution because of its depressing effects on the circulation.—A prolonged discussion followed in which the President, Dr. R. S. Miller, Mr. J. Brickwell, Mr. J. H. Tomlinson, and others took part.

North of England Obstetrical and Gynæcological Society.—The annual meeting of this society was held on Jan. 19th at the Owens College, Manchester.—Dr. J. B. Hellier (Leeds) succeeded Dr. A. Donald (Manchester) as President.—Dr. Lloyd Roberts described a case of Suppurating Intra-ligamentous Cyst successfully removed by Abdominal Section. He discussed the technical difficulties of enucleating such tumours and the manner in which they might become septic.—Remarks were made by Dr. A. Donald, Dr. W. Walter, Dr. J. W. Martin, Dr. H. Briggs, Dr. E T. Davies, and the President.—Dr. W. E Fothergill showed specimens of (1) Exomphalos; (2) Pseudo-anencephalus; and (3) Ovarian Cyst with an Unusual History; and a drawing of Hæmatoma Vulvæ.—Remarks were made by Dr. Lloyd Roberts.—The President showed a Microscopic Section of Epithelioma Vulvæ.—Dr Walls related a case of Expulsion of a Dermoid Cyst per rectum during Labour. The specimen he showed, with microscopic section, as an ovarian dermoid. The tumour had apparently been forced downwards by the advancing head till the rectal wall gave way before it and thence it was delivered through the anus. When Dr. Walls saw the case a few days after labour the longitudinal slit made by the tumour in its passage into the rectum was distinctly apparent to the finger. The patient made an excellent recovery.—Remarks were made by Dr. S. Buckley, Dr. H Briggs, Dr. A Donald, Dr. Lloyd Roberts, and Dr. W. Walter.—Dr. S. Rumboll read a paper entitled One Hundred cases of Opening the Abdominal Cavity. He specially described several of gynæcological interest and concluded by discussing the questions of (1) the removal of "cystic ovaries"; (2) abdominal drainage; (3) closure of the abdominal wound; and (4) the after-treatment.—Remarks were made on these points by Dr. Lloyd Roberts, Dr. W E. Fothergill, Dr. A. Donald, Dr. E. T. Davies, Dr. H. Briggs, Dr. W. Walter, and the President.

Dermatological Society of Great Britain and Ireland.—An ordinary meeting of this society was held at Hanover square, W., on Jan. 24th, Dr. H. Radcliffe Crocker being in the chair.—The following cases were shown by Dr. Radcliffe Crocker: (1) A boy, aged eight years, with Prurigo, the disease being limited to the face and hands; and (2) a case of Alopecia in a girl aged seven years. The disease followed an attack of microsporon ringworm.—Dr. J. H. Stowers showed a woman with a Dermato-syphilide of the Nose and adjoining Parts of the Face. He brought the case forward to exhibit the difference between lupus vulgaris of the nose and a dermato-syphilide affecting the same organ.—Dr. D. Walsh sent a case of Nail Disease in a woman. The symmetry of the condition was remarkable.—Dr. F. Rufenacht Walters sent a case of Psoriasis in a child.—Dr. Arthur Shillitoe brought a man with a Widespread Symmetrical Eruption which was diagnosed as a Discoid Form of Eczema Seborrhoicum.—Dr. P. S. Abraham sent (1) a young woman suffering from Leuconychia (together with the condition of the nails she exhibited a band of alopecia running along the margin of the forehead); and (2) a case of Lichen Planus in a girl aged 10 years.—Dr. T. D. Savill brought forward a case of Macular Leprosy in a boy. It had been exhibited at a previous meeting. The pigmentation had increased.—In connexion with the Chaulmoogra oil treatment of leprosy Dr. Crocker remarked that the drug should be given in large doses before it could benefit the patient—up to 100 minims or even in larger quantity per diem Friction with the oil seemed to have a good effect in itself.—Dr. Graham Little showed for Dr. G. F. Still a case of Psoriasis in a Girl.—The cases were discussed by the President, Dr. J. H. Stowers, Mr. Campbell Williams, Mr. G Pernet, Dr. T. D. Savill, Dr. Arthur Shillitoe, and Dr. W. B. Warde

BIRKENHEAD MEDICAL SOCIETY.—A meeting of this society was held on Jan. 12th, Mr. H. Nazeby Harrington, the President, being in the chair.—Dr. T. B. Grimsdale (Liverpool) read a paper on Peritonitis in the Female After briefly discussing the symptoms and diagnosis cases were related in which operation had been performed. The conditions found at the operation were—(1) solid ovarian tumour with twisted pedicle; (2) localised collection of pus containing pure culture of staphylococci; (3) tuberculous pyosalpinx with tuberculous peritonitis; (4) large localised peritoneal blood cyst; (5) ruptured ovarian cyst with four months pregnancy; (6) ruptured tubal pregnancy at the tenth week; and (7) sub-peritoneal fibroid tumour of the uterus in an old woman aged 67 years. In all but the last case the symptoms led to a clinical diagnosis of acute peritonitis being made; in the last case chronic serous peritonitis was diagnosed. The evidence of peritonitis at the time of operation was either the presence of adhesions or the intense red colour of the peritoneum. If the presence of microbic infection be insisted upon as a *sine quâ non* of peritonitis it is probable that some of these cases should not be considered peritonitis at all from a pathological standpoint. However, the clinical diagnosis was the important point from the side of treatment. In cases of peritonitis the importance of rectal or vaginal examination was insisted upon as a point of great importance in helping to discover the underlying condition which gave rise to the attack of peritonitis.—A vote of thanks to Dr. Grimsdale was proposed and carried and a short discussion ensued in which Dr. W. Floyd, Dr. L. D. Temple, and the President took part and Dr. Grimsdale replied.

Reviews and Notices of Books.

Annual and Analytical Cyclopædia of Practical Medicine. By CHARLES E. DE M. SAJOUS, M.D. Illustrated with Chromo-Lithographs, Engravings, and Maps. Vol. IV. Philadelphia, New York, Chicago: F. A. Davies Company. 1899. Pp. 622.

THE present volume commences with a long article on the Diarrhœal Diseases of Infants by Dr. A. D. Blackader of Montreal, and taking into consideration various subjects commencing with the letters I, J, K, and L, finishes with a contribution on the Salts of Mercury by Dr. Sajous.

The manner in which the book is arranged makes it a most convenient one for reference, and under the different subdivisions of each subject the literature of the three years 1896, 1897, and 1898 is epitomised.

Dr. Blackader's paper already referred to gives a good account of the subject with which it deals, the sections devoted to treatment being exceptionally well done.

Dr. N. S. Davis of Chicago writes on Influenza. The section describing the complications of the primary disease will well repay perusal and special stress is laid on the marked impairment of vitality or vital resistance which frequently ensues and which is shown by continued loss of strength and endurance, mental despondency, and increased attacks of bronchitis, pneumonia, and tuberculosis, not only during its active prevalence, but for many months thereafter. such sequelæ are unfortunately but too well known. A large number of interesting cases are quoted illustrative of the nervous and mental phenomena which may present themselves.

Most complete also is the article on Insanity by Dr. George H. Roke of Baltimore. The first requisite for a logical study of insanity is a rational classification—one based upon the known pathology or pathogeny of the disease. As Dr. Roke remarks, the time for a perfect classification of this sort has not yet arrived, our knowledge being too vague or incomplete, but he has made an attempt to carry out what is required and has certainly produced a scheme which is workable. Seven classes or groups of mental disturbance are described, most of them clearly differentiated clinically, but all based upon pathology or pathogeny. We believe the classification to be a sound one; we have not the space to give the grouping which has been adopted, but would refer those of our readers who are interested in the matter to the original paper. Diseases of the Intestines are carefully considered by Dr. Augustus A. Erhner of Philadelphia; and Intubation of the Larynx is described by Dr. F. E. Waxham of Chicago. This operation has found more favour in America than in this country. Dr. Waxham strongly advocates intubation instead of tracheotomy. His figures are certainly very striking. He has performed intubation in 543 cases of diphtheria, all in private practice, and obtained 215 recoveries. In the last 143 cases there were 76 recoveries. In 40 cases in which antitoxin was employed in conjunction with intubation there were 38 recoveries, or 95 per cent. It is difficult, however, to compare these results with tracheotomy as practised in England, for Dr. Waxham performs the operation of intubation at a much earlier stage than that at which tracheotomy is usually done; but nevertheless his results are very striking and should encourage a more extensive trial of intubation in this country.

Another good paper is that by Mr. G. G. Davis on Surgical Diseases of Joints, and the contribution by Dr. Sajous on Laryngitis and Kindred Disorders also contains much that is interesting. The same writer also discusses Leprosy and we especially draw attention to the section on Anæsthetic Leprosy, a subject which has scarcely received the attention which it deserves.

There are several other articles which are also worthy of notice, but we can only mention them—namely, Diseases of the Liver and Gall-bladder, by Dr. Alexander McPhedran of Toronto; Locomotor Ataxia, by Dr. W. B. Pritchard; Disorders of the Mediastinum, by Dr. J. McFadden Gaston, sen., and Dr. J. McFadden Gaston, jun., of Atlanta; and Meningitis, by Dr. C. M. Kay of Philadelphia.

The very valuable article on Malaria by Dr. James C. Wilson and Dr. Thomas G. Ashton of Philadelphia will doubtless attract much attention. The description of the various forms of parasite is full and lucid, the discussion on Pernicious Malarial Fever is also good, whilst the section on Treatment contains a large number of useful suggestions.

Raynaud's Disease. By THOMAS KIRKPATRICK MONRO, M.A., M.D. Glasg., Physician to the Glasgow Royal Infirmary, Examiner in the University of Glasgow. Glasgow: James Maclehose and Sons. 1899. Pp. 250.

THIS volume is intended to give an account of the history, causes, symptoms, morbid relations, pathology, and treatment of Raynaud's Disease. The writer may be congratulated on the success of his endeavours, for he has given us an excellent *résumé* of what is at present known as regards this condition and, what is still more valuable, has supplemented it with the results of his own investigations based upon a very considerable experience.

After a few preliminary remarks on Anatomical and Physiological Considerations a few statistics are given; taken from the wards of the Glasgow Royal Infirmary, from which it appears that one case in 3000 admissions to the medical wards represents the frequency of Raynaud's disease. We agree with the author, however, that this is probably an under-estimate, since the affection is frequently associated with some other ailment, which may be more important from the point of view of survival, and so is more likely to appear in the returns.

The etiology of the disease is well discussed, special stress being naturally laid on the influence of cold. Two types of lesion dependent upon cold are described, chilblain and Raynaud's disease being taken as characteristic instances, and it is shown that whereas in the former the essential lesion is inflammation, in Raynaud's disease it is vascular spasm that produces the clinical phenomena. Dr. Monro states very decidedly that cold not uncommonly is the immediate cause of the first onset of the disease. It was reported to be the case with 22 patients out of 180, 13 being males and nine females, the preponderance of males being due to the influence in them of exposure from occupation. Other etiological factors are also noticed, such as sex, age, heredity, occupation, malarial fever, and sexual disorders.

The characteristic three clinical groups of cases, local syncope, local asphyxia, and symmetrical-gangrene, are described in separate chapters, so that very full consideration is devoted to each, and a table is given showing the incidence of different phenomena in the two series at different ages.

Very interesting is the chapter headed Relations between Raynaud's Disease and other Morbid Conditions. It is a suggestive fact that some abnormality in connexion with the cardio-vascular system is noted in fully 12 per cent. of cases of Raynaud's disease, as shown by the author's statistics, but Dr. Monro points out that this statement is misleading, for a number of cases ought, strictly speaking, to be detached from this group and placed under the heading of Bright's disease, or exophthalmic goitre, or some allied neurosis. It is probable also that in some of the cases where a valvular murmur exists the association is a mere coincidence and that in others the endocarditis and the vaso-motor phenomena depend for their inauguration on some common cause. The association between Raynaud's disease and hæmoglobinuria is also duly commented on, although, peculiarly enough, the association does not appear to have come within Raynaud's experience.

The chapters on Morbid Anatomy and Pathology are quite up to the general standard of the work. The treatment is divided into "general and local," general hygiene in regard to diet, fresh air, and regulated exercise being especially noted. The effects of the administration of quinine, opium, nitrite of amyl, and ergot are carefully set forth; the application of electricity is favourably considered. The book is terminated by a copious bibliography. To those practitioners who desire to obtain a further knowledge of Raynaud's disease we can cordially recommend this book.

LIBRARY TABLE.

The Roentgen Rays in Medical Work. By DAVID WALSH, M.D. Edin. Second Edition, Revised, Re-written, and Enlarged London: Baillière, Tindall, and Cox. 1899. Pp. 257.—The fact of the issue of a second edition of this valuable little work endorses all that we said in its favour on the occasion of reviewing the first edition. The book provides all the information necessary for the medical man who would apply the "x" rays to diagnosis. This edition deals with the development of the subject up to the present time, including a description of new "make and break," tubes, and localisers. An account of the Wehnelt interrupter is added. Dr. Walsh inclines to the opinion that much future advance will be made in the method of producing Roentgen rays by employing statical machines of the Wimshurst type Such a generator would be more convenient for field service The book is more fully illustrated than before, whilst the illustrations maintain the excellence upon which we commented in our notice of the first edition. We should say that the book is a most suitable one for reference on this subject especially in its application to medical practice We may add that the same publishers have issued "The X Ray Case Book" which is designed for recording results as well as the methods and apparatus used, full diagrams of the human body being added for the purpose. Dr. Walsh is responsible for the plan of the book which is sufficient for 50 cases. This book should considerably facilitate the work of diagnosis by means of the "x" rays, and in affording a more systematic way of noting and entering results will most probably lead to better observations.

L'Électricité en Physiologie. (*Electricity in Physiology*). Par M. LÉON MOROKHOWETZ, Professor de Physiologie, Directeur de l'Institut Physiologique à l'Université de Moscow. Première Livraison. Moscow: Imprimerie de l'Université Impériale. 1899. Pp. 32. Price 1 franc.—This is the first part of a work by a competent Russian writer which promises to fill a gap in physiological literature. There are, indeed, numerous isolated articles to be found in journals like Pflüger's *Archiv*, Dubois Reymond's *Archiv*, and our English periodicals which deal with electricity in its medical aspects, but systematic treatises upon this subject are few and not very accessible to English readers. M. Morokhowetz in taking up electricity in its relations to physiology opens up a wide field of research and his first chapter is devoted to the discussion of Electrostatics and Electroscopy. The various forms of apparatus that have been suggested for the production, demonstration, and application of statistical electricity are passed in review and a short account is given of the principle of their construction It is intended that each chapter shall be complete in itself. The present part contains a good portrait of Galvani.

Organic Chemistry. By W. H. PERKIN, jun., Ph.D., F.R.S., and F. STANLEY KIPPING, Ph.D., D.Sc., F.R.S. London and Edinburgh: W. & R. Chambers, Limited. 1900 Price 1*s*.—In response to the representations of many teachers in medical schools the authors have added this little volume as an appendix to their text-book of Organic Chemistry. It consists of a short and clearly written account of the more important substances obtained directly or indirectly from plants and animals, compounds, in fact, of physiological importance. With this little volume, therefore, a very excellent text-book on organic chemistry is completed which is well adapted to the requirements of the medical student. We note that all three parts may now be had in one volume. We expressed the opinion before that such a plan would be better if it could be adopted, as the student has quite enough books to consult without dividing a book on one specific subject into three volumes.

Elements of Practical Materia Medica and Pharmacy. By WILLIAM WOOD, M.B., C.M. Edin. Edinburgh: James Thin. London: Simpkin, Marshall, and Co. 1899.—This is an excellent little guide for medical students attending their first lectures on materia medica. It is an unpretentious work, but contains just that preliminary knowledge of the subject which it is important that the student should grasp at the outset It will assist him especially in connexion with his practical work. It is quite up to date and based on the Pharmacopœia of 1898

The Newer Remedies. By VIRGIL COBLENTZ, Ph.D., F.C.S. Third edition. Philadelphia: P. Blakiston's Son and Co. 1899. Pp 150. Price $1.—This might well be called a dictionary of the newer remedies, the drugs being arranged in strictly alphabetical order, including the vast number of antipyretics, analgesics, and hypnotics, for the existence of which the discovery of benzine in coal tar has been responsible. The information contained in the book is of distinct value, especially in throwing a light upon the nature of substances possessing proprietary names. It will therefore be a useful manual of reference for physicians, pharmacists, and students. This compilation must have ike other nations. A generation [illegible] more has grown up since the Indian Mutiny, and the lessons learned then and in the Crimean campaign have faded from our minds. We have become rich, conceited, and perhaps a little soft—qualities which do not improve our fitness for arduous and novel work like that to which we have been called by the war in South Africa. There are many speculations abroad as to whether the war could have been prevented. Such speculations are not idle, but their time is surely when the trouble is over and there is leisure for retrospect. Disaster is now upon us and no recriminations should be indulged in save with the legitimate hope of staving off further disaster. Fault-finding for the sake of fault-finding must not be counter- anced. The heroism with which life has been given up by officers and men, "by duke's son and cook's son," has never been exceeded in British history. And the noving tale of sacrifice by men who can have no possible esponsibility for the defects in our preparation for war nas excited an unprecedented sympathy for the wounded and killed and for those who represent them at home. If anything were needed to enhance that sympathy it would be found in the narratives of Sir WILLIAM MAC CORMAC and others on the spot who testify to the sublime unselfishness of the wounded soldiers. Mr. TREVES tells of a soldier mortally shot through the abdomen and scarcely able to speak owing to the dryness of his mouth. On the orderly taking some water to him he said: "Take it to my pal first; he is worse hit than me," and that night he died. Such qualities in our soldiers have produced a determination that they and their dependents shall be the peculiar care of the nation and private charity is bent on supplementing the inadequate provision of the State for all sufferers. Nothing can be more right and proper than such a determination.

Fear is felt in some quarters that the patriotic and charitable claims arising out of the war will seriously interfere with the flow of charity in other directions and for other purposes. The *Times* of Monday last in a very forcible article urges the claims of our fellow subjects in the Central Provinces of India who are suffering severely from famine due to drought. 3,000,000 persons or thereabouts are employed on relief works and it is estimated that 50,000,000 people are included in the area affected by the famine. Our contemporary argues that a generous subscription, initiated by the Lord Mayor of London, for the benefit of these fellow subjects will have the best effect on the many enemies of our country and will be the fittest acknowledgment which we can make to those Indian fellow subjects who have so generously proffered their loyalty and support to Her Majesty the QUEEN at the present crisis. We think so too. In other quarters anxiety is expressed lest there should be, as a consequence of the various war funds, a serious falling off in the public contributions to our hospitals. We shall not yield to such fears. We remember that if the country is passing through a period of exceptional anxiety it is also passing through a period of exceptional prosperity. In every branch of trade there is the same report of full work and high wages. The sick, the lame, the halt, and the blind, many of whom have come to grief in the struggle of life, surely constitute a first claim on the profits of prosperous trade. We are neither so impoverished by the war nor so demoralised by our run of prosperity as to the strength of this claim. If our contention is right that most of our present misfortunes arise from our affluence we shall do well rather to double subscriptions to hospitals than to reduce them.

Our sick are cared for and healed in voluntary hospitals—institutions which express the willingness of those who are well to help those who are ill, of those who have means to help those who are poor. The inevitable alternative to such institutions are State or municipal hospitals, and we have ample proof that these are more costly than voluntary hospitals, lack many of their best qualities, and proffer no commensurate advantages. We refuse to believe that the nation will abate its generosity to its voluntary hospitals or allow its sympathy for those who fall wounded in the struggle of life to wane because it is called on to assist with exceptional generosity its soldiers who are fighting so bravely and unselfishly for their QUEEN and country. Let us remember always that those who are suffering through the war—heavy though the roll of sick and wounded, orphans and widows may be—are a small number compared with those who suffer through sickness and accident at home. There is yet one more consideration which forbids us to think that our hospitals will suffer seriously in the coming year from the competition of the war funds—it is that many of our sick and wounded soldiers and their families will come to our hospitals for help. We cannot believe that the public will deprive the hospitals of their necessary incomes because they are also called upon by sentiment and right to help the soldiers.

ON July 27th, 1899, a committee was appointed by the Royal College of Physicians of London to consider the certification and classification of deaths from diarrhœa. The committee had been appointed in response to a representation made by the Incorporated Society of Medical Officers of Health. The report was presented to the Comitia held on Jan. 25th, 1900. The committee found, mainly from evidence furnished by Dr. J. F. W. TATHAM, of the General Register Office, that many different terms are employed to designate the disease officially known as "epidemic diarrhœa," whereby its specific character is in danger of being ignored and great confusion ensues. The results of this confusion are serious and important, since this form of diarrhœa causes a large portion (about one-fourth) of the deaths attributed to zymotic diseases. The committee gathered, from a statement furnished to them by Dr. TATHAM, that his main difficulty lies in the impracticability of picking out from the long list of fashionable but unauthorised synonyms all the deaths which in their nature are indistinguishable from deaths by diarrhœa, and which ought to be called by the authorised name. At present he classes as diarrhœa (and therefore under zymotic diseases) deaths certified as follows: diarrhœa, epidemic diarrhœa, dysentery and dysenteric diarrhœa, intestinal (or enteric) catarrh, and gastro-intestinal (or gastro-enteric) catarrh. The following he does not class as diarrhœa, but as diseases of the alimentary canal (thus excluding them from the zymotic class): gastro-enteritis, muco-enteritis, and gastric catarrh. This second group of cases ought, Dr. TATHAM points out, for the most part to be regarded as identical with epidemic diarrhœa, inasmuch as their age incidence, fatality causes, and general epidemiological characters correspond closely with those of that disease. The committee came to the conclusion that there "is a widespread objection on the part of medical practitioners to the employment of the term 'diarrhœa' in certifying the cause of death. The term is generally held by the public to imply a mild disease, insufficient by itself to cause death. This fact explains the reluctance of the practitioner to employ it in the death certificate, since it may be conceived to imply a stigma upon his own capacity. It is therefore desirable, if possible, to substitute for it some name equally accurate but conveying to the public the idea of a more serious affection, but we regard it as essential that the idea of specificity intended to be conveyed by the term 'epidemic' should be retained." Finally, the committee recommends the College to authorise the use of the term "epidemic enteritis" (or, if preferred by the practitioner, "zymotic enteritis") as a synonym for epidemic diarrhœa, and further recommends that the College should urge the entire disuse as synonyms of epidemic diarrhœa in medical certificates of death of such terms as "gastro-enteritis," "muco-enteritis," or "gastric catarrh." These conclusions were arrived at after the most careful consideration of the members of the committee. They thus bear the stamp of authority, and it is therefore the duty of all practitioners to take note so that accurate statistics may be obtained of the prevalence of the disease in special places or at special times so that due sanitary precautions may be taken to stay the spread of an epidemic.

Annotations.

"Ne quid nimis."

THE ORIGIN OF SEX.

IN a paper read at the Intercolonial Medical Congress at Brisbane in September, 1899, Dr. A. F. Davenport brought forward a number of observations in support of the theory that the sex of the child is determined at the moment of conception and is the opposite to that of whichever parent is at that time in relatively the most vigorous health. He has carried out experiments upon dogs in which by depressing the health of one parent and elevating that of the other he has succeeded in obtaining results which he regards as evidence in favour of his view as to the origin of sex and the power we possess of controlling it. He has also carried out his mode of treatment in the case of 39 families and states that he has succeeded in obtaining children of the sex desired in no less than 32 cases, while in four of the unsuccessful cases no pregnancy followed, leaving only three cases to be reckoned as complete failures. Dr. Davenport considers that Schenck's theory may be taken as directly substantiating his own He would regard the mother affected with glycosuria as the less healthy parent and therefore only capable of giving birth to female children, since, as he contends, the sex of the child is the opposite to that of whichever parent is in relatively the most vigorous health. The number of theories as to the origin of sex is legion and the one under consideration is but a modification of Stackweather's, "that the sex is determined by the superior parent." As has been pointed out by many writers, if we are to accept any theory of the origin of sex it must be one capable of explaining such well-established facts as the preponderance of male births in Europe, of females amongst mulattoes and other hybrid races, of females amongst polygamous animals, and of the equality of the sexes amongst other animals. If we attempt an explanation of even the first of these facts by Dr. Davenport's hypothesis we must at once acknowledge the superiority of the female parent. Stackweather points out the difficulty of proving female inferiority, but at the same time there are few if any writers who attempt to prove female superiority, and Darwin's theory of sexual selection involves superiority in the male sex and entailed upon that sex Dr. Davenport brings forward the fact of the excess of male births after a war as being due to the more enfeebling effect of war upon men than upon women; but it has been conclusively shown, and, indeed, this is the only result that can be regarded as proven, that good nutrition produces a preponderance of females, and it is much more likely that the excess of male births after a war, or an epidemic such as cholera, is due to the want of food and general malnutrition than to physical inferiority upon the part of the fathers. Similar facts have been shown by Düsing to hold good in the case of animals. Thus if food be abundant there is an increase in the number of females, and therefore a further increase in the number of individuals of the species, while if food be scarce a larger number of males are produced and the number of the species tends to diminish. Dr. Davenport also quotes Thury's view that an ovum fertilised soon after its liberation tends to produce a female while if fertilised later produces a male. He concludes without any exact evidence, so far as we can see, that a woman is habitually weakened by menstruation and therefore when impregnated soon afterwards is the inferior parent and likely to bear a female child. In the face of our modern knowledge with regard to the relation of ovulation to menstruation Thury's theory can no longer be sustained as it is quite impossible to tell at what period of time any ovum becomes fertilised. Dr. Davenport's results are certainly striking and it is a pity that he has not increased their value by giving them in greater detail. Similar results have been obtained by the breeders of livestock; thus it is a well-recognised fact that an ill-fed cow is likely to produce a female to a well-fed bull and *vice versâ* We fear, however, that if the method of producing children of any desired sex by influencing the health of the father and of the mother be tried in a large number of cases the numerous exceptions will tend to show that the physical superiority or inferiority of one or other parent is but one of the very many factors that are involved in the complex question of the origin of sex.

MILK, ITS COMPOSITION AND CHARACTERS.

AN *interesting article* with this heading by *Dr. M.* Klimmer of Dresden appears in the January number of the *Archiv fur Wissenschaftliche und Praktische Thierheilkunde.* Dr. Klimmer observes that on hygienic grounds the examination of milk can no longer be relegated entirely *to the hands of the* chemist, but if it is to be distributed to the community in a wholesome condition the supply will have to be placed under the supervision of the veterinary surgeon who must, of course, make himself familiar with the chemical aspects of the question. He then proceeds to describe the characters that healthy milk should possess in terms which we have considerably abbreviated. Pure milk, he says, should be white or after the use of green food yellowish-white in colour, of pleasant sweetish taste, on evaporation having a faint smell suggestive of the animal; placed upon the finger-nail it does not expand, but remains convex, with completely opaque white margin, a test, he remarks, little used but very serviceable. Its viscosity is greater than that of water and diminishes on being warmed more quickly than that of water. Its reaction depends on the test; with phenolphthalein it is always acid; with litmoid or lackmoid it is alkaline; and with litmus paper it is amphoteric, turning blue litmus paper red and red litmus paper blue, which results from its containing two salts of opposite reaction. The acid reaction is due to the primary sodium phosphate, NaH_2PO_4, and the alkaline to the secondary phosphate, Na_2HPO_4, each of which subdues the action of the other on a delicate test. The boiling point of perfectly fresh milk is nearly 1° C. higher, and the freezing-point nearly 1° C. lower, than that of water, a difference which has been used by Raoult as a means of discovering the adulteration of milk with water. When it has become acid this test cannot be relied on. The index of refraction of milk serum varies from 1·347 to 1·3515. The specific gravity at 15° C. varies between 1027 and 1040. It is augmented by removal of the fat globules and diminished by the addition of water. The electrical conductivity is dependent on the fat, sugar, and albumin which it contains and Thörner found that the electric resistance, which is inversely proportional to the conductivity, varies between 180 and 210 ohms, spring water varying from 519 to 1240 ohms. The addition of water consequently augments the resistance of milk and thus furnishes a means of detection. On boiling, good cows' milk does not coagulate, but both colostrum and asses' milk undergo partial coagulation. The reaction on boiling becomes distinctly alkaline. On standing a wrinkled membrane or skin forms, composed of lime salts, albumin, and casein, and a fresh skin appears after its removal. The chief and constant constituents of milk are water, proteids, milk sugar, oil, and salts, but many other substances have been detected in it, though for the most part the quantity is no more than a trace. Amongst these are alcohol, acetic and citric acids, phenol, resorcin, urea, hypoxanthin, leucin, lecithin, cholesterin, sulphocyanide of potassium, amyloid and dextrin-like substances, colouring matters, ethereal oils, carbonic acid gas, nitrogen, and oxygen. The proteids consist of casein, lactalbumin, lacto-globulin, and a nucleo-albumin. The limits of the quantity of the casein are from 2·9 to 5 per cent. *The albumin is only in the* proportion of one-half per cent. The amount of milk sugar varies from 4·5 to 4·93 per cent. The acidification of milk sugar or its conversion into lactic acid is effected by many ferments, but essentially by the bacterium acidi lactici and an unorganised ferment contained in the gastric juice. Further active agents are the bacterium lactis aerogenes, bacterium acidi lactici, bacterium limbatum acidi lactici, sphærococcus acidi lactici, streptococcus acidi lactici, and micrococcus acidi lactici, with others. In regard to the salts, which usually amount to from 0·7 to 0·8 per cent., the following figures, which form a part only of a much fuller table, give the mean proportion of each of the constituents: K_2O, 24; Na_3O, 10; CaO, 22; MgO, 2; Fe_2O_3, 0·3; P_2O_5, 26; Cl, 14; SO_3, 3. It is to be especially noted that milk contains neither nitrates nor nitrites. The percentage quantity of water is given by three good observers as 87·75, 87·5, and 86·23. The quantity of fat in milk varies to an extraordinary extent—viz., from 2·5 to 7 per cent.—*the average being from* 3 to 4 per cent. The oil globules in milk vary in diameter from 0·0001 to 0·006 millimetre. The weight of each particle has been estimated to be about 0·0000004 milligramme. Their number in one litre of milk containing 3·5 per cent. of fat is stated by Masato Toyonaga to be from 691 to 2291 billions with a superficies of from 512 to 719 square metres. The largest oil globules are contained in the milk of Jersey cows, and in morning as compared with evening milk. The fat of milk consists about 92 per cent. of the triglycerides of stearic, and oleic acids, and the remainder of specific butyrin, capronin, caprylin, and caprinin, besides traces of lecithin, cholin, and cholesterin. The circumstances ing the amount of fat in milk are numerous, as idiosyncrasy, breed, age, period of lactation, sexual excitement, mode and time of milking, exercise, and food and hygienic surroundings. Low-country (Holland) cows supply a large quantity of milk, but with less fat in it than those of mountainous regions. Cows begin to yield milk in the course of the third year, which improves in quality to their seventh year, and then gradually deteriorates. In good milch cows the period of lactation lasts about 300 days, and in that time a cow produces from 4·5 to 7·5 its living weight of milk. During the rutting season, according to a widespread belief, the yield of milk is less in quantity but richer in quality. This, however, has been contested. As a general rule it may be said that the briefer the interval between two milkings the greater the percentage of the milk in dry residue and especially in fat, and the smaller the quantity that can be obtained at each time of milking. At each milking it has been shown by numerous observers that the milk gradually becomes more charged with fat, whilst the amount of dry residue remains constant. Thus as a mean of four experiments the quantity of fat contained in the first portion drawn was 0·70 per cent., whilst in the last portion it was as much as 4·73 per cent., the quantity of casein and sugar and salts remaining almost the same in both. *Hence, as Dr. Klimmer remarks, by fractional milking any desired proportion of fat can be obtained.* The influence of food upon the quantity and quality of milk is very great. Increase of proteids in the food increases the quantity of milk, but evidence is conflicting as to whether it increases the fat. Addition of fat to the food increases the quantity of fat. Dr. Klimmer, without expressing a strong opinion one way or the other, seems to doubt the advisability of using distillers' wash for cows intended to supply milk for the nursery. Dr. Klimmer's essay, we may say in conclusion, contains much valuable information and will bear careful perusal by those interested in the supply of wholesome milk.

THREE CHURCH SOCIETIES.

THREE conferences were held recently at the Westminster Palace Hotel under the auspices of the Church Society for the Promotion of Kindness to Animals, the Church Sanitary Association, and the Funeral Reform Association. Mr. J. G. Butcher, M.P., presided at the meeting of the first-named society, and among the speakers were the Hon. Mrs. Henniker and the Hon. FitzRoy Stewart. It was unanimously resolved that a competent man should be sent out to South Africa to examine into the condition of horses on the battle-field and to report thereupon with a view to bring about an international agreement extending to persons relieving the sufferings of wounded animals on the battle-field the same protection as is now afforded to men who succour wounded soldiers. Dr. William Collingridge, medical officer of the Sanitary Authority for the Port of London, in presiding at the meeting of the Church Sanitary Association, said that manifold agencies for the promotion of sanitation had done good work, but their work was of necessity slow; hence it was that some stronger and more direct agency, such as the Church Sanitary Association, was required as a means of reaching the masses through the existing organisation of the Church. Amongst those who supported this view were Dr. Christopher Childs, the Rev. Septimus Buss, Major Poole, and Mr. Hugh Munby. It was unanimously resolved that an incalculable amount of sickness, suffering, misery, and death would be prevented if the clergy realised what invaluable help they could render in promoting the observance of sanitary laws and in counteracting and eradicating insanitary habits and customs. The speakers who supported the Right Hon. James Lowther, M.P., the chairman of the meeting of the Funeral Reform Association, were the Earl of Stamford and the Rev. Canon J. Erskine Clarke. The following motions were duly carried: "That excessive funeral floral decoration is to be greatly deprecated," and "That the burial of the dead should not be unduly delayed and the mode thereof should be inexpensive and innocuous."

TWENTY YEARS OF EPIDEMIC DYSENTERY IN JAPAN.

FOR many years past dysentery, whether epidemic or sporadic, has troubled us but little in Great Britain, but the history of the disease, more especially as to the epidemic of 1762, bears record to the mischief which in times gone by it wrought in these islands. Whether epidemic dysentery has disappeared for ever from our midst, and whether it has done so as the result of sanitary measures are questions which in our present state of knowledge are somewhat difficult to answer. But even if it be gone for all time there is in a sense a satisfaction in reflecting upon what we have lost in order that our gain may appear the more. Dr. Stuart Eldridge of the United States Marine Hospital Service, who is stationed at Yokohama, has recently presented to the United States Government an interesting account of the behaviour of epidemic dysentery in Japan. Dr. Eldridge tells us that the statistical records of the disease in Japan date back to 1878, and that up to 1880 it manifested itself almost exclusively in the southernmost of the islands of which Japan consists. Since then, however, the march of the disease has been slowly, but, as events have now proved, surely, towards the north of the group, and a map is furnished with the report before us showing the dates at which the several provinces of Japan became first invaded and the extent to which the several populations have suffered. The progress of the disease northwards has been at times temporarily checked by natural obstacles such as mountain ranges and straits of water, but in the end, following the lines of greatest trade communication, it has vanquished, and last year it obtained a footing in the island of Yezo which, Dr. Eldridge reports, it now threatens to invade entirely. And now as to the sickness and death toll which epidemic dysentery has exacted for the last score of years in Japan. In 1878 the reported cases numbered 1118 and the deaths 206, in 1893 there were 167,305 cases with 41,282 deaths, and last year (1899) 125,939 cases with 26,709 deaths, the average fatality-rate for the whole period under review being nearly 25 per cent. Efforts to control the disease do not seem to have met with much success, but it is hoped that as the people themselves come more clearly to comprehend that the restrictive measures are for the good of the whole community more advance will be made. It is during the summer and autumn that the disease prevails, and it has been noted that low and damp localities come in for a large share of attacks, while the rural districts, having regard to the extent of their populations, suffer more heavily than do the urban. The chief agent in the spread of the disease is, Dr. Eldridge thinks, water, and this fact is, it seems, a possible explanation of its increased incidence on rural as compared with urban districts. Night-soil is used freely to manure the land and this manuring is obviously more common in the rural districts. Hence when the rains come the water supplies of the rural districts are more likely to be polluted than are the urban. But, curiously enough, the distribution of cholera in Japan in the epidemics which have occurred since 1877 has not followed that of dysentery, albeit cholera is undoubtedly a water-borne disease. The Japanese apparently account for this discrepancy by assuming that the acid fermentation to which the night-soil is submitted before being placed upon the fields kills the cholera bacillus, and they assume, moreover, that future bacteriological investigations will show the bacillus of dysentery to be more resistant under these circumstances than is that of cholera. The Japanese people are, in Dr. Eldridge's opinion, far from adaptable to the necessary hygienic measures for preventing the spread of dysentery. They are quite ignorant of the elementary principles of prevention and there is rarely skilled advice available. Furthermore, we are told that in cases of sudden outbreak of disease religious festivals are organised with a view to propitiating the Supreme Power, and that these functions have the effect of gathering together the people from infected as well as healthy localities, there to indulge in practices likely to contribute to the spread of infection and to reduce the powers of resistance of the individual. Dr. Eldridge goes fully into the symptoms and pathology of the disease, but into these we have no space to follow him. He gives, too, a useful summary of the progress as to the bacteriology of dysentery, more especially of Dr. Kiyoshi Shiga's recent work in this direction. Dr. Shiga claims to have found the specific bacillus of dysentery, or, at any rate, of that variety of the disease now seen in Japan. Morphologically it strongly resembles the enteric fever bacillus and has a tendency to produce involution forms. This, the bacillus dysentericus, is killed by exposure to 68° C. for 20 minutes; it has no active movements and flagella have not as yet been demonstrated. Dr. Shiga also claims to have discovered an artificial serum for the treatment of dysentery and certain figures as to a diminished fatality-rate among patients so treated would appear to be of a hopeful nature.

FIRST MEMOIR OF THE LIVERPOOL SCHOOL OF TROPICAL DISEASES.

THE Liverpool School of Tropical Diseases has issued its first memoir under the title of "Instructions for the Prevention of Malarial Fever: for the use of Residents in Malarious Places." The causes of malarial fever are explained to be due to the presence of certain minute parasites called hæmamœbidæ in the corpuscles of the blood. In order to produce an attack of fever about 250,000,000 parasites must be present in the body, while in severe cases a billion or more may be present. In sufficient numbers they may be easily detected with the aid of a strong microscope in a drop of blood drawn from the patient by pricking with a needle. The sudden rises of temperature which occur in this disease, and which are accompanied by shivering (ague), are due to the parasites scattering their spores in the blood-fluid. The parasites grow up together and scatter their spores simultaneously, causing an immediate rise of temperature and shivering. After a variable number of attacks of fever the parasites may largely decrease in number, leaving the patient free from fever for a time. At any moment, however, the number of parasites may increase again, either spontaneously or through the patient's exposure to the rays of the sun or to chill or fatigue. Between the relapses the parasites continue to live in the patient in comparatively small numbers. After they have become extinct no relapses will occur, unless as the result of a fresh infection. Quinine kills the parasites. All parasites or their eggs pass in some way or other from one host to another—that is, from an infected individual, animal or plant, to a healthy one. Suctorial insects give great facilities to parasites for passing from one host to another. Upon allowing a person infected with malaria parasites to be bitten by mosquitoes of the kind called anopheles dissection of the mosquito will disclose the parasites growing in the mosquito.

If, on the other hand, the mosquito be allowed to bite healthy persons nothing like the parasites will be found in them. Malarial fever has been proved to be communicable from the sick to the healthy by the agency of mosquitoes—the anopheles. The question arises, If malarial fever is only carried from man to man by mosquitoes how comes it that the disease is connected with stagnant water, rainfall, or disturbed soil? *It is* because the anopheles do not breed in vessels of water, tubs, &c., in which the ordinary kinds of mosquitoes breed, but, as a rule, only in stagnant puddles of water on the ground. Such puddles most commonly exist in low-lying flat localities, especially where the ground tends to be marshy and, of course, during continuous rains. They also accumulate in places where the ground has been excavated, embanked, or trenched. Hence it is easy to see how the idea that malaria arises from marshes gained ground, and that it was due to a miasm, or mist, which rises from damp soil. The germs of malaria themselves do not rise from the soil. It is the carriers of the germs, the anopheles, that do so, or rather that rise from the pools of water on the ground. This fact also explains why draining the soil so often removes malaria because it drains away the breeding pools of the anopheles. It is only the female anopheles which sucks blood, the males living on fruit and leaves. After feeding on a man or an animal the female generally sleeps gorged all day on the wall of a room or other place. Every few days she has to fly back to the water where she lived as a larva to lay her eggs, and returns afterwards, probably to the place where she first obtained food. Hence mosquitoes which feed on human beings generally breed in water close to houses. Males can be distinguished from females by their possession of feathery antennæ on their heads. Directions in the modes of prevention of malaria include the avoidance of being bitten by mosquitoes as much as possible. Mosquitoes or their larvæ, especially anopheles, should be killed. They should be prevented from breeding around houses. The use of mosquito nets is essential above all things. Patients suffering from fever or who have lately suffered from fever should always remember that they are capable of spreading the disease to others through the agency of mosquitoes and are even capable of re-infecting themselves through the same agency. They cannot be too careful to avoid being bitten. For the destruction of mosquitoes a search is to be carefully made in and around the house for vessels and pools of water; and if there are many mosquitoes in the house it is highly probable that their larvæ will be found close by. Small pools on the ground containing green water-weed, especially rain-water puddles, are their favourite haunts. All useless collections of water in which mosquitoes breed should be drained away if possible. If this cannot be done recourse must be had to the habitual use of substances, such as kerosene oil, which destroy the larvæ by choking their air-tubes. Cisterns and wells of drinking water should be kept covered in as much as possible. Much useful information is condensed in a very limited space in this welcome booklet, which is issued from the University Press of Liverpool.

VALVULAR DISEASE IN OLD AGE.

IN the *American Journal of the Medical Sciences* for December, 1899, Dr. Robinson insists on the great importance of watching carefully for the first expressions of cardiac insufficiency in old age. When dropsy begins to appear about the ankles or when the serous cavities contain fluid in notable proportion the prognosis is grave and the warding off of progressive œdema and accumulation of fluid is very difficult. The best results which he has seen in such cases have been obtained by the use of Trousseau's wine or the diuretic wine used at the *Hotel Dieu, whose good results (even if temporary)* are noteworthy. The diuretic wine is composed of digitalis, squill, juniper berries, potassium acetate, and white wine, and is prescribed in dessert- or table-spoonful repeated every three to eight hours. Dr. Robinson points that it is an error to give cardiac tonics in large doses. Small doses frequently repeated are more effective. He also deprecates the indiscriminate combining of a large number of drugs on the "shot-gun" principle. Whenever an attempt is made to give power too suddenly to an already overtaxed or enfeebled heart the danger is that of overstepping the mark, of bringing about cardiac over-stimulation, followed by failure and the liability therewith of a fatal termination. Cardiac slowness (bradycardia) is often an indication of intra-cardiac changes or may be the consequence of a gouty diathesis or toxæmia, and in the latter case the use of suitable eliminative remedies (lithia, piperazine, and restriction of diet containing urates) is attended with excellent results. He also contends that torpidity of the liver is often a primary factor in this undue slowness of cardiac action, and when other indications exist pointing in this direction, small doses of calomel and soda, or grey powder, repeated a few times during the course of a week or fortnight will often bring about great improvement. Where a long-continued course of treatment is indicated it is well to abandon the use of mercurial preparations and to use instead small and frequent doses of podophyllin, ipecacuanha, rhubarb, and soda. After such a course senile hearts are often practically rejuvenated, for a time at least, and enter upon a new lease of life. In gouty cases and in those where symptoms of angina may be present he advises also the use of Contrexéville water. He mentions several cases in which the gouty condition of the blood has been favourably modified in a striking manner by the use of Contrexéville water for some weeks, and states that the elimination of uric acid from the economy by its action seems at times exceptionally great.

VACCINATION LEGISLATION: A BAD POINT.

HOW many points of law have been raised and argued by the opponents of vaccination since the Act of 1867 was passed it would be impossible to reckon or even to estimate. Considerable ingenuity has been expended on them; some have been good, some indifferent, and some bad, while to the last group, the one upon which the Divisional Court was asked to rule in "Over *v.* Harwood" on the 26th ult., must beyond doubt be assigned. An order had been made under the thirty-first section of the Act, requiring the defendant to have his child vaccinated. In order to prove that the order had not been complied with the vaccination officer deposed that he had not received any certificate of successful vaccination. Six Surrey justices had been satisfied on this evidence that their order had not been obeyed, but had been induced to state a case in order that a learned counsel might argue in the High Court of Justice that evidence of no notification was not evidence of no vaccination. Mr. Justice Channell pointed out that the absolute proof of a negative by direct evidence is not always possible, and that recourse must sometimes be had to *presumption*, some evidence being given upon which that presumption may be based. He added that the law provides that vaccination shall not only be performed but notified and that if there had been no notification in the case before the court someone had neglected a duty. He therefore was of opinion that the absence of notification was *primâ facie* evidence that the child had not been vaccinated, and that if the magistrates were satisfied and required no further proof the court would not interfere with their discretion. It is not easy to see what the anti-vaccinationists responsible for such an appeal expected to gain by it. *They could hardly have* expected that vaccination officers would in future be compelled to produce the child or some one who had examined the child, which would be the best way of proving the case if it were possible to do it, and they must have known that it would be clear to everyone that no injustice could possibly arise from the evidence of non-notification being accepted, because if the natural inference were incorrect it could, and of course would, at once be rebutted by direct evidence that the child had in fact been vaccinated, in which case the omission to notify according to law would still remain. The appeal, therefore, was one in which there was no prospect of success, while no grievance could arise as a consequence of its failure.

THE INFLUENCE OF VARIOUS STIMULI ON CILIARY MOTION.

NUMEROUS essays on cilia, their structure and motion, have appeared since the researches of Professor Sharpey were first published in the "Cyclopædia of Anatomy and Physiology" about the year 1836 and the latest one is written by Dr. Bergel and published in the January number of Pflüger's *Archiv*. For his material, instead of scraping off as usual the epithelial cells of the pharynx of the frog, he injects subcutaneously into that animal a centimetre of a 1 per cent. solution of hydrochlorate of pilocarpine, or the same quantity of a ¼ per cent. solution of curara, and finds in the course of a few hours that a considerable number of ciliated corpuscles float in the secretion that accumulates in the throat. He proceeds to point out that as ciliary movements can be seen in these corpuscles after the lapse of two days from the death of the animal there can be no question of their entire independence of the nervous system. The motor centre, if the expression may be allowed, must be in the cell itself. On examination of the secretion not only groups of cells may be seen with the cilia in action, but also rounded bodies that appear to be the outer portion of the protoplasm of the cells crowned with cilia particles which have thrown off the cell-wall and are therefore destitute of an investing membrane. As a rule the larger the fragment of the protoplasm the shorter are the cilia, and *vice versâ*. Those fragments which possess the longest cilia are best adapted for observation and the activity of the movement of their cilia may be followed as it gradually dies out until there are only two or three complete vibrations in the second; even then it may be seen that the cilia on each fragment of protoplasm do not vibrate simultaneously but succeed each other in an orderly and successive manner. The forward stroke of each cilium is more sudden and vigorous than the return stroke, and in both movements the cilium is S shaped or undulatory in form. As the protoplasmic store of reserve force fails the cilia one after another cease to move till one alone remains in action; and so again if a cell with resting cilia be stimulated first one and then others begin to vibrate till all, it may be, are brought into action. In regard to the effects of stimuli of various kinds on the detached masses of protoplasm with cilia it was observed that when the movements of the latter had become slow the contact of a blood corpuscle or the cilium of another cell immediately caused them to become more frequent, a response to mechanical stimulation that is clearly of importance under normal conditions in promoting the movement of particles of dust in the respiratory passages outwards and in hastening the onward movement of the egg in the oviduct. In regard to the effects of heat it appeared that no recovery of motion took place if the cilia were perfectly quiescent, but if they were still vibrating the movements became more and more vigorous till a temperature of 95° F. was reached, after which they gradually diminished till at a temperature of 108° F. they entirely ceased Dr Bergel next proceeded to experiment on the influence of the access and withdrawal of light on ciliary motion, and found that as the light was reduced the movements of the cilia became slower and feebler and were ultimately arrested. If they were previously moving energetically the time elapsing before arrest occurred might be as much as three-quarters of an hour, but if feebly then in a much shorter time, perhaps not exceeding from four to eight minutes. If after complete arrest a bright light were thrown on the stage of the microscope a latent period elapsed (sometimes lasting as long as two minutes) and the movements of the cilia recommenced, some beginning to move earlier than others and sometimes resting for a moment or two as if a gathering up of force were required for their full play. When the alternation of light and darkness was frequently repeated the corpuscles with their cilia appeared to become exhausted and failed to recover themselves completely. An explanation of the stimulating influence of light is offered by Dr. Bergel who suggests that light promotes oxidation which again increases the production of heat which undergoes conversion into work. In this respect these rudimentary organisms agree with what has been observed in frogs by Moleschott and in rabbits by Pflüger and von Platin. When the nerve stores of the protoplasmic masses are used up no more oxygen can be absorbed and the cilia cease to respond to the influence of light. Lastly, in regard to the stimulus of electricity it appeared that in particles with completely motionless cilia feeble currents failed to excite any movement, but stronger ones caused after a latent period of some duration a few cilia to move, then more until all were in action; on breaking the current the motion continued for some time and then gradually ceased. Excitation by means of electricity of active moving cilia gave no results from which any positive conclusions could be drawn.

PARIS CONGRESSES AND PARIS HOTELS.

THE Committee of Organisation for the International Congress of Medical Deontology or Medical Ethics have just issued a circular concerning the question of hotel accommodation for the intending members of the Congress. They urge that no time should be lost in securing rooms, and enclose the circulars of four French agencies which on former similar occasions have given satisfaction to members of scientific congresses. The question, however, for us to decide is whether as members of the British public we do not exercise a better control over English agencies. In any case, ephemeral agencies started merely in view of the Exhibition should be approached with some caution. The safest rule to observe is to resort to those firms which have a reputation to maintain, and that, too, among the British public. This observation does not imply a condemnation of French agencies because in some cases, and perhaps unfairly, French firms give themselves more trouble to please English patrons than their own countrymen. This is notably the case with regard to the *Messageries Maritimes*. The English passengers who travel in these French steamers to India, the Far East, and Australia are, we have been assured by experienced travellers, treated with more deference and consideration than are the French passengers. We do not, of course, flatter ourselves that this is done from any other motive than that of competition against the English lines, but, still, the fact remains Whether the same partiality will be shown by French travelling or tourist agencies we are not able to say, but of one thing we are quite certain. The hotels mainly frequented by the English and the Americans are the dearest, the cleanest, but the most unpleasant on the continent. The waiters, while expecting much larger gratuities, are not always attentive or civil, and the cooking is entirely ruined by the unappreciativeness of the British and the Americans The experienced continental traveller of whatever nationality will always give such hotels a wide berth. As the French agencies are patronised mainly by French people, their hotels are likely to be inferior from the sanitary point of view and superior from every other point of view; more especially are they likely to be cheaper. For instance, one agency undertakes to provide lunch, dinner, and room for 10*s.* a day. Another agency charges 12*s.* a day, but this includes coffee and rolls in the early morning and wine at meals. Before, however, venturing to say more on this question and assuming the responsibility of making any definite recommendation, our Special Correspondent, who will deal with the Paris Exhibition and the scientific congresses connected therewith, will make inquiries on the spot, visit some of the hotels, and report.

DIPHTHERIA STATISTICS IN NEW YORK.

WE are indebted to a correspondent for the following statistics of diphtheria in New York City during the semester January–June inclusive, 1899. The information will be read with interest in connexion with a paragraph in our New York correspondent's letter in THE LANCET of Jan. 13th (p. 138). The figures denote total cases under all treatments (serum of all makes and no serum).

TABLE I.

Disease.	Cases reported.	Deaths.	Percentage of mortality.
Diphtheria	4789	780	16·3
Croup	315	154	48·8
Total	5104	934	18·3

TABLE II.—*Totals under Purview of the Department of Health and Treated with the Serum of its own Manufacture after Bacteriological Diagnosis.*

Cases determined true diphtheria (Klebs-Löffler bacillus)	2468
Deaths	780
Percentage mortality	31·2

Note.—These sums are too small by the figures for the week ending Feb. 19th, wanting in the official city record.

With respect to the difference in diphtheria mortality as between the pre-antitoxin and the post-antitoxin periods the letter before us states that the line of division is almost exactly Jan. 1st, 1895, and the writer continues as follows:—"I have recognised the importance of this point, but I have omitted the figures for the following reasons. Diphtheria statistics of the old New York City and up to Jan. 1st, 1898, cover only Manhattan Island and the annexed northern (Westchester) territory in the present city limits, or bills of mortality, the boroughs of Manhattan and the Bronx. And the figures before about 1880 refer only to the present borough of Manhattan. Since that division period the bills of mortality of that which is known as New York add to the present boroughs of Manhattan and the Bronx the old city of Brooklyn (for six preceding years coterminous with the county of Kings and before Jan. 1st, 1882, distinct entities), the county of Richmond, the present borough of Queens, which comprises the former municipality of Long Island City and a major fraction of the old county of Queens. I am convinced that it is absolutely impossible to establish figures for the comparison of the present area of New York City with the same territory before the consolidation which went into effect on Jan. 1st, 1898. This would involve the study of the following municipalities, Manhattan and the Bronx, Brooklyn (which for six years includes the outlying county of Kings and before that time excludes the county), the rural county of Richmond (Staten Island is geographically coterminous), Long Island City, and a portion of the county of Queens. Out of these elements it might be possible to secure somewhat accurate figures of Manhattan Island for many years, of Manhattan and the Bronx for 16 years, of Brooklyn for many years, of the county of Kings for a few years, of the county of Richmond poor accounts for a few years, while, lumping Long Island City and a portion of Queens county, it would be impossible to establish any figures for these at all. Since Jan. 1st, the city of New York represents four times the area and double the population of what it meant before that date, and because of the many complications it is impossible to establish comparable figures. As you glance over these lines you may arrive at a conclusion, though I do not deny that my explanation is involved and complicated. Yet it is as clear as crystal in comparison with the tangled data into which it would be necessary to plunge to establish comparative figures before and after Jan. 1st, 1898."

ANTONIO MACEO'S SKULL.

THE *Revista de Medicina y Cirugia* of Havana publishes an "anthropological study," by Dr. Montalvo, Dr. de la Torre, and Dr. Montane, of the skull of the Cuban patriot, Antonio Maceo. The most noteworthy point is the existence of an interparietal, or, as it is sometimes termed, an "inca" bone, from the theory that it was universal amongst, and distinctive of, the old Peruvian race. This, however, was shown by Anoutchine[1] to be erroneous, for after examining many thousands of skulls in various museums he found the bone in only 6·8 per cent. in Peruvians, in 1·5 per cent. in negroes, and in 1·3 per cent. in Americans. Maceo was, of course, of mixed race. The general character of the cranium approximates to that of the white race and indicates a man of remarkable capacity. The rest of the skeleton inclines more to the negro type and shows that he must have been a man of Herculean strength.

URIC ACID AND LEUCOCYTOSIS.

IN an article on the excretion of uric acid with special reference to its connexion with leucocytosis, Dr. Carstairs C. Douglas of Glasgow published in the January number of the *Edinburgh Medical Journal* the results of 97 simultaneous quantitative determinations of uric acid and leucocytes made on seven persons in good general health (one of them pregnant) and 35 patients suffering from various diseases. In the course of a short summary of recent views regarding the origin of uric acid within the body he says that the theory of uric acid formation which has awakened the greatest amount of interest of late years, and which is apparently supported by many clinical and experimental facts, is that associated with the name of Horbaczewski, who holds that uric acid is derived in the body from the disintegration of proteids containing nuclein, notably from the leucocytes. Objections to this theory have, however, not been wanting. Richter, for instance, argues that, according to Horbaczewski, the maximum excretion of uric acid after food corresponds with the maximum number of leucocytes, whereas it should really follow the latter if due to a breaking down. Again, it has been pointed out that, if the uric acid be due to disintegration of leucocytes, in cases where the former is increased the phosphoric acid excretion ought also to be augmented, but it has in reality been found that exactly the converse may take place. From his determinations of uric acid and leucocytes Dr. Douglas concludes that on the whole there is a discrepancy between the amount of uric acid thrown off from the body and the number of leucocytes. No doubt there are striking instances in which there appears to be a marked parallelism between the two; but on an equal number of occasions the converse can be shown to hold true. That nuclein containing tissues on ingestion may increase the amount of uric acid excreted is proved by the effect of the administration of nuclein and of thymus, but the observations which he has made do not support the view that normally the source of uric acid is to be found in the nuclein of the leucocytes. His analyses showed among other things (1) that uric acid varies much less with diet than urea does, and (2) that in prescribing a diet for the gouty it is inadvisable to order vegetables promiscuously, as is too often done, but those which are poor in proteid ought to be selected, and sweetbread and similar tissues rich in nuclein ought to be rigorously excluded.

---

[1] Revue d'Anthropologie, 1882.

MEDICAL MATTERS IN RANGOON.

THINGS do not seem to have been working well of late in the small medical world of Rangoon, according to the *Rangoon Gazette*, in its recent reports of proceedings connected with the Dufferin Hospital and the General Hospital of that place. We find it difficult to give a *précis* of the facts within a reasonably short compass. As regards the Dufferin Hospital, it appears that in 1885 it was determined that the best method, as far as Burma was concerned, of assisting the Countess of Dufferin in attaining her object by the establishment of a national association for providing female medical aid to the women of India was to teach some Burmese women something of scientific midwifery, that having been found to be one of the most pressing practical requirements of the native population. The Rangoon Dufferin Maternity Hospital is the only hospital in Burma largely supported by voluntary contributions and it was established for the purpose of affording opportunities for the practical instruction of Burmese women in midwifery. Sufficient funds have been collected to build a larger and better hospital than that which formerly existed. On the opening of this new institution the central committee in India demanded that a lady doctor with an English qualification should be placed in charge with leave to pursue private practice. This has been done, but contrary, it is alleged, to the advice of the provincial medical authorities The consequence has been that the former lady medical officer, who had considerable experience and was a fluent teacher in the Burmese language, has been replaced by a lady with diplomas of a higher grade, but who is said to be unacquainted with Burmese. Finally, proposals from the central committee in India have been adopted by which the services of the honorary medical officers of the hospital have been dispensed with and the institution has been, or is to be, placed under the civil surgeon of the station. It is alleged that the proposals of the central committee in India have arisen from an entire misapprehension and ignorance of the peculiar local conditions which the institution as hitherto conducted has very satisfactorily met, and a public memorial is about to be presented to the Viceroy of India asking for an inquiry and protesting against the action taken by the Lieutenant-Governor in the matter. The small hospital which originally existed at Rangoon, it may be remarked, is alleged to have been successfully carried on and was largely wanted by the Burmese women. A Dufferin Hospital in India is understood to be for all diseases which are, for religious and caste reasons, to be treated exclusively by lady doctors, but the hospital at Rangoon is a maternity and gynæcological hospital only and the Burmese women are notoriously not affected by any caste or social restrictions which affect Indian races and it is quite customary for them to consult and receive treatment at the hands of the male sex. As the matter stands it seems to us to turn upon a question of what is best and most advantageous for the native community, for the benefit of whom the institution exists, and we should regret to learn that the rules of the Dufferin Association were prohibitory of what has been hitherto pursued with presumably manifest advantage to those mainly concerned. The matter seems to require further attention on the part of those who have the requisite authority to give it fair and impartial consideration so as to arrive at that conclusion which is best for the interests of the native population. As regards the General Hospital at Rangoon it appears, according to an article in the *Rangoon Gazette* of Dec. 29th, 1899, that among other matters considered at a meeting of the hospital sub-committee, a report by Colonel Little, I.M.S., Inspector-General, who had inspected the hospital on Nov. 20th, 1899, came under notice. The Inspector General evidently found a good many points which he regarded as far from satisfactory, as will be seen from the following quotation from our contemporary :—

> "The present quarters for menial servants are too crowded and too close to the main buildings. These, together with the contagious disease ward and the servants' latrine, should be removed to some distance from the hospital well apart from other buildings. ... The hospital affords accommodation for 461 beds. The daily average indoor attendance is 307... The nursing staff appeared to me inadequate for the requirements of this large hospital. ... The superintendent drew attention to the necessity for a hot water service laid on to the hospital, a linen room, a dhobie room, and a disinfecting and sterilising room. The municipality, I believe, are prepared to supply them; they are essential to the proper working of the hospital on modern principles. ... Two medical officers, one resident medical officer, two assistant surgeons, and eight hospital assistants are the staff for this large hospital of 461 beds with a daily average attendance of 307 patients. This is a weak staff. ... The senior surgeon has office duties to perform and other administrative work which should fully occupy his time. The junior civil surgeon is in charge of police cases, including post-mortems, and of the contagious disease hospital, in addition to his share of the ward work and operations. There is a good deal of useful operative surgery, and these cases require careful dressing daily on antiseptic principles, to which the house surgeon can scarcely give his personal attention in all cases, so that the dressing must be largely conducted by the hospital assistants, a class of men whose work is seldom other than unsatisfactory where aseptic surgery is concerned. I do not mean to disparage a very useful and hard-working body of men, but think their education and training is not such as to guarantee efficiency in the matter of aseptic surgery or an intelligent knowledge of the principles on which it is worked."

It is understood that a new hospital is to be constructed as soon as funds can be provided for the purpose.

A CASE OF COMPLETE NECROSIS OF ONE SIDE OF THE MANDIBLE.

AN interesting case of necrosis of the mandible is recorded in the current issue of the *Journal of the British Dental Association* by Mr. W. H. Dolamore. The patient, a boy, aged four years, was taken to the dental department of the London Hospital with a large swelling on the left side of the face. The swelling appeared five weeks previously and a lower deciduous molar was removed. The swelling, however, increased and at the time of being seen by Mr. Dolamore there was a profuse discharge of pus from the gum and the remaining left lower deciduous molar was loose, carious, and contained a septic pulp. The tooth and some necrosed bone were removed, but the discharge became more profuse in spite of local and general treatment. At the expiration of about five weeks the inner margin of the alveolus which had separated was removed. The necrotic process continued to spread. Some seven months subsequently in attempting to remove a loose fragment of bone the whole left half of the mandible including the ascending ramus was discovered loose and was removed through the mouth. The patient made rapid recovery and but little facial deformity resulted. The movement of the joint was perfectly normal and even during the separation of the sequestrum was fairly free, due to the fact that the disease stopped before it reached the articular cartilage. The necrosis seems to have been due to septic inflammation in connexion with the deciduous molars. The interesting features of the case seem to be the apparent freedom from general trouble from the constant swallowing of the discharge, the rapid and excellent recovery, and the removal without the aid of an external incision of so large a portion of the mandible.

CAMBRIDGE SUMMER SCHOOL OF MEDICINE.

THE success of this gathering in 1894 was so great that we understand it is in contemplation at Cambridge to renew the invitation to qualified medical men to visit the University. It is hoped that at about the end of June arrangements can be made at the laboratories to demonstrate to the visitors the latest advances in the medical sciences. The colleges are being approached in the hope that they will afford accommodation to a certain number of visitors as before at cost price. When the arrangements are complete due notice of them will be given.

THE LEGAL CONTROL OF PROSTITUTION IN THE UNITED STATES.

THE *Medical Record* of New York publishes a paper by Dr. S. Lustgarten of New York on the above subject. The paper was contributed to the Transactions of the International Conference for the Prevention of Syphilis and Venereal Diseases held in Brussels in September, 1899. The chief interest of the paper is in showing the almost complete absence of legislation in the United States to secure control over prostitution and the two great reasons for such absence. First, in the sovereignty of the individual states in dealing with such subjects for themselves and by themselves, and, secondly, the absence of any public feeling in the States on a large scale in favour of such legislation. There is only one instance in the history of the States of an attempt at legislation of this kind. The Missouri Legislature in 1872 enacted a law to regulate prostitution in the city of St. Louis. Though the law operated beneficially in the estimation of well-informed writers and physicians it only remained on the statute books of the State for about a year and it was repealed in dramatic style with popular demonstrations. Dr. Lustgarten points out that for any such legislation to be beneficial it must include all the states. Otherwise the effect is merely to drive prostitution to other states and cities.

THE SALE OF FOOD AND DRUGS ACT, 1900.

CIRCULARS similar to those issued some months ago by the Board of Agriculture in London have been issued by the Local Government Board in Edinburgh to the local authorities of Burghs in Scotland. It is pointed out that by Section 23 of the Act now in force all the powers and duties vested in or imposed upon the Secretary for Scotland in relation to the Sale of Food and Drugs Act are transferred to the Local Government Board in Edinburgh. The circulars contain much the same useful information as those which were issued by the Board of Agriculture in London and which were dealt with in an annotation in THE LANCET of Nov. 18th, 1899 (p. 1389). The better control over the manufacture and sale of margarine is the subject of an attached circular. The chief points to be noticed by the authorities who are entrusted with the carrying out of the purpose of the Act are as follows:—The power of the Board whether in Scotland or England of securing the execution and enforcement of the Act, the definition of food, provision of more stringent fines, the enforcement of Acts where negligence is evident, and the fact that i imperative on every local authority now to appoint a pu analyst without reference to a central authority.

THE NEW UNIVERSITY OF BIRMINGHAM.

THE charter and statutes for the government of new University of Birmingham have been laid on table of the House of Commons. Mr. Chamberlain is to the first Chancellor. The Principal, who is to be appoin by the Crown, is not yet nominated. Mr. Bertram Cogl Alan Windle, M.A., M.D., D.Sc., F.R.S., has b appointed the first Dean of the Faculty of Medici Certain interesting questions arise out of these appointme as showing that the University is at length a reali There is, for instance, the very interesting question, fr a medical point of view, as to a representative upon General Medical Council. In any case the medical p fession may congratulate itself upon the election of so tinguished a teacher as Dr. Windle to the responsible p which he holds.

WE understand that the President of the Board of Ag culture has appointed a Departmental Committee to inqu and report as to what regulations may be made by the Bo in regard to the standards of quality of milk and cream. difficulty in connexion with proceedings taken under Sale of Food and Drugs Act has been to differentiate exac between abnormal milk or milk which has been wate or from which cream has been abstracted. It is to hoped that the long-vexed question of what is a what is not genuine milk or cream may be decid by this committee by recommending a system of f standards. Public analysts in particular will welcome announcement of the appointment of this committee whi will consist of the following gentlemen:—Lord Wenlc (chairman), Mr. George Barham, Mr. George Cowan, Ma Patrick George Craigie, Mr. S. W. Farmer, Mr. Shir Murphy, Professor Thorpe, and Mr. J. Augustus Voelck Mr. Robert Henry Rew (of the Board of Agriculture), v serve as secretary to the committee.

THE Odontological Society of Great Britain is prepared receive applications for grants in aid of the furtherance scientific research in connexion with dentistry. For furt particulars application should be made to the Honor Secretary, Scientific Research Sub-committee, Odontologi Society, 40, Leicester-square, London, W.C.

THE subject for discussion at the annual clinical debate to be held by the Chelsea Clinical Society on March 13th and 20th is the Treatment of Rheumatism, with special reference to Prophylaxis and Cardiac Complications. The names of the speakers will be shortly announced.

MR. R. Clement Lucas has been appointed by the Treasurer and Governors of Guy's Hospital, on the unanimous recommendation of his colleagues, to the lectureship on Surgery in the Medical School, rendered vacant by the resignation of Mr. N. Davies-Colley.

NEWPORT AND MONMOUTHSHIRE INFIRMARY.—At the annual meeting in connexion with the Newport Workmen's Infirmary Fund held on Jan. 24th under the presidency of the mayor it was stated that £1027 had been collected during 1899, being an increase of £212 as compared with the preceding year.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

(Continued from p. 2[illegible].)

WE gave last week a brief outline of the final report of Lord Llandaff's Commission on the London Water-supply. The recommendations which the Commissioners gave were, it may be remembered, that the metropolitan water companies' undertakings should be purchased and placed under the control of a Water Board and that it was unadvisable that the purchase should be effected by the London County Council. In order to obtain a clear idea of the reasons which led the Commissioners to come to the conclusion that the undertakings should not be purchased by the London County Council we reproduce a map which was prepared for the Balfour Commission and which appeared in their report, and was also reproduced in the first of the articles on the London water-supply which appeared in THE LANCET.[1] A mere glance at this map shows how small a part the county of London (which is represented by a shaded area) occupies in the larger area included under the term "Water London" (which is defined in the map by a dark line). It will be noticed that the area of the New River extends to the north of Ware and that that of the Kent Company spreads southwards beyond Westerham, while to the east and west Water London spreads to a considerable distance beyond the county of London itself. The Royal Commission had to consider the interests of the inhabitants of the whole of this vast area nor could they with justice ignore the opinions of the outside areas for the sake of a limited part of the district, for the good of the whole of which they were asked to give their advice with regard to the future supply of water. One of the questions, therefore, which the Commissioners had to consider was whether the undertakings should be acquired and managed by one or by several authorities, and they had to take into account the opinions expressed by the metropolitan counties who insisted that their supply should be altogether severed from that of London, both with regard to supply and distribution of water, if it were decided that the county of London should purchase the water companies' undertakings The Commissioners therefore had to consider to what extent physical severance of the works and other property and sources of supply and the division thereof between different local authorities within the limits of supply were practicable and desirable. They found in the course of their inquiry that the area of supply of the metropolitan water companies included in the county of Middlesex alone 21 urban and rural district councils; that in the county of Surrey it included three boroughs and nine urban and rural district councils; that in the county of Essex it included one borough and 13 urban and rural district councils; that in Hertfordshire in included five urban and rural district councils; and that in Kent it included eight urban and rural district councils. It had not been suggested that it was desirable to divide the sources of supply and works of distribution between these 60 local authorities; that alternative therefore the Commissioners dismissed from serious consideration On the other hand, it had been suggested that severance and division of the sources of supply might be effected between the six metropolitan counties which were included in the water area. The only witness, however, who attempted to formulate any scheme for dividing the sources of supply between the six counties was Sir Alexander Binnie. Assuming that the London County Council were to purchase the undertakings of the water companies he proposed a plan for the division of the supplies between the counties of London and Surrey and between London and Middlesex In the case of Kent he suggested that the county of London should take those wells of the Kent Company which are in the county of London and buy in bulk from the county of Kent some undefined quantity of water produced by those wells of the Kent Company which are in the county of Kent and which the Commissioners say should primarily belong to that county. With regard to Hertfordshire the suggestion was that the county of London should buy and retain the existing sources of the New River and undertake not to draw any more water than is drawn at the present time or more than some quantity which might be afterwards agreed upon. With respect to the supplies at present given by the New River Company it was suggested by Sir Alexander Binnie that they should continue to be given by the county of London as a supplying authority, or that London should hand over to Hertfordshire a fixed quantity of water to be distributed by the authorities of that county. In the case of the county of Kent Sir Alexander Binnie did not offer any suggestion. The Commissioners report that the suggestions put forward by Sir Alexander Binnie negative the desirability and even the practicability of severing the sources of supply and works of distribution in the case of all the metropolitan counties. Sir Alexander said that as a water engineer he would not advise severance from an economical point of view in the administration of works and that the objections to severance and its cost would lead the outside authorities to take water in bulk from the county of London and that they should content themselves with distributing it in their own district. He gave it also as his opinion that should water be supplied in bulk from the county of London to the outlying authorities London, as the supplying authority, ought to be made responsible for giving an increased supply should it be necessary to do so in order to keep pace with the requirements of a growing population and that the county of London ought to be paid some small sum for working the business. On the other hand, if there were *complete division of the sources of supply* and the works of distribution the adjacent counties would in case of necessity have to provide themselves with new sources of supply as soon as the population had outgrown that which had been allotted to them in the partition. Sir Alexander Binnie had made no estimate as to the cost of the carrying out the work of partition. The Commissioners report that the scheme of partition in all its manifestations was too technical and complicated a matter for them to treat in detail and they therefore content themselves by pointing out as an example of the intricacy of any possible scheme the case of a suggested division of the works of supply between the counties of London and Surrey. In our report of the meetings of the Royal Commissioners the evidence on this subject was fully given, and here we need do no more than quote in the words of the Commissioners their brief *résumé* of the works which it would be necessary to carry out:—

> We must content ourselves with saying that the suggested division of works of supply and of distribution between the counties of London and Surrey would involve dividing reservoirs into two by embankments, leaving the outside county with only one main, and no alternative means of supply, dividing the engine power at different stations in some undefined way, with the consequence that the workmen of the two counties would have to use the same engine-house, with only one common steam-supply. Water intended for distribution in Surrey, and belonging to Surrey, would have to pass through reservoirs belonging to London, and pass out of the county of London again; mains used for distribution would have to be converted into pumping mains, and *vice versâ*; considerable works, such as reservoirs now laid out for the supply of several districts, would have to be applied to the use of one district; the workmen employed by London and Surrey respectively would have to work side by side and on the same premises, in filtering and sand washing operations, the division of the engines and mains at Hampton could only be effected by handing over to Surrey three times as much engine-power and four times as much main capacity as the needs of the county required.

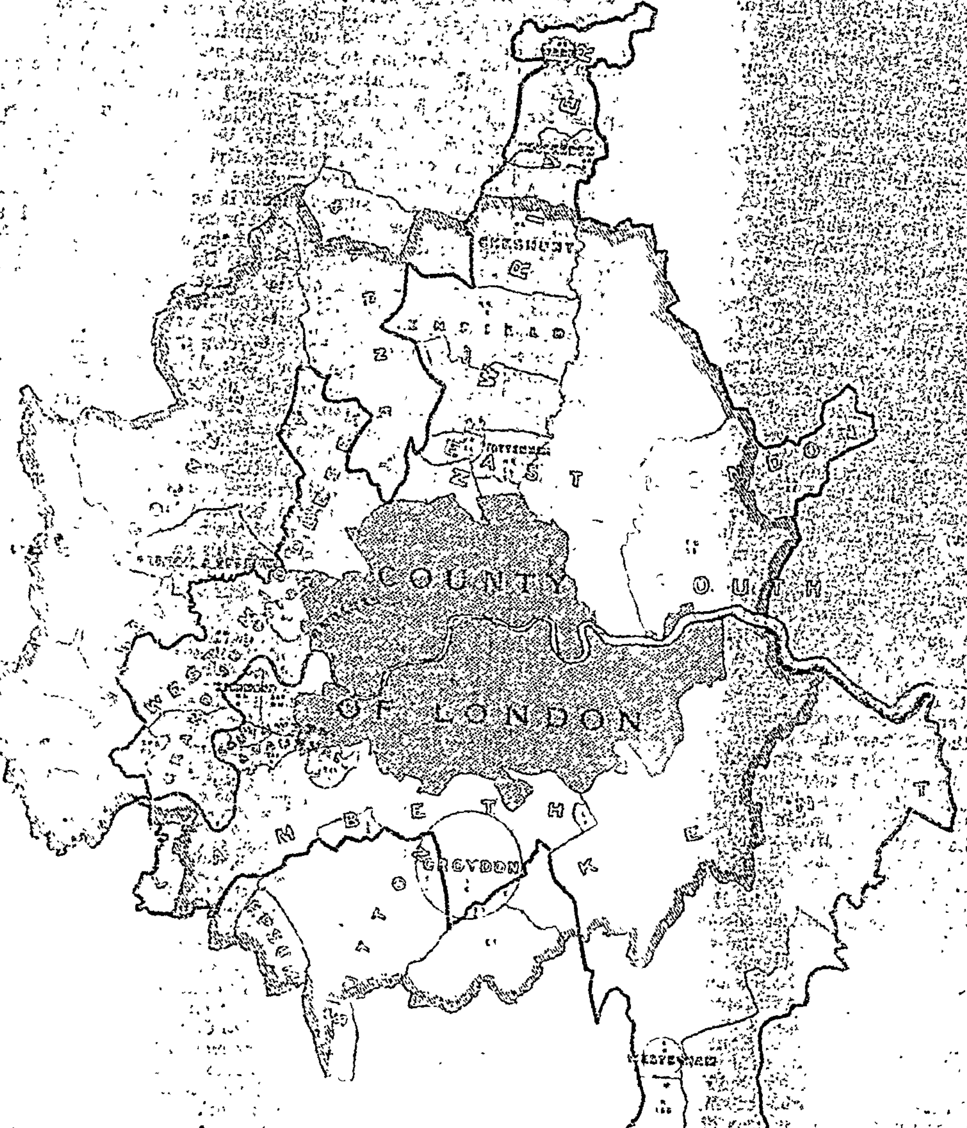
The Commissioners point out that Mr. Middleton gave it as his opinion that the present arrangements of the metropolitan water companies' undertakings were so intricate that practically it would be better to reconstruct the works altogether than to attempt to divide them, and he gave in detail the difficulties and inconveniences of dividing the pumping machinery, engines, boiler-power, and subsiding reservoirs at Molesey between the counties of London and Surrey, and the difficulty that would arise in apportioning filter-beds and the engines which pump the water. He also showed that there would be similar difficulties after the water had left the filter-beds, and in his opinion it would be better for Surrey to leave the present water undertakings to London and to supply themselves with water independently. The Commissioners recapitulate in some detail the evidence which was given on the difficulties of dividing the companies' present undertakings in such a way that the water should be divided between London and the outlying authorities. The evidence on which they dwell was reported at the time when it was given at the various sittings of the Commissioners,[2] and many of the facts were even then familiar to readers of THE LANCET, as they had already appeared in the articles which were given on the politan water-supply.[3] For example, the Com- ners point out that the intakes, service reservoirs, and filter-beds of the East London Company are all outside the county of London. If, therefore, London bought the water of the company and supplied Essex with water in bulk it would be necessary to bring all the filtered water from outside London into London and send it again to Essex through a number of mains on all of which meters would have to be placed, while London would have to construct fresh service reservoirs for that part of London which was to be supplied from the present East London Company's sources. The New River Company's undertaking presented similar difficulties with regard to severance. Half their reservoirs are outside the county of London, their mains cross and re-cross the boundary 38 times along seven miles of boundary, and there are in addition numerous crossings of the service mains and service pipes. In the case of severance in order to enable London to give a supply in bulk to the outside authority all these pipes would have to be metred, unless at great expense many of the mains were relaid, or new ones put down.

---

[1] THE LANCET, Feb 20th, 1897, p 5[illegible].

[2] [illegible]

Similar difficulties, the Commissioners point out, the undertakings of the other companies. fore, that the system of supply in bulk is not only inconvenient and expensive but it shuts out the supplying authority from prospective increase of income district of supply. The price of the water so would doubtless be fixed and if London were to supply bulk at a fixed price the ratepayers of London would themselves in a less satisfactory financial position than that which the eight present metropolitan present enjoy or in which a purchaser who took over the present system would possess if the administration did not require division. The Commissioners come to the conclusion that although severance of the works of supply and division of them between the councils of the six counties within the limits of supply is not actually impracticable it would be very difficult and highly undesirable. They report that the metropolitan counties appeared determined to insist on being altogether severed from London, both with regard to the supply of water and the distribution of it, should the county of London purchase the undertakings of the water companies. In the case of Middlesex the opinion frequently expressed by the Middlesex County Council was that



The Administrative County of London is represented by the shaded area. The black line defines "Water London," the area of the Metropolitan water-supply. The shaded line defines the Metropolitan and City Police area.

---

[3] THE LANCET Special Commission on the Metropolitan Water-upply, Feb. 20th, 1897, et seq.

scheme would be acceptable which did not provide for the independent control by Middlesex of the distribution of the supply for Middlesex and the absolute non-interference with Middlesex either as to rating or otherwise. The Surrey County Council, supported by the various urban and rural district councils and parish councils of the county which would be affected by the change, is opposed to any scheme that would put Surrey under the control of the London County Council, and the Surrey County Council has always insisted upon having the sources of supply as well as the distribution of water in its own hands should the present arrangements be changed. The Kent County Council desires that the Kent Company shall be left to exist in its present state and wishes that arrangement to be permanent. There is no desire to buy the undertaking, but should it be purchased by the London County Council Kent demands to purchase its share both of the sources of supply and means of distribution, and the county of Kent objects to the London County Council having any power at all in that county. The County Council of Essex agrees to the purchase of the metropolitan water companies by the London County Council only on the terms that Essex shall have the supply and distribution of water in its own county. The feeling of Essex was neither in favour of nor against municipalisation of water-supply, but there was a very strong feeling that the London County Council should not have any power of control of the water in Essex. The county of Hertfordshire thinks that the New River Company and the East London Company already abstract more water from the county than they are entitled to either by charter or by statute It opposes purchase by the London County Council because it thinks that that council would be inclined to abstract even more water than the present peccant companies. The county has no idea of buying the New River undertaking or any part of it. Very few supplies are given in the county by the New River Company.

The Commissioners attach great weight to the objections of the county authorities to being placed by purchase under the control of the London County Council in consequence of the large numerical proportion of the water-consuming population which is under the jurisdiction of those counties and not at present in any way under that of the London County Council. Even at the present time, the Commissioners point out, this population is between one-fifth and one-quarter of the whole population supplied by the water companies; it is increasing at a more rapid rate than the population of London proper; and if and when the population of Water London reaches 12,000,000 it is possible that the population of this outer ring, for which additional water may be wanted, may equal in number that of the administrative county of London. The Commissioners report that should the London County Council purchase the undertakings division of the works of supply must necessarily follow; this division is open to so much objection that it is practically inadmissible; therefore the London County Council should not be allowed to purchase the metropolitan water companies' undertakings.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary meeting of the Comitia was held on Jan. 26th, Dr. W. S. CHURCH, the President, being in the chair.

The following gentlemen having passed the required examination were admitted as Members:—Edwin Bramwell, M.B. Edin., Walter Langdon Brown, M.A., M.B. Cantab., Andrew Duncan, M.D. Lond. Charles Oliver Hawthorne, M.D. Glasg., Robert Jones, M.D. Lond., L.R.C.P., John MacLeod Hendrie MacLeod, M.A. St. And., M.D. Aberd., Clive Riviere, M.D. Lond., L.R.C.P., Alfred Ernest Russell, M.D. Lond., L.R.C.P., Alfred Walter Sikes, M.D. Lond., L.R.C.P., Lewis Albert Smith, M.B. Lond., L.R.C.P., and Ralph Harry Vincent, M.B. Durh., L.R.C.P. Licences to practise were granted to 112 gentlemen who had duly satisfied the examiners and Diplomas in Public Health were granted, conjointly with the Royal College of Surgeons of England, to 13 gentlemen.

The following communications were received:—1. From the Secretary of the Royal College of Surgeons of England (3), reporting certain proceedings of their Council. 2. From a Committee of the Local Government Board asking the College to appoint two representatives to give evidence on the question, How Far Certain Preservatives and Colouring Matters added to Food are Injurious to Health. The PRESIDENT suggested that Sir T. Lauder Brunton and Dr. G. Vivian Poore should be appointed and the proposal was adopted 3. From Mr. Davies-Colley, resigning his appointment as Examiner in Surgery to the College owing to ill-health. The PRESIDENT expressed the regret felt by the College in accepting this resignation.

The PRESIDENT announced that Professor Clifford Allbutt had been selected as Harveian Orator; Dr. Archibald Garrod as Bradshaw Lecturer; and Dr. John Sykes, medical officer of health of St. Pancras, as Milroy Lecturer.

Dr. P. Frank, Sir William R. Gowers, Dr. T. Barlow, and Dr. Sidney Coupland were elected Councillors in the room of Dr. A. E. Sansom, Dr. Mitchell Bruce, Dr. W. H. Allchin, and Dr. Frederick Taylor, who retire by rotation

Dr. Sidney Martin was elected a Member of the Laboratories Committee in the place of Dr. J. F. Payne.

On the motion of the Senior Censor (Dr. P. H. PYE SMITH), seconded by the Registrar (Dr. E. LIVEING), it was resolved that the following words be substituted for those in the By-law commencing "may declare such Fellow" to the end—viz.:—

> May declare such Fellow not to be a Fellow or a Member of the College, or such Member not to be a Member of the College, or such Licentiate not to be a Licentiate, for a limited period of time or altogether as the College shall determine, and such Fellow, Member, or Licentiate shall forfeit all the rights and privileges which he does or may enjoy as a Fellow or as a Member or as a Licentiate as the case may be, either for such limited period of time or altogether as the College shall determine; and his name shall be expunged from the list of Fellows or from the list of Members or from the list of Licentiates, as the case may be, either for such limited time *or altogether as the College shall determine.*

A report, dated Nov. 20th, from the Committee on the Nomenclature of Diarrhœa was received, in which it was recommended that the term "epidemic enteritis" should be used as a synonym for epidemic diarrhœa and that the College should urge the entire disuse as synonyms of epidemic diarrhœa in medical certificates of death of such terms as "gastro-enteritis," "muco-enteritis," or "gastric catarrh."—After a discussion, in which Dr. William Hunter, Dr. Donald MacAlister, Dr. J. F. W. Tatham, Dr. J. F. Payne, Dr. R. J. Lee, and the President took part, the report was adopted.

Reports were also received and adopted from the representative of the College on the General Medical Council (Sir Dyce Duckworth), from the Finance Committee, from the Committee of Management, and from the Laboratories Committee. The report from the Committee of Management included the syllabus for the Diploma in Public Health, Part I. and Part II.; the recognition of Cooke's School of Anatomy as a place of instruction in anatomy and physiology for candidates referred at the second examination; the recognition of the course of operative surgery at Cooke's School of Anatomy; and the recommendation that Cornell University should be added to the list of institutions recognised by the board at which the whole curriculum of professional study may be completed and where graduates in medicine are admissible to the final examination.

A list of books and other publications presented to the library during the past quarter was received and thanks were returned to the donors. Amongst the books were 23 medical works of the seventeenth and eighteenth centuries, presented by the Governor of the Bedford General Infirmary; a splendidly bound copy of "Cooper's Anatomy," sixteenth and seventeenth centuries, presented by Dr. Coates of Bath; an interesting MS. of the seventeenth century, containing a collection of "Remedies for the Universall Parts of the Body," presented by Dr. Poore; three old seventeenth-century medical works presented by Dr. Stevenson; and Sir Thomas Browne's "Christian Morals," presented by Dr. Osler.

THE YARROW CONVALESCENT HOME.—The trustees of the Yarrow Convalescent Home desire it to be made known among the medical profession that during the winter months accommodation is provided for a limited number of children requiring active treatment and a lengthened stay is granted when there is a prospect of a permanent benefit. This home has placed at the disposal of the Officers' Families Fund 30 beds for the reception of any convalescent children of officers who have either been killed or wounded in the present South African war.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Chelmsford and Maldon Rural Districts.—Dr. J. C. Thresh, in addition to holding the post of medical officer of health of the county of Essex, is also medical officer of health of the above two districts, and in this latter capacity he has set an excellent example by the prompt issue of his annual reports for the year 1899. They are the first which we have received. In both these districts there is apparently some discontent with the building by-laws, which are regarded by certain persons as being too stringent, and in the Chelmsford district a committee has been appointed to inquire into the matter. The present by-laws, it is alleged, inhibit or totally prevent the erection of agricultural labourers' cottages. As regards the question of the housing of the working classes in the Maldon Rural District Dr. Thresh thinks the only remedy to be the adoption of Part III. of the Housing of the Working Classes Act and he furnishes figures which will, we trust, tempt the council to try the experiment. Dr. Thresh, however, expresses the opinion that the Act referred to requires simplification in the direction of affording facilities for acquiring money more cheaply and extending its repayment over 50 years. It is useless, he observes, to condemn houses in cases where the displaced tenants have no other houses to which they can betake themselves. In Essex the movements of "holiday children" from London have to be carefully watched, and Dr. Thresh reports that he was able last year to prevent children being sent to a village where scarlet fever was prevalent. He suggests that associations sending children into the country should previously notify their intentions to the medical officer of health of the district to which the children are to be sent. An inquiry has recently been made in the Chelmsford and Maldon districts into the distribution and behaviour of cancer since 1871. Dr. Thresh placed his books at the disposal of Dr. G. M. Scott of Witham who undertook the investigation. The report is, Dr. Thresh tells us, shortly to be published in full, but he furnishes us with the following table and the conclusions at which Dr. Scott has arrived.

Deaths from Cancer per 1000 of the Population.

—	1871-80		1881-90		1891-1900	
	Total deaths.	Deaths per 1000 population.	Total deaths.	Deaths per 1000 population.	Total deaths.	Deaths per 1000 population.
Males	93	5·2	135	4·7	204	7·0
Females	181	6·4	220	7·7	244	8·4
Total...	274	4·8	355	6·2	448	7·7

1. During the earlier part of the period under consideration the death certification was wanting in detail.
2. The increase in the number of deaths certified as being due to cancer is real in part, but is chiefly due to greater accuracy in diagnosis.
3. On the average there are proportionately fewer cancer deaths in Essex than in England as a whole; fewer in the area under consideration than in the county of Essex; and fewer in the Maldon than in the Chelmsford Union.
4. A low mortality may exist under the most diverse physical and sanitary conditions.
5. A low cancer rate exists near those parts which are characterised by muddy foreshore and salt-water creeks.
6. In some parts having a high mortality from cancer the subsoil water lies near the surface. (This condition seems to be more common than any other, but there is one very notable exception—Tollesbury.)
7. In those parts which lie on the banks of rivers there is no special prevalence of the disease.

Another table furnishes the rates in the several parishes of the districts, and we look forward to the full report to tell us in what manner the age distribution of the population has had an influence on the different rates.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6790 births and 5025 deaths were registered during the week ending Jan. 27th. The annual rate of mortality in these towns, which had been 30·9, 29·1, and 24·9 per 1000 in the three preceding weeks, further declined to 22·6 last week. In London the rate was 22·2 per 1000, while it averaged 22·8 in the 32 provincial towns. The lowest death-rates in these towns were 8·9 in Cardiff, 10·7 in Croydon, 14·7 in Birkenhead, and 15·3 in Swansea; the highest rates were 29·5 in Liverpool, 29·7 in Wolverhampton, 30·1 in Sunderland, and 30·7 in Preston. The 5025 deaths in these towns included 428 which were referred to the principal zymotic diseases, against numbers decreasing from 578 to 443 in the five preceding weeks; of these 123 resulted from measles, 99 from whooping-cough, 94 from diphtheria, 43 from diarrhœa, 35 from "fever" (principally enteric), 33 from scarlet fever, and one from small-pox. No death from any of these diseases occurred in Gateshead; in the other towns they caused the lowest death-rates in Croydon, Cardiff, Birkenhead, and Newcastle, and the highest rates in Salford, Burnley, Preston, and Sheffield. The greatest mortality from measles occurred in West Ham, Salford, Preston, Bradford, and Hull; from scarlet fever in Burnley and Preston; and from whooping-cough in Birmingham, Liverpool, Salford, Preston, and Leeds. The mortality from "fever" showed no marked excess in any of the large towns. The 94 deaths from diphtheria included 37 in London, 26 in Sheffield, four in Leeds, and four in Liverpool. One fatal case of small-pox was registered last week in Hull, but not one in any other of the 33 large towns. There were 24 cases of small-pox under treatment in the Metropolitan Asylums Hospitals on Saturday last, Jan. 27th, against numbers increasing from five to 21 on the five preceding Saturdays; four new cases were admitted during the week, against one, 10, and five in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2287, against numbers decreasing from 3578 to 2441 at the end of the 10 preceding weeks; 190 new cases were admitted during the week, against 186, 180, and 207 in the three preceding weeks. Influenza was certified as the primary cause of 152 deaths in London last week. The deaths referred to diseases of the respiratory organs in London, which had been 1221, 994, and 728 in the three preceding weeks, further declined to 490 last week, and were 70 below the corrected average. The causes of 62, or 1·2 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Newcastle, and in 11 other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Sheffield, Hull, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 23·0 and 23·3 per 1000 in the two preceding weeks, further rose to 23·4 during the week ending Jan. 27th, and was 0·8 per 1000 above the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 15·2 in Leith and 15·9 in Paisley to 26·7 in Dundee and 27·6 in Aberdeen. The 723 deaths in these towns included 32 which were referred to measles, 23 to diarrhœa, eight to scarlet fever, eight to whooping-cough, seven to diphtheria, and three to "fever." In all 81 deaths resulted from these principal zymotic diseases, against 64, 65, and 61 in the three preceding weeks. These 81 deaths were equal to an annual rate of 2·6 per 1000, which was 0·7 above the mean rate last week from the same diseases in the 33 large English towns. The 32 fatal cases of measles corresponded with the number in the preceding week, and included 19 in Glasgow, eight in Dundee, two in Greenock, and two in Perth. The deaths from diarrhœa, which had declined from 17 to seven in the four preceding weeks, rose again last week to 23, of which 13 occurred in Glasgow, three in Dundee, and three in Aberdeen. The fatal cases of scarlet fever, which had been four and eight in the two preceding weeks, were again eight last week, and included six in Glasgow. Of the eight deaths from whooping-cough, which were equal to the number registered in the preceding week, five occurred in Glasgow and two in Edinburgh. The fatal cases of diphtheria, which had been three, five, and seven in the three preceding weeks, numbered seven last week, and included three in Glasgow and two in Dundee. The three deaths from "fever," all of which were registered in Glasgow, showed a decline of three from the number in each of the two preceding weeks. The deaths from diseases of the respiratory organs in these towns, which had declined from 253 to 198 in the four preceding weeks, further decreased to 172 last week, but were 11 above the number in the corresponding period of last year. The causes of 20, or nearly 3 per cent, of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death rate in Dublin, which had been 50 3, 49 4, and 44 0 per 1000 in the three preceding weeks, further declined to 38 6 during the week ending Jan. 27th. During the past four weeks the death-rate in the city has averaged 45 6 per 1000, the rate during the same period being 29 9 in London and 22 2 in Edinburgh. The 259 deaths registered in Dublin during the week under notice were 36 below the number in the preceding week, and included 10 which were referred to the principal zymotic diseases, against 31 and 22 in the two preceding weeks; of these five resulted from measles, three from whooping-cough, one from diphtheria, one from "fever," and not one either from small-pox, from scarlet fever, or from diarrhœa. These 10 deaths were equal to an annual rate of 1 5 per 1000, the zymotic death-rates during the same period being 1 8 in London and 0 9 in Edinburgh. The fatal cases of measles, which had been 18 and nine in the two preceding weeks, further declined last week to five. The deaths referred to whooping-cough, which had been one and three in the two preceding weeks, were again three last week. The mortality both from diphtheria and from "fever" showed a decline from that recorded in recent weeks. The 259 deaths in Dublin last week included 32 of infants under one year of age and 91 of persons aged upwards of 60 years; the deaths of infants exceeded the number in the preceding week, while those of elderly persons showed a decline. Seven inquest cases and two deaths from violence were registered, and 91, or more than a third, of the deaths occurred in public institutions. The causes of 15, or nearly 6 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified: — Staff-Surgeon: James L. Smith to the *Ocean*. Surgeons: Edward C Sawdy to the *Ocean*, William Hackett to the *Pique*; Thomas D. Halahan to Plymouth Hospital; Kenneth H. Jones to the *Pembroke*, Henry E. Raper to the *Repulse*, and James M. G. Swainson to the *Trafalgar*.

ROYAL ARMY MEDICAL CORPS

Lieutenant-Colonel C. Healy, retired pay, proceeds to Cork for duty. Captain P Evans has arrived at Portsmouth for duty. Major H B. Mathias is selected for the charge of the Mosely Hospital for South Africa. Lieutenant-Colonel E. J. Fairland, A M.S, retired pay, joins the Home District for temporary duty as a Recruiting Medical Officer, and Majors D. Stiell and R. H. Clement join at Woolwich.

THE CITY OF LONDON IMPERIAL VOLUNTEERS.

Surgeon-Captain R. R. Sleman, 20th Middlesex Volunteer Rifle Corps, to be Medical Officer, with the temporary rank of Captain. Surgeon-Captain A. Thorne, 2nd Middlesex Volunteer Artillery, to be Medical Officer, with the temporary rank of Captain. Surgeon-Captain E. V. St. V. Ryan, 16th Middlesex Volunteer Rifle Corps, to be Medical Officer, with the temporary rank of Captain.

VOLUNTEER CORPS.

Artillery: 1st Cheshire and Carnarvonshire: Surgeon-Lieutenant W. G. Owen resigns his commission. *Rifle*: 1st Volunteer Battalion the Queen's Own (Royal West Surrey Regiment): Thomas Francis Devane, to be Surgeon-Lieutenant. 1st Cadet Battalion the Queen's Royal West Surrey Regiment: A. C. Ellman to be Acting Surgeon. 1st (Brecknockshire) Volunteer Battalion the South Wales Borderers: Hubert Williams to be Surgeon-Lieutenant. 1st Tower Hamlets: Surgeon-Captain J. P. Simpson resigns his commission.

TRANSVAAL WAR NOTES.

It is expected that the *personnel* of the Imperial Yeomanry Hospital will start next week or early the week following for South Africa. Huts for 200 beds, it is hoped, will be ready when the hospital and staff arrive at Cape Town.

Mr. A. Mosely, a Bristolian living in London, has presented a field hospital, which is to be called the Princess Christian Hospital, to the War Office. It will contain 100 beds and be stationed in the neighbourhood of Cape Town. Major H. B. Mathias, R A.M C, will be at the head of the five surgeons employed, and Mr. J. Paul Bush will be placed in charge of the civil section. Nurse Lawrence, daughter of Judge Lawrence of Cape Town, with four sisters, will take over the nursing department. Six non-commissioned officers and 24 ordnance men will complete the staff.

Mr. L. Echenard-Neuschwander has placed at the disposal of convalescent English officers returning from South Africa four rooms free of expense at the Grand Hôtel du Louvre et de la Paix at Marseilles. This offer has received the approval of the War Office.

Captain C. Dalton, R A M.C, was severely wounded at the operations at Chieveley on Jan. 23rd.

In a despatch from Modder river dated Dec. 1st referring to the operations there on Nov 28th Lord Methuen says:—"Again I call attention to the splendid hospital arrangements, for at 4.45 P M. on the day after the fight all my wounded were on their way to Cape Town. I am glad to have been slightly wounded, because in no other way could I have learnt the care taken of the wounded, and there was nothing officer or private soldier required that was not provided at once, and the medical officers never tired in their endeavour to alleviate suffering."

THE ROYAL ARMY MEDICAL CORPS IN EGYPT.

The *London Gazette* of Jan. 30th contains a despatch, with enclosures, from Lord Kitchener of Khartoum to the Under-Secretary of State for War, London. In an enclosure from Colonel Sir F. R. Wingate, commanding troops on the White Nile, dated Fachi Shoya, Nov. 25th, 1899, Colonel Wingate says: "Lieutenant Stallard (Royal Army Medical Corps) was in charge of the medical arrangements, and was ably assisted by Lieutenant Nickerson (Royal Army Medical Corps) These officers did all that was possible, not only to alleviate the sufferings of our wounded, but were also indefatigable in attending to the Dervish wounded, large numbers of whom passed through their hands" Lord Kitchener in his despatch says, "I freely endorse Colonel Wingate's remarks on the good services of the officers and men he has mentioned."

MALARIA AND BLOOD PARASITES.

In the *Archives de Medecine Navale* for November, 1899, Dr. H. Gros has a long and exhaustive review of Dr. Hans Ziemann's work on blood parasites in malaria.[1] "Although we think it is our duty to recommend the perusal of this *brochure* to all who take an interest in the highly important question of impaludism," says the reviewer in his exordium, "we shall nevertheless give a very complete *résumé* of M. Hans Ziemann's work. In it the author expounds the results of his own researches, which refer to 254 cases of malaria observed in Germany, in Italy, and under the tropics. The amount of research hereby indicated is most creditable and if we feel bound to differ with some of the conclusions arrived at by the author it is because they are often opposed to those of the Italian observers and also to those of M. Laveran, whose competence in the matter is indisputable." Dr. Ziemann has divided his subject into 17 sections, as follows: 1. A brief historical sketch in which the views of Golgi, Mannaberg, and the Italian school are given. 2. Classification of the malarial parasites. Dr. Ziemann accepts the following varieties: (*a*) the parasites of benign quartan ague; (*b*) of benign tertian ague; (*c*) of quotidian ague, malignant tertian and perhaps quartan, and irregular, capable of producing crescentic bodies. 3. General morphology and biology of the malarial parasites. 4. The parasite of quartan ague. 5. The parasites of tertian ague. 6. The parasites of æstivo-autumnal fever (pernicious fever of the tropics). 7. Sterile forms. 8. The clinical importance of searching for the parasites in tropical fevers. 9. The effects of various conditions and substances on malarial parasites. 10. Life of the parasites outside the human *body and modes of entry therein*. 11. Incubation. 12. The place in the animal kingdom occupied by the malarial parasites. 13. Researches regarding blood parasites in the cattle fever of Texas. 14. Parasites in the blood of birds. 15. Blood parasites in the owl (*Athene noctua*). 16. *Parasites in cold-blooded animals*. 17. Denying the existence of cytamœba bacterifera of Labbé, which the author believes to be an ordinary bacterium. Dr. Ziemann concludes with a description of the methods of colouration employed by him, and also gives various hints as to the best way of obtaining fine preparations. His work is well illustrated with engravings and photographic reproductions.

---

[1] Ueber Malaria und andere Blutparasiten, nebst Anhang, eine wirksame Methode der Chromatin und Entfarbung Fischer, Jena, 1898

ARMY MEDICAL SCHOOL, NETLEY.

The seventy-ninth session of the Army Medical School, Netley, was brought to a close on Jan. 30th. In consequence of the war in South Africa there was no public distribution of prizes. It will be remembered that the officers of the Royal Army Medical Corps passed out of the school in two batches during the months of November and December. Most of them are now in South Africa.

INDIAN MEDICAL SERVICE.

The following is the list of surgeons on probation who were successful at both the London and Netley examinations, Jan. 30th, 1900. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley and the combined numbers are accordingly shown in the list which follows.

	Marks.		Marks.
*A. C. MacGilchrist ...	6063	T. G. N. Stokes	4694
J. W. D. Megaw	5369	H. M. Mackenzie	4686
†E. O. Thurston	5224	M. H. Thornely	4620
G. Browse	4996	F. V. O. Beit	4473
C. M. Goodbody	4991	W. O'S. Murphy	4305
R. Steen	4970	M. Corry	4173
F. F. Elwes	4965	C. C. Murison	4097
J. L. MacInnes	4882	H. A. Williams	3963
E. A. C. Matthews... ...	4851	W. C. Long	3954
‡L. P. Stephen...	4845	G. C. Beamish...	3743
L. Gilbert	4813		

* Gained the Herbert Prize of £20, the Martin Memorial Medal, the Parkes Memorial Medal, the Second Montefiore Prize in Military Surgery, the Pathology Prize presented by the Director-General, A.M.S., and the Maclean Prize for Clinical and Ward Work.

† Gained the First Montefiore Prize of 20 guineas and the Bronze Medal in Military Surgery.

‡ Gained the de Chaumont Prize in Hygiene.

The following gentlemen obtained honourable mention in the subjoined departments:—Military Surgery: Mr. R. Steen, Mr. E. A. C. Matthews, and Mr. F. F. Elwes. Military and Tropical Medicine: Mr. H. M. Mackenzie, Mr. J. W. D. Megaw, and Mr. L. P. Stephen. Military Hygiene: Mr. T. G. N. Stokes, and Mr. H. M. Mackenzie. Pathology: Mr. E. O. Thurston and Mr. J. W. D. Megaw.

ROYAL ARMY MEDICAL CORPS FUND.

Since we called attention to the starting of this fund last week we learn that already a good many subscriptions have been received and many additional ladies have joined the committee, amongst whom we may mention Lady McGregor, Lady Burdon Sanderson, Mrs. Godley, Mrs. Butlin, Mrs. Berkeley Hill, Mrs. Meredith, Lady (Michael) Foster, Lady (Russell) Reynolds, Lady (Georgiana) Curzon, Lady Kennedy, Lady Hanbury, Mrs. Willett, Mrs. Buzzard, Mrs. Bradford, Mrs. Arbuthnot Lane, Mrs. Field, Mrs. Lauriston Shaw, Mrs. R. C. Lucas, and Mrs. Davies-Colley. The first meeting of the committee will be held on Monday afternoon next at 5 o'clock. Lady Duckworth has kindly consented to receive the meeting at her house, No. 11, Grafton-street, Piccadilly. An executive committee will be formed and the progress of the Fund will be reported. We understand that arrangements have been made through the Army Medical Department for the immediate despatch of a number of flannel shirts which have been already sent in. We hope next week to publish a full list of the committee and of the subscriptions. We may again mention the name and address of the honorary secretary—Miss Maxwell Muller, 100, Victoria-street, S.W.

DEATHS IN THE SERVICES.

Surgeon-Major Alexander Charles Archibald Alexande of Boydstone (1st Coldstream Guards) on the 23rd of las month. After qualifying he obtained a commission in th 3rd Battalion of the Royal Scots Fusiliers and served later i the 3rd Battalion, Coldstream Guards, which accompanied in the Suakim Expedition in 1885, and present at the engagements at Hasheen, at that near Tofrek and at the destruction of Temai (medal with clasp Khedive's star). Last year he returned from Gibraltar o sick leave, having had a slight sunstroke, from which unfortunately he did not entirely recover, so that to his great he was unable to accompany his regiment on the presen South African campaign.

THE LEGION OF HONOUR.

By virtue of a Presidential decree dated Dec. 25th, 1899 the dignity of knighthood in the Legion of Honour has bee conferred upon Dr. Finot, an officer of the French militar medical service. The *Journal Officiel* announces the distinction in the following terms:—

> Finot (Charles Jules Gabriel), Surgeon-Major of the Second Clas in the 15th Regiment of Artillery; 12 years' service, two campaign (Soudan). In the various engagements undertaken by the Sikass Column M. Finot constantly marched with the leading detachments exposing himself as much as the combatants and affording immediat aid to the men who were wounded by poisoned arrows.

LEAN'S ROYAL NAVY LIST.

No one who desires to know anything about the Roya Navy can afford to neglect this excellent publication, th eighty-ninth number of which lies before us. Here can b found the records of war and meritorious services of th officers of the Royal Navy, the Royal Marines, and Roya Naval Reserve, as well as a mass of information relating t ships and their war services. The publishers are Messrs Witherby and Co, 326, High Holborn, and 4, Newman's court, Cornhill.

COMPULSORY HOME SERVICE IN THE MILITIA.

We would call attention to a circular letter issued by Lor Wemyss on this subject in connexion with the propose application of the militia ballot. The letter is both interesting and useful in that it affords brief summary statements of the opinions that have been expressed by variou authorities on a subject of great importance and one which i attracting a good deal of attention at the present time.

THE WAR IN SOUTH AFRICA.

THE present time is one of depression and anxiety. A man who can make and enjoy a hearty breakfast after glancing at his morning paper requires to have a keen and vigorous appetite, and those who do not possess it or who are at all out of health will do well to defer the perusal of their newspaper until they have breakfasted. To sum up the situation briefly and to go to the root of the matter, our force in South Africa is not strong enough for the work which it has to do; our troops are usually outnumbered, the natural obstacles to be overcome are exceptionally difficult, and there are not any points at all capable of being defended of which the Boers have not in advance taken all possible advantage by strengthening them with entrenchments and every other artificial means in their power. The nation must be content to wait until a strong force can be organised and concentrated for the invasion of the enemy's territories with a definite end in view, which should, at any rate, have the effect of drawing off the Boer troops from their present positions. Meanwhile there is no wavering in the determination of the nation or the Government to prosecute the war to a successful issue, and a noteworthy illustration of the way in which all classes of society are responding to the national call was to be seen the other day at St George's Barracks, where a large number of well-connected young fellows had enrolled themselves as troopers in a corps of Yeomanry Infantry.

It is recognised on all sides that the Royal Army Medical Corps is doing splendid work in South Africa. The first official despatches from the seat of war, in which the generals give an account of their battles, have been received and published in the *London Gazette*. They are forwarded by Sir Redvers Buller and include reports from Lieutenant-General White and Lord Methuen and their subordinate officers, and treat of the actions at Glencoe, Elandslaagte, Rietfontein, Willow Grange, Belmont, Enslin, Modder river, and Colenso. These despatches furnish strong testimony to the grand character of the work that is being done by the medical officers, as may be seen by the following extracts. Lord Methuen reports:—

> I again draw attention to the exceptional organising power of Colonel Townsend at Swink's Pan at 11 30 P M I was informed that owing to all the ambulances having been used for taking the wounded to the train at Belmont I had scarcely a field hospital mounted officer, only three ambulances, and three stretchers. I knew I had to fight next morning so got together 60 blankets in order to carry wounded with help of rifles. I also sent to Colonel Townsend to make arrangements for wounded by 3.0 A.M, a messenger having to ride seven miles to him. He met me on the field with full supply of ambulances and I never saw anything more of him or the wounded because he had a train ready for them between Gras Pan and Belmont. His only complaint is that there is not much of his mules left, an observation which applies equally to men and animals

In a despatch descriptive of the operations at Modder river attention is called to Captain S G Moores, R A.M C., who, although wounded in the hand, said nothing but continued his duties. And Lord Methuen concludes this despatch with the following:—

> Again I call attention to the splendid hospital arrangements, for at 4 45 P.M. on the day after the fight all my wounded were on their way to Cape Town.
>
> I am glad to have been slightly wounded because in no other way could I have learnt the care taken of the wounded, and there was nothing officer or private soldier required that was not provided at once, and the medical officers never tired in their endeavour to alleviate suffering

These reports may be taken as samples of the general purport; they are eminently satisfactory and the officers of the Royal Army Medical Corps are to be sincerely congratulated. The army medical system in the field has been well thought out and organised and has been adopted after ample experience of its adaptation to the objects in view.

Reuter's Agency has been authorised by Lord Roberts to state that he has made a most careful inspection of all the hospitals at Cape Town and is perfectly satisfied that everything is done that can be done or that medical skill can suggest for the benefit and comfort of the sick and wounded. At the time of his visit there was some question of asking for additional nurses, but he found that the request in the sense which he had conveyed had already been anticipated by the home authorities, who cabled that they were sending as many nurses as he considered necessary to meet all possible requirements of the troops.

FATAL INJURIES WITHOUT APPARENT LESION.

Mr. S Osborn, F.R.C S Eng., chief surgeon to the Metropolitan Corps of the St John Ambulance Brigade, sends us the following interesting communication.—

Whilst volunteering as a surgeon amongst the wounded Greeks in the late Turco Greek war the following cases of fatal injuries without visible lesion presented the greatest interest. The ship *Albania* having been handed over to me I arranged it for the purposes of a hospital ship and proceeded to Volo with the idea of clearing the station hospitals situated there and leaving them ready for any further cases that might be brought down from the front The battle of Velestino taking place on my arrival and the town of Volo being subsequently occupied by the Turks necessitated not only my carrying out the above project but also removing, in addition, those of the wounded who had been brought direct from the battle field, and it was amongst the latter that these cases were found to which I desire to draw attention. There were three in all. One patient died on his way to the ship and was not taken on board and the other two patients died in a few hours and before the ship reached the Piræus. It is much to be regretted that on account of the amount of work and limited space at disposal no operation was attempted or post mortem examination performed. The symptoms were intense pain in the abdomen, generally referred to the pit of the stomach, accompanied by all the signs of shock and attended with constant retching The urine was drawn off and was quite natural. There was no external wound of any description, not even any bruising. The patients were kept under observation and under the influence of opium with the intention of being subjected to operation as soon as circumstances would permit, but which the fatal termination prevented.

What were these cases? We know the serious effect of buffer accidents, also of blows delivered "below the belt," to use fighting parlance, and also of what are called "wind
contusions" and
The soldiers them
violent blow in t
delivered they we
organ and conc
appear to be the
We all know the
blow in this situ
produce such a
sympathetic nerv
termination and e

In the present
occurred judging
one of the daily p
armour-piercing s
father and son,
Strange to say, in
visible wounds of
again under the
may yet be throw
tive interference
immediate applica
now draw attention to these ca

(NOTES FROM SIR WILLIAM MACCORMAC)

(*Continued from p 158*)

Durban, Dec 28th, 1899.—This morning I visited two of the hospital ships—viz, the *Lismore Castle* and the *Nubia*. The *Lismore Castle* was originally chartered by the Government from the Castle Line as an ordinary transport ship for troops. A sudden order having arrived that another hospital ship was to be equipped at once to supplement the *Spartan* (the first hospital ship fitted up at home), this vessel was chosen. She was handed over to the Admiralty on a Monday; two days were more or less occupied in coaling, and in spite of this the vessel was equipped and actually received sick on the Saturday, four and a half actual working days having been sufficient, under the management of Captain Holland, Indian Marine, and Major McCormack, R A.M.C, for the whole transformation. When the fittings of this ship as she now stands are compared with her previous accommodation as a troopship it is obvious that the quickness and method with which the work was completed reflect the greatest credit on all concerned. The Admiralty carpenters were ably assisted by civilians from Durban. The ship is at present under the medical command of Civil Surgeon Brodie, no Royal Army Medical Corps officer being available He is assisted by three other civil surgeons and has under his command the following staff one army nursing sister, four civilian nurses, 30 civilian male medical attendants, two qualified civilian dispensers, and one sergeant and nine men of the King's Royal Rifle Corps (to be used as fatigue men, guards, &c.)

The ship is noted as being particularly steady at sea Her tonnage is 4000 and she can provide for 250 sick, including convalescents. On the main deck are situated an officers' ward, an orderly room, an operating theatre, 15 convalescent officers' cabins, a disinfecting bath-room for linen, &c, three officers' bath-rooms, two water-closets, the mortuary, a dining saloon, a bar, &c. The officers' ward is situated in the stern of the ship It is a well-ventilated and comfortable cabin, running from side to side of the vessel, thus allowing of a free current of air. This ventilation is assisted by an electric air fan which materially helps to circulate the air. There are four beds in the ward, consisting of cots which can be allowed to swing or be made fast at will. Each cot is provided with mosquito curtains and can be separated from its neighbours by ordinary canvas curtains, forming a separate cubicle for each patient The ward is also provided with a kettle which can be heated very quickly by electricity. There is an ample supply of flowers and easy chairs, which are supplied both for the officers' wards and the men's wards by the ladies of Durban and by the Castle Company. This ward is lighted—as is, indeed, the whole of the ship—by electricity. The operating room consists of a specially constructed cabin, painted inside with white enamel, and the floor is covered with oil cloth. It is provided with a very serviceable operating table, which was purchased locally, an electric heated steriliser, moveable electric lanterns, and jars of antiseptic fluid, and it makes an airy, well lighted, and suitable room for the purpose. The [illegible] consists of 15 of capable of ly double-berthed passenger cabins, each labeled logy and lvalescent officer," and of these cabins three are of quart-hed and can accommodate two officers each. parasitortuary is situated in a cabin on deck in a far tropi. and is provided with a lead-covered table, &c. seardining-saloon is the ordinary saloon and is occupied by off medical officers, ships' officers, and nurses. The bar is poked after by the ship's steward, who is daily indented upon for the liquor required for the wards. The lower deck is divided into four wards, lettered respectively A, B, C, and D. A Ward is situated in the fore part of the ship and can be occupied by 150 convalescent men, who sleep in hammocks. B Ward contains 56 beds, C Ward 22 beds, and D Ward 21 beds. All of these wards run from side to side of the ship. The whole of the original inside of the ship's sides is covered by a wainscoting painted white. Two electric fans in each ward afford great comfort, and B Ward, being specially large, has four fans. The beds are all fixed, each one being provided with a hanging rope from the deck above, so that the patient may pull himself up in bed. There are easy chairs, flowers, books, handfans, and so on, to add to the comfort of the patients. In the fore part of A Ward is a bath-room supplied with fresh water and salt water, a pantry, a linen locker, and a disinfecting bath. This also is lighted by electricity. Two specially constructed lifts are used to convey the serious cases from the main deck and upper deck to the lower deck, the stretcher being placed upon the lift which is lowered by hand pulleys. Instead of the ordinary ship's ladders, long wide stairways with a very easy gradient have been fixed up, so that the men may reach the main and promenade decks without difficulty or fear of accident. The sick attendants are accommodated below A Ward, on the orlop deck. The main promenade deck has been given over to the convalescent patients and the bridge deck is reserved for the officers, who also have the use of the ship's smoking-room on this deck. Sick warrant officers are provided for in suitable ship's passenger cabins situated near D Ward on the lower deck. The whole ship outside was re-painted white and a large red Geneva cross has been added amidships. The Admiralty spent £1600 upon her re-construction, and in addition numerous articles have been added by the Donald Currie Line and by the ladies of Durban.

Having inspected the *Lismore Castle* we next visited the Peninsular and Oriental Company's ship *Nubia* lying close by. This ship had also been in use as a troopship until Dec. 26th, when orders were received to convert her into a third hospital ship, to be ready for occupation on Jan. 5th. At present she is in the hands of the workmen and is rapidly losing all internal recognition as a passenger ship. She is large and well ventilated, is painted white within and without, and is being fitted up on exactly the same lines as the *Lismore Castle*. Her medical staff has not yet been appointed. It is hoped that an officer of the Royal Army Medical Corps may be found available to take command, but the short-handedness of this corps at present with the large army at the front makes it probable that the vessel will be managed by civilians under the supervision of the principal medical officer of the Natal Field Force.

The whole of the inside of the bulwarks of the vessel are being wainscoted in the same manner as the other ships. The same electric air-fans and hot-water kettles, baths, water-closets, dispensary, &c., will be fitted up as in the other ships, and the general arrangements and distribution will be according to the following plan. The officers' ward will contain 10 cots and the officers' convalescent cabins 27 cots. The men's wards will be lettered respectively A, B, C, D, E, F, and G. A Ward will contain 100 cots (60 swinging and 40 fixed), B Ward 28 fixed cots, C Ward 28 fixed cots, D Ward 200 hammocks for convalescents, E Ward 30 fixed cots, F Ward 24 fixed cots, and G Ward 25 fixed cots, providing a total accommodation for 472 sick and convalescent patients. Each ward will be supplied with three electric fans, an electric kettle, a pantry, two baths, and from three to five water-closets. There will also be an antiseptic receptacle in each ward. The upper decks are very commodious and will be used for exercise as in the other ships.

On considering the most extensive surgical and medical work carried on in connexion with the Natal Field Force and the immense quantity of appliances and drugs which are being consumed by the field hospitals, bearer companies, regimental medical staff, stationary field hospitals, large hospitals on the lines of communications, hospital trains, and hospital ships—the arrangement and efficiency of which I have personally tested and described—the presents itself as to the sources of supply of all the bandages, drugs, splints, instruments, &c., whose renewal, especially after an engagement, becomes such an imperative matter. In order to satisfy myself upon these points and to the description of the medical arrangements in connexion with Natal I visited Major Mc Cormack, R.A.M.C., who is in sole charge of the Base Medical Stores Depôt situated in Durban.

The base depôt has been established in the goods shed of the railway station at Durban which has been kindly placed at the disposal of the Royal Army Medical Corps by Mr. D. Hunter, C.M.G., the general manager of the Natal Government Railway. This position was selected by Major Mc Cormack because (1) it is in direct rail communication with the wharf whence supplies arriving by steamer can immediately be run on trucks direct to the shed; (2) shed is practically on the departure platform and an arrangement having been made for the transmission of all medical supplies by mail train or passenger train no time is lost in their dispatch, and medical officers at the hospitals can thus receive their supplies a few hours after the dispatch of the wire demanding them; (3) it is within a few yards of the post and telegraph offices and is in immediate touch with the railway officials, who are doing everything in their power to accelerate the delivery of the stores as required; (4) electric light is also available being easily carried into this shed, so that work may be carried on by night, which is often necessary, as well as day; and (5) the shed is also very dry and safe. The supplies have all been forwarded from England, but in case of any unforeseen call upon his resources Mc Cormack has obtained lists and prices from all the chemists of Durban of all that can be purchased locally in case of need. He is also in direct communication by cable with the Director-General of the Army Medical Service, so that a continuance of the British supplies is assured with the smallest possible delay.

In order that the medical units actually engaged in the field may be able to replenish their supplies at the shortest notice a branch of this base depôt in the shape of an advance medical store train has been organised. This train consists of three large railway goods trucks. Accommodation is provided for a lieutenant and quartermaster (in charge), one sergeant, and two men, who live continuously on board. The trucks are so fitted and shelved that a large quantity of medicines and surgical material can be carried and so arranged that the contents of every box (which are printed on the outside) are available at a moment's notice. The materials contained in these boxes are those required to replenish the field-panniers, surgical haversacks, and field companions used by the regimental medical staff and bearer-companies. Two of the trucks have at present been sent forward with their *personnel* on board to the principal medical officer and the third truck remains here in reserve, ready to be filled up and instantly despatched by special engine. The idea of this advance train is that it may be pushed as far forward as possible and kept moving from siding to siding as the troops move forward. This plan was carried out in the Colenso battle and there was in consequence no risk of the field force running short of any medical requirement and every medical officer had everything he wanted on an occasion when exceptional demand had to be made.

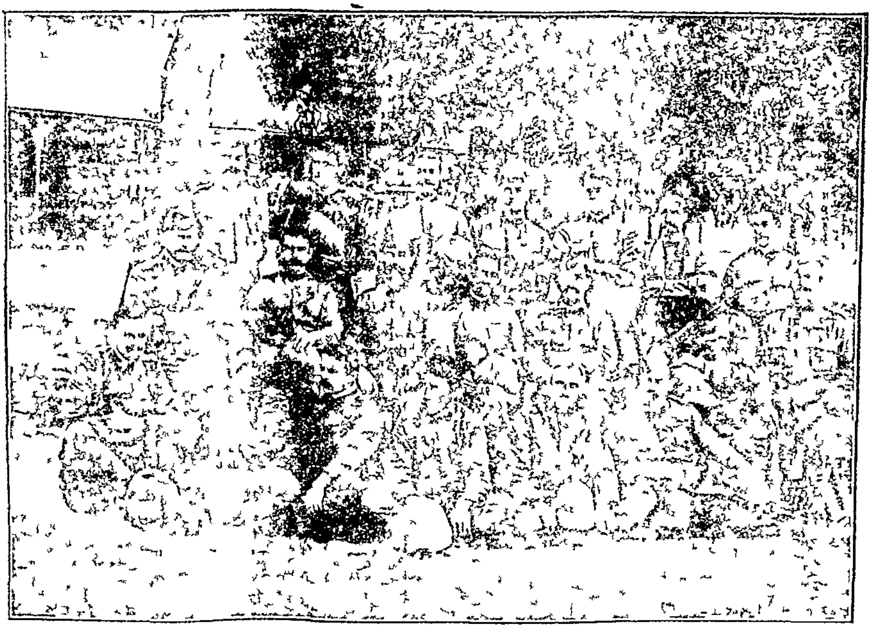
WILLIAM MAC CORMAC.

(FROM OUR WAR CORRESPONDENT.)

Cape Town, Jan. 8th.—Having spent some time in the collection of reliable records I am able to give you the admissions to hospital up to date. At No. 1 General Hospital, Wynberg, they are as follows: 125 officers, 1204 non-commissioned officers and men, 15 wounded Boers—total, 1344. The deaths up to date in this hospital have been three officers and 20 non-commissioned officers—total, 23. At No. 2 General Hospital there have been admitted 580 non-commissioned officers and men. The deaths up to date have been those of 11 non-commissioned officers and men.

The following operations have been performed in No. 1 General Hospital:—Amputations: of the thigh at the middle third, one; of the leg, three; of the thumb, one; of the finger, three; of the arm, one; and of the forearm, one. Excisions: of the elbow, one; of the eyeball, three; of the metacarpal bone one, and of part of the ulna, one Cases of trephining, five, of laparotomy, two, of paracentesis thoracis one, of extraction of bullets, 30, of exploration five, removal of glands one, removal of splinters of the humerus one, and of tumour one—total, 62 In No 2 General Hospital —Amputations of the thigh, one, of the shoulder, one of the leg two, and of the fingers two Cases of trephining, three, of laparotomy, one, of enucleation of eyeball one, of resection of rib one, and minor operations, 15—total 27 The deaths up to date in No 2 hospital were—one from gunshot wound of the skull and brain one from lacerated bladder (gunshot) two from penetrating wound of the abdomen two from scalp wound and fractured skull (gun shot) one from fractured spine (gunshot) one from shock after excision of the right arm excised at the shoulder joint one from tetanus (left thigh and buttock, already referred to) one from dysentery, and one from gunshot wound of the brain thorax and abdomen—total 11

A sad and very curious case was that of a Naval Brigade man A Mauser bullet struck a cartridge he was carrying in his bandolier causing it to explode and enter his abdominal cavity, I regret to add with fatal effect This brave fellow s latest words were that he would not have cared if a Boer had shot him, but to be killed by one s own shot was much too hard lines'



The Staff of No 1 General Hospital, Wynberg

My attention has been called by Colonel Anthonisz Principal Medical Officer 1st General Hospital to the fact that several of the new drugs are not in the scheduled list They are not included either in the Indian list, but out there a rather happy custom prevails to overcome the omission which might with advantage be copied by the authorities at home Every medical officer in charge in India gets an extra allowance of 50 rupees a year to procure any new remedy that he requires No doubt the authorities here would instantly supply what is needed, but a certain routine has to be gone through and much valuable time is often wasted in procuring what ought to be ready at hand to meet a pressing necessity

If every possible care has been taken of Tommy Atkins his wife and children have not been forgotten during his absence at the front A few days ago I had the pleasure of being present at one of Mrs, R Chamberlain's pleasant Christmas treats to the young ones in the schoolroom at the medical camp The tables literally groaned under the weight of good fare for both young and old and the concert which followed conducted by such proficient musicians as Mrs O Brien Lieutenant Chalk and others failed not to interest and amuse all the wounded who were present thereat Mrs R Chamberlain and her willing workers received such a reception as will long be remembered and will doubtless convince them that their labour of sympathy and love was thoroughly and deservedly appreciated by all present

In order to relieve the three general hospitals of convalescent officers a portion of the sanatorium at, or near to Claremont has been secured This building (a fine and imposing structure) was built by an American firm and is located in a healthy and cheerful spot which commands an excellent view of Table Mountain Its accommodation is both ample and good and equals if it does not excel, anything in or around Cape Town It is built in three or four storeys the corridors being both lofty and wide The fittings are modern and the bedrooms (106 in number) are replete with everything necessary for a sick person s comfort There are some 35 convalescent wounded officers located in this charming retreat and all seemed by their own statements to be progressing most favourably towards recovery

Jan 9th —No 3 Hospital Train has just arrived from the Orange River and the De Aar districts bringing down three officers and 50 wounded and sick men, most of whom were located in No 3 Hospital at Rondebosch under the superintendence of Lieutenant Colonel Wood, R A M C and his most efficient staff A few were sent to the Duke of Portland s Hospital at Rondebosch an institution providing 110 beds the whole cost of which has been borne by the Duke It is in charge of Major Kilkelly R A M C and amongst other notabilities on the staff are Lord and

Lady Henry Bentinck, these living at present under canvass.

I am happy to state that in spite of much wind and constant dust storms the health of the troops in the Orange River district remains exceptionally good, and the Red Cross Society, under the very able control of Colonel Young, is doing grand work by a liberal distribution of medical comforts, such as mineral waters, preserves, fruits, and tobacco. These gifts are much appreciated by the troops, who are sensible of the great kindness of the donors. The inhabitants of Cradock district forwarded over £200 worth of goods for the sick and wounded. The woollen pyjama suits served out by the Red Cross Society to all the sick and wounded have been especially appreciated.

Having learnt that some sickness prevails in a military camp distant about 40 miles from Cape Town, I am going there at once to learn all particulars, especially as there is some doubt as to the pureness of their water-supply.

(FROM OUR SPECIAL CORRESPONDENT AT THE BASE.)

Another blank week as far as we are concerned here, as although there has been fighting on the Natal side most of the wounded will be treated in the hospitals and ships at Pietermaritzburg or Durban. We are sending a large draft of sick and wounded home by the *Majestic* which sails on Jan. 15th, about 150 men and 15 officers; this will clear our hospitals pretty well and give us time for a look round and a general brush-up preparatory to receiving any more who may come down from the Modder River and Spytfontein districts when Lord Methuen's division next makes a start towards Kimberley. I was on board the *Majestic* a few days ago and was very much struck by the splendid accommodation which she offers for transport purposes, and I could not help wishing it were possible for the authorities to take up a couple of ships of her size and splendid accommodation for hospital ships. If a ship like the *Majestic* or *Teutonic* were to sail regularly from Cape Town to Netley, say once a month, there would be no necessity for sending patients by smaller boats and the difference in comfort and quickness of passage would amply compensate for the increased expenditure. I maintain that ships of the size and possibilities of the *Majestic* class are much more suitable for the conveyance of sick and wounded than smaller and slower vessels, their great stability alone being a strong point in their favour when one takes into consideration the kind of weather they will meet with in the Bay and English Channel at this time of year. Whilst on this subject I may say that the *Princess of Wales* hospital ship arrived here yesterday, but I hear rumours of sundry mishaps that have occurred on her outward voyage. However, we will hope she will do better on the homeward trip. The *Nubia*, one of the Peninsular and Oriental transports, is being fitted up in a most complete manner as a stationary hospital ship at Durban and should be a very welcome addition to the medical establishment on the Natal side. All our wounded are doing excellently well and I must say I am greatly in favour of treating cases under canvas. The wounds seem to heal in a more rapid way than they do in permanent buildings, not that the results have not been in every way excellent in the hospital wards in No. 1, but I think that the average time has been decidedly less in cases treated solely under canvas as in No. 2. Sir William Mac Cormac returned to Cape Town from Natal yesterday by the *Norman*. He was present at the big fight at Colenso and was able to see for himself the way the wounded were removed from the field, and I understand that he is full of praise for the manner in which things medical were conducted. We expect Lord Roberts and Lord Kitchener to-morrow, but, of course, I know nothing of their intentions, as that is quite out of my sphere, and the lay journals will give you all the news they consider advisable. When the next batch of invalids go we shall have very few in hospital, and they will principally consist of cases that will be ready to go up again in a few weeks or those whom we consider unadvisable to send to England at this time of year. I have absolutely nothing new to tell you. As I stated before, we have had no wounded down for the last ten days, and those who have read my former letters know all about the cases we have in at present, so that till more fighting takes place on our side I shall have no tale to tell.

Wynberg, Jan. 10th.

Correspondence.

"Audi alteram partem."

"THE CONFERENCE AT NEWCASTLE A THE MIDWIFERY QUESTION."

To the Editors of THE LANCET.

SIRS,—I regret that want of time prevented my reply last week to Mr. Haydn Brown's letter of Jan. 20th. I t the clauses of his suggested scheme *seriatim* and will ans them as briefly as possible. 1. I do not think it would practice be possible to divide the responsibility for a c properly or justly, even if at all, between the nurse and medical man, and the attempt would probably lead to mu unpleasant friction in any case that did *not* progress exac as it should; but if, as arranged in Clause 3, the nurse a "virtually as medical practitioner's assistant" the respon bility surely falls on the medical man, and he would have, as in the case of an ordinary assistant, the opportun of dismissing the nurse if he did not think her a good on he could only dismiss her, and that not directly, in the ca of proved and accomplished malpraxis. Clauses 2, 5, a 6 all relate to questions of fee, which I do not think wo or should be embodied in any Bill. The fee in Clause 5 would be quite inadequate for the medical ma since "obstetric nurse's" fee would, I assume, be not than "former midwife's" fee, the medical man's fee be equal to the "cost of common help usually require that is something varying from 1*s*. to 2*s*. 6*d*., in rare cas perhaps as much as 5*s*. What is the intended effect of t medical man's visit as suggested in the latter paragraph Clause 4? The only object I can see is to shift the respon bility—in theory partly, in practice wholly. Clause 7 wou add a new terror to the practitioner's life and would, mo over, create an unworkable monopoly. We are not deali with paupers only who have to take what they can get a be thankful, but with at any rate all sections of the worki class; and the complications likely to arise between medic neighbours and the difficulties of enforcing the rule are fat objections to that clause and to the following one (Clause 8

I am, Sirs, yours faithfully.

Freshford, Jan. 28th, 1900. CHAS. E. S. FLEMMING.

"ANTI-TYPHOID INOCULATIONS."

To the Editors of THE LANCET.

SIRS,—Will you allow me to make a few friendly crit cisms on this subject as recently treated by Profess Wright in his paper in THE LANCET of Jan. 20th, p. and in a leading article in THE LANCET of Jan. 27t p. 245, in view of its asserted importance as a proph lactic measure and as possibly acting as one means rendering the youthful British soldier more immune to adverse conditions by which he is surrounded at home more especially abroad? I take it that the value of an figures adduced as bearing on the relative immunity of th inoculated as contrasted to the uninoculated will depend o the degree to which it can be shown that the cause generally and uniformly in operation in the sections of th community embraced by the figures. When the cause common to many at one and the same time, under like condi tions pertaining to all within its sphere of action, endemic area or localised outbreak, the outcome of results in the inoculate and uninoculated sections is necessarily of high value; when, on the other hand, the incidence of the disease indicate an agency not common to the whole community or a sectio of it but influencing individuals only here and there, an presumably derived from an outside source—sporadic cases the means of accurate deduction are wanting and a element of uncertainty difficult to eradicate is present Now this latter feature is the predominant one in India enteric fever, while endemic and epidemic outbreaks ar rare. The main mass of disease in this country is made u of isolated cases having but little traceable connexion as t source between each other; the enteric cause impresses bu a few of a large susceptible mass, attacking those only who come within its sphere of action, the source being doubtless outside of the barrack limits, little, however, being known definitely of the *conditions which surround this* outside virus or of the mode or media by which it is transferred to the susceptible soldier With such cases the difficulty in tracing exposure to these sources on the part of an inoculated or uninoculated mass of men and of making deductions on the value of inoculation from the instances of disease is great, for although it may be advanced that both sections are equally liable to exposure to the cause yet unless it can be shown that this feature really occurs in individuals of each section in equal proportion a strong element of doubt is introduced into any deduction made which would require large numbers and an extended period to eliminate From the fewness of attacks in proportion to the large susceptible mass always present in our army in India it is apparent that but a small ratio is really exposed to the sources of this sporadic disease in spite of their undoubted existence and how are we to arrive with reasonable certainty to allow of an accurate deduction in this inoculation experiment at the number of each section contained in this ratio? In the instance of the 2nd Gordon Highlanders adduced in the table at p 152 (one of the strongest supports for protection) during a period of nearly eight months following inoculation (the corps being located partly in a hot plain station and partly in several cool hill stations) in 397 inoculated men, the attacks gave a ratio of 0 25 per cent, while in 614 non inoculated there was a percentage of 2 8—an amount in view of the period embraced, not suggestive of marked prevalence of the cause Now, were the predisposing and exciting causes of enteric fever so equally dispersed over the respective sections in these different stations as to allow of acute deduction on the potency of inoculation from the results?

It is apparent from the table that inoculation does not ensure security, nor does it ensure uniformity in results, the ratios ranging from 0 to 2 1 per cent, and these results do not differ much from those known to occur in newly arrived corps irrespective of inoculation

Professor Wright referring to the battery which showed a result opposed to the other corps (one case occurring in the inoculated section and none in the non inoculated) (p 151) mentions as especially noteworthy "the fact that a battery consisting in large part of men newly arrived from home has in the 11 months subsequent to the institution of the inoculation had only one case of enteric fever", but a reference to the known data *of the incidence of disease* in newly arrived corps prior to inoculation will indicate that this is no new feature as complete exemption has occurred in some instances and but a few cases in several I take it that what is wanted is a degree of immunity beyond what has been already recorded

That the tendency of the results as a whole is hopeful and suggestive is apparent, yet in view of the importance of the point at issue and the necessity of building on a wide and firm foundation I would ask whether better fields of observation do not exist In this country the disease is no less prevalent than in India while the circumstances surrounding it are better known The *results so far as reducing* susceptibility or reducing virulence would here be no less valuable than in India while the experience gained would be elsewhere applicable Or if these experiments must be limited to the military section we have in Dublin at home, and in Malta limited circumscribed communities producing an equivalent in disease to India and probably better spheres of action, while in Bermuda relatively in advance of all other stations at home and abroad in the production of cases, we have with greater prevalence of the cause advantages for studying the outcome of inoculation which few other stations possess Certainly the numbers available in this island are not great yet the value of the accruing knowledge would probably be of a high order

I am Sirs yours faithfully,
FRANCIS H WELCH, F R C S Eng,
Lee Jan. 29th 1900 Surgeon Colonel Medical Staff (retired)

"DEATHS UNDER CHLOROFORM"

To the Editors of THE LANCET

SIRS—The article by Dr Edmunds in THE LANCET of Jan 27th p 227, is a strange mixture of fact and theory The opening sentences entirely agree with the opinions of Lieutenant Clayton Lane I M S and myself, the rest of the article consists of praise of Krohne s inhaler and theories of what is supposed to happen during its use *As Dr Edmunds evidently has failed to grasp my contention* may I quote a portion of my letter to THE LANCET of July 1st 1899, p. 53? I then wrote "In THE LANCET of June 17th you refer to a number of deaths occurring during the administration of chloroform, and, as usual I find detailed accounts of the amount of anæsthetic 'used' or 'given' Even where not expressly stated it appears *to* be inferred that if a drachm is 'used the patient gets a fixed percentage of this drachm into his blood *via* the lungs Nothing could be further from the truth Anyone who has given a large number of anæsthetics knows how the depth and frequency of respiration vary in different patients and at different times in the same patient consequently, although it is easy enough to say how much chloroform has been vapourised in a given time it is impossible to say how much of this vapour has been inhaled by the patient The only approximately correct method of calculating this is to administer the chloroform from an airtight inhaler which from the concentrated vapour so produced is rightly condemned as being highly dangerous With many of the elaborate machines now in vogue it is easy enough to blow a certain percentage of chloroform vapour at the patient, the difficulty is to get him to inhale the same at a uniform rate Apart from the saving of chloroform, which is cheap enough, I fail to see any advantage in anæsthetising a patient by means of a cumbrous apparatus and 'using' only half a drachm over the production of the same results by means of half an ounce gradually dropped on a simple mask such as Skinner s If the patient does not absorb a similar dose of chloroform in each case why do we get a similar result?" I am still awaiting a reply to this query In reply to Dr Edmund s query I may say that I set out with the object of inducing anæsthesia slowly and quietly in from about 10 to 12 minutes and of maintaining this state with regular pulse and respiration and contracted pupils I am in the habit of administering chloroform almost daily on lint spread on a metal frame commencing with one minim doses every 20 seconds and gradually increasing the dosage up to five minims or more if required When complete anæsthesia is produced I find from three to five minims every half a minute usually sufficient to keep up regular anæsthesia but I am guided rather by the state of the pulse respiration, and pupils than by any hard and fast rule as to the amount *of chloroform* and vary the amount accordingly In other words I am guided by the state of patient and not by the amount of chloroform which theoretically ought to be used An experience of over eight years hospital in addition to private practice has proved to me the practical efficiency *of this method and its relative* (not absolute) safety as compared with other and more elaborate methods The academical discussion as to whether this is a rule of thumb method or scientific dosage does not interest me The fallacy of comparing a drug administered by the stomach in solid or liquid form with a vapour given from an inhaler *via* the lungs is obvious Theoretically *what we want to know is the amount of vapour which is* being absorbed by the patient not how much we blow at him Practically we have to be guided by its effects on pulse respiration and pupils

I am in agreement with Dr Edmunds in pleading for accuracy in administration of chloroform and if anyone can devise a practical method of estimating the amount of *chloroform* vapour absorbed by the patient, instead of calculating the amount blown at him, I shall certainly adopt it The only advantage of Krohne s inhaler is the saving of chloroform but not of the patient about whom all that the administrator knows is *that* he cannot have absorbed a larger amount than has left the bottle If the patient should unfortunately succumb what consolation is this fact to either the patient s friends or the anæsthetist? It is useless to point at the bottle and say that it cannot be a case of overdose because only one drachm has been used In fact the use of a machine which to a certain extent limits the *diffusion of chloroform* vapour makes it easier to give an overdose with a smaller amount of chloroform As might be expected deaths from chloroform given from Krohne s inhaler are beginning to crop up and will continue to do so How anyone can deceive himself into the belief that any known method of chloroform administration no matter how perfect theoretically, can be absolutely safe passes my comprehension In my own practice in reply to patients queries as to the safety of chloroform anæsthesia I invariably tell them that the risk is us his distrust of ecurity, especially when they med with elaborate machines for what they are term the "scientific" administration of chloroform.

Plymouth.

I am, Sirs, yours faithfully,
C. HAMILTON WHITEFORD.

"SOME FACTS GATHERED FROM EXPERIENCE RESPECTING MISCIBLE BLACK CARBOLIC DISINFECTING FLUID AND CARBOLIC DISINFECTING POWDER."

To the Editors of THE LANCET.

SIRS,—Allow me to offer some few remarks on the above article which is very interesting. Mr. Alexander has done much service to the public and also to the honest manufacturer by calling attention to the matter. Analysis is essential nowadays in nearly everything, especially so when the substances for examination are to combat disease. After very considerable experience in analysis of our own (Messrs. Lawes') fluids and powders, those of other makers, and various preparations of which the phenols are the vital constituent, I consider the determination of the phenols is both hopeful and hopeless—hopeful as regards being able to give a certain opinion as to the value of the preparation and hopeless when extreme accuracy is required. The comparatively simple process which I have carried out thousands of times enables me to control the manufacture, prevent importation of useless material, and have a very solid piece of evidence to show those who will say a good deal to procure an order for their products. I have not had much trouble with naphthalene, but no doubt some makers have; careful inspection by the chemist in charge of the manufacture will get over this. The preliminary precaution of taking a sample by glass rod from the cask, as mentioned in the article, will readily afford a clue on this head. Analysis of the creasote is, of course, very essential.

Now as regards analysis of fluid the method Mr. Alexander gives appears to be very satisfactory, but it seems rather long, and I think for practical purposes might be simplified. My method is almost as given by Tidy (Lunge's "Coal Tar and Ammonia," p. 361, second edition), but I have made some slight modifications which long experience has shown to be easier and without any sacrifice of accuracy. I take 50 cubic centimetres of fluid creasote, &c., instead of 100 cubic centimetres, distil in six-ounce stoppered German glass retort till full of fumes, heat up distillate twice with 20 cubic centimetres of caustic soda (specific gravity 1·200) in small Jena (250 cubic centimetres) flask standing on an iron plate. Shake well; separate by means of a separating funnel or tube. To the mixed caustic solutions add excess H_2SO_4 (one part acid to three parts of water); then measure the tar-acids when cold in a burette. Some of the sulphate of soda solution can be got rid of by the separating funnel. This test can be done in about an hour. The retort is heated direct over an argand, which gives both heat and support. Fracture is not frequent if care is used. There is no danger as there is no explosion—at least, I have not seen one. The lad usually employed in the laboratory can do these analyses very well after a bit. This test, founded on Tidy's, is the sheet-anchor of the business. I believe some chemists do not know about it, or at least its application in this direction, consequently at times ludicrous results are returned which must cause annoyance to medical officers of health who have, I should say, no time to spare. Of course, water, total oils, pyridine bases, alkali, &c., can be estimated if required and do not present much difficulty with a little practice; they are of importance, but for practical purposes of disinfecting the "tar-acids" are the thing. As to powders, distillation in retorts is not, I think, very satisfactory. The retorts crack awfully and I doubt if anything like the true percentage is obtained. Thorpe in his dictionary gives a method, treating the powder with ether and filtering after standing over night. This gets out tar-oils and acids; soda (specific gravity 1·200) is added, which takes up the phenols and leaves oils; part of the ether is distilled off and the rest separated; the caustic soda solution is then treated

sured in a burette esults but is rather long. ittle plan suggested to me by heating a weighed quantity of the powder for a of hours or so at 100° C., and taking the loss indication of phenols is very useful, especially to works chemists, who know what moisture the base of the and acid contain, so that the amount can be the total loss; the remainder, taken as phenols, very closely agrees with the ether method. This plan is specially to tell what is in an unmarked cask, &c., or rapidly check lot going out; it would be of service also to medical men; as if a powder is guaranteed 10 per cent. carbolic and only shows 6 per cent. total loss it is deficient and can then be submitted to further I might venture to suggest that it is desirable to keep disinfectants and carbolic tooth-powders carefully ur control and away from young children; tooth-powder especially apt to get into the eye, causing painful Trusting that these few remarks on the analyses of substances may be useful to medical men whose onero labours are lightened if their patients' surroundings a healthy and clean,

I am, Sirs, yours faithfully,
VINCENT EDWARDS, F.I.C.,
Chemist to Messrs. Lawes, Limited.

Lawes' Works, Barking, Essex.

"THE MURMURS IN MITRAL STENOSIS."

To the Editors of THE LANCET.

SIRS,—Dr. Brockbank's theory, being a modification that propounded by Dr. Barclay and supported by Dr. W. Dickinson and others, it may be as well to recur to the of Dr. Barclay's theory—viz., a case of mitral stenosis which "the contraction of the heart could be felt between the ribs during the pause prior to the occurrence of the sound and while the presystolic murmur was audible to the ear."[1]

Dr. Dickinson supported the theory, stating, "I have satisfied myself and confirmed my conclusion upon many patients that the so-called presystolic murmur does not precede the impulse of the heart, but begins with it."[2] whole subject was thoroughly discussed in your columns in the years 1872, 1887, and 1889; there is therefore no occasion for reproducing arguments that have been used against this theory and which are equally applicable to Dr. Brockbank's modification. One question, however, of Dr. Dickinson's is, I think, important: "Does the lifting of the chest-wall felt by the finger indicate the systole?"[3] My answer to this is, that the systole of the *right* ventricle is felt, but it does not necessarily follow that the left ventricle is also in systole.

In an article entitled "A New Explanation of the Presystolic Bruit," in the *Clinical Journal* of July 12th, 1899, I recorded a similar case to Dr. Barclay's. Until I met this case I did not appreciate the significance of the "lifting" movement, concerning which so much has been written. palpation the right ventricle could be distinctly felt contracting during almost the entire diastolic period of the le ventricle, the contractions spreading from base to apex an ending with the apex beat. The theory I have ventured t bring forward is as follows: 1. That in consequence of the different tensions existing in the right and left ventricles these cavities, under the circumstances of mitral constriction, do not act synchronously. 2. That the base to apex portion of the right ventricular systolic wave occurs when the left ventricle is in diastole. 3. That the right ventricular muscle vibrations are heard during the diastolic period and that they gradually increase in intensity towards the end or it. 4. That the so-called presystolic bruit is composed of three parts—(*a*) right ventricular muscle vibrations, (*b*) an auricular systolic bruit, and (*c*) a slapping first sound; the muscle vibrations being the cause of the peculiar and intimate relation between the auricular systolic bruit and that sound. 5. That in double mitral murmur these vibrations prevent the distinction between the two murmurs which is heard in the double aortic murmur.

The supporters of the "Barclay theory" have, I think, erroneously assumed that the right and left synchronously We know that in many cases of mitral stenosis the left auricle is incapable of contraction, and that the circulation is carried on by the hypertrophied right ventricle and pulmonary arteries The question may therefore be asked, Could the circulation be carried on in a case of mitral stenosis if the two ventricles acted in perfect synchronism? I do not think it could

I am, Sirs, yours faithfully,
C C Gibbes, M D Aberd, M R C P Lond

arkston gardens S W

THE PREVENTION OF SYPHILIS BY TREATMENT

To the Editors of The Lancet

Sirs —Syphilis being a contagious disease ought if possible to be prevented either by notification and prosecution of persons who voluntarily infect their neighbours or by some other legal plan *Professor Alfred Fournier* has favoured me by sending me his recent pamphlet on the prevention of syphilis by treatment, from which it appears that he considers the Parisian plan which has had so many imitators in Europe of no service for prevention and recommends simply our present British system of hospital treatment of the poor affected with the disease Here are one or two citations from his pamphlet "Applied from early times to the repression of prostitution administrators and police measures have without doubt accomplished in relation to the prevention of syphilis all that they are capable of accomplishing *But without refusing to recognise the benefits* (as to which I would be on my guard as against ingratitude and error) one is yet free to regard them as insufficient for their purpose it being understood that their action is necessarily limited to public control The police only supervise some thousands of women whilst there are eight or ten times that number who spread abroad syphilis professionally among the Parisian population The police conscientiously do all the good they can and we should be thankful to them, but they are powerless to stop the overflowing current of venereal maladies In spite of the system syphilis still exists among us as it did in the past as an incurable ulcer attacking society I believe that it has increased, although sufficient and reliable statistics are not obtainable This is also the belief of my colleagues whom I have frequently heard saying, 'Syphilis is to be seen every day, everywhere, and worse than ever' At any rate I am in a position to affirm without fear of contradiction that at the present day syphilis flourishes It abounds in hospital wards, in the hospital and out patient departments, and in our private consulting rooms, &c &c

At the Portsmouth meeting of the British Medical Association some speakers in the debate on the Prevention of Venereal Contagions seemed to wish to introduce the Parisian system into London The above cited remarks from Professor Fournier show that this plan is always a failure because so disgracefully unjust in its application Perhaps notification might succeed if it were anonymous, as it would give us correct information as to the extent of the evil and allow us to formulate plans for its prevention

I am, Sirs, yours faithfully,
Charles R Drysdale,
Consulting Physician to the Metropolitan Hospital

London Jan 29th 1900.

GRIFFIN v PEIRSON AN APOLOGY.

To the Editors of The Lancet

Sirs —As the solicitors for the Medical Defence Union, Limited acting upon their instructions for Mr Griffin of Banbury in the libel action of 'Griffin v Peirson,' which was entered for trial at the present Oxford Winter Assizes, we beg to hand you a retractation and apology signed by the defendant and witnessed by his solicitor for publication in the press May we, therefore, ask you to be good enough to insert it with this letter in the next issue of your journal

We are, Sirs yours obediently,
Hempsons

[illegible] King street, Cheapside, London EC Jan 30th, 1900

Apology

Whereas I the undersigned Alfred Mellett Peirson otherwise known as "Lennox" of No 30 Blenheim mansions Edgware-road London spoke published and caused to be circulated in the months of May and July 1899, certain slanderous and libellous statements concerning Dr Innes Griffin of Banbury, Oxfordshire, in relation to an operation which he had performed upon a patient for a mastoid abscess in the month of October 1898 and by which I imputed to Dr Griffin a want of professional care and skill in connexion with the operation And whereas Dr Griffin has taken action against me for libel in the Queen's Bench Division of the High Court in consequence of the statements published and circulated by me as aforesaid but has kindly consented to forego such action on my withdrawing each and all of the said statements and making the apology herein contained and paying a certain agreed sum for costs: Now I, the said Alfred Mellett Peirson otherwise known as "Lennox" hereby declare that the said statements so published and circulated by me as aforesaid are each and all of them without any foundation whatsoever in fact and I hereby apologise fully, freely and unreservedly to Dr Griffin for having published and circulated them and desire to express my sincere regret and contrition to him for any pain and inconvenience which I may have caused him for having so acted as aforesaid and I am grateful for the leniency shown to me by Dr Griffin And I hereby authorise Dr Griffin to publish this apology in such manner as he may think fit

Dated this 29th day of January 1900
Witness—Jno D Clay Solr.,
185A Marylebone-road, W
A M. Peirson

"PROPOSED PUBLIC MEDICAL SERVICE"

To the Editors of The Lancet.

Sirs —Referring to Dr Rentoul's letter *re* the above scheme I have not had the good fortune to see his rules and suggestions but hope to do so in the near future As regards a "cash fee department," by this I understand an abolition of the contract system in favour of "cash fees" at a reduction from the practitioner's ordinary charges This scheme I venture to consider as quite inadequate—if not totally impracticable—as a means of competing with the medical aid and similar institutions I had the good fortune to be present at two or three debates upon this very subject, when after considerable discussion the idea was dropped as impracticable for the purpose intended—namely, to compete with associations that at present undertake contract work The public are wedded to the provident or contract system and will not readily abandon it I am pleased to see that Dr Rentoul so far agrees in that he has recommended a provident department also

The proposed service would exactly fill Dr Rentoul's second suggestion—namely, "to enable practitioners to refuse to have anything to do with club or contract work save through the service,' and with that object in view the rules have been so framed that every practitioner is eligible to join whether holding a medical aid appointment or not, but in the case of certain appointments that may after due consideration be condemned by the executive of the service then a long but definite period will be given to the practitioner to enable him to decide whether he will continue a member of the service and work up a connexion therein or will continue to hold the condemned appointments and resign his membership or be expelled failing resignation To prevent wholesale condemnation of appointments without most careful consideration it is provided that the executive shall not condemn any appointments until after the expiration of a fixed period from the inauguration of the service or until they have consulted the district committees as to the advisability of so doing

Dr Rentoul's fear "that such a service would run a great danger of being ruined by not having a rigid 'wage limit' for membership and thus hospital abuse if corrected at the hospital would not be cured but only transferred to the service doctors are a most unbusinesslike class," is worth careful consideration The first portion I would meet by saying that it is provided that the management and control are solely in the hands of registered medical practitioners duly elected from and by the general body of members of the service If they found that a certain wage limit did not pay they could raise the premium or lower the wage limit, at any rate for all new patients The latter remark is more difficult to combat, but an endeavour has been made to do so by framing the rules on business lines and embodying in them certain rules and directions as to working, failure to comply with which may be visited by a fine, moreover, no one man is entirely trusted to work the details either of the district committees or executive council but a system of checks has been adopted by which the [illegible] each other off and are again checked off by the district committee who in their turn are [illegible] the exec[illegible]

As regards changing the name [illegible] Publ[illegible] Service to the "Provident Medical Service" I can [illegible] grave objection to this course if [illegible] is to be started, though [illegible] public" serves more clearly to distinguish the service from already existing "provident" associations which are only provident in name—as, for example, the Coventry Provident Dispensary, to combat which the Coventry Public Medical Service was successfully established. Having resided many years in Coventry, I am able to state that, at least until lately, the service was working well, with satisfaction to the staff and to the patients, and to the best of my knowledge it is still flourishing. What we now require is an amalgamation of the various public medical services into one large association.

I am, Sirs, yours faithfully,
York-road, Ilford, Jan. 29th, 1900. MURTAUGH HOUGHTON.

"THE UNIVERSITY OF LONDON ELECTION: THE CANDIDATURE OF DR. W. J. COLLINS."

To the Editors of THE LANCET.

SIRS,—Dr. Savill is quite correct in supposing that my letter of Jan. 13th was intended to indicate decided opposition to the candidature of Dr. Collins, though whether it can be called "virulent" or not must be a matter of opinion. He charges me with "at least *one*" *misstatement* of fact, but he does not say what even that one is. Dr. Savill misses the point at issue, which is not whether Dr. Collins is a man of "vast knowledge" or whether he took a distinguished position at his university examinations. The latter statement may be fully admitted and the former may also be conceded, for the sake of argument, without either of them weakening the position taken up in my letter. Indeed, they strengthen it. For the vaster Dr. Collins's knowledge and the higher his academic distinctions the more they would seem to reflect on the intelligence of the great majority of the medical graduates whom he aspires to represent and who differ with him so largely on one of the most vital questions on which the medical profession is brought into relations with the general public. I would appeal to the "hundreds" of Dr. Collins's fellow graduates, and especially to the "large number of medical and surgical alumni" of the University of London who are claimed as supporting his candidature, to consider carefully what his success will mean. It will mean that the pertinacious emissaries of the National Anti-Vaccination League, who now put Dr. Collins forward as one of their most authoritative scientific patrons, and who quote the fact of his having been Chairman of the London County Council as evidence of his distinguished public position, will then be justified in representing him as the acknowledged mouthpiece of the medical graduates of the University of London. How any London graduate who not only believes in vaccination, but who believes also in the importance of pressing its adoption on the public, can lend himself to such a candidature is one of those curious problems in psychology and morals which are an inexhaustible puzzle. Dr. Collins would be as inappropriate a representative of the medical graduates of the University of London in Parliament as he would be a fitting one for Leicester.

I am, Sirs, yours faithfully,
M.D. LOND.

LITERARY INTELLIGENCE.—We are glad to know that the New Sydenham Society proposes to reprint in a forthcoming volume of selected papers an essay first published in 1840 by Mr. George Bodington, who organised at Sutton Coldfield, in Warwickshire, an institution for the treatment of consumption on the liberal diet and open-air plan. He anticipated most completely all that has recently been written abroad and at home on this topic. He published a booklet of some 60 pages describing his plans and his success. The essay was referred to in THE LANCET of Nov 26th, 1898, p 1433, in a letter from Dr. A. Tucker Wise, but the matter was brought to the notice of the council of the Sydenham Society through Dr. T. Barlow, by Dr. S. T. Pruen of Cheltenham. Apart from its intrinsic interest it is a matter of justice to an English surgeon of the past generation that it should at the present juncture be re-published. We understand that it will be accompanied by the original paper of Dr. Hodgkin describing the disease which now goes under his name and by a selection from the eminently practical memoirs on obstetric subjects of the late Dr. Braxton Hicks.

THE ORGANISATION OF THE PROFESSION.

THE CORK MEDICAL PROFESSION ASSOCIATION: THE HISTORY OF THE ORGANISATION AND OF THE FIVE YEARS' STRIKE.

(FROM OUR SPECIAL COMMISSIONER.)

CORK holds an honourable position in the vanguard among those towns where the first efforts were made to organise medical unions. It was here that one of the first, if not the first, medical strike occurred, and to a certain extent it may be said that this strike is still continuing. Indeed, this seems to be the way with medical strikes. There is a period of sharp, acute struggle, certain positions are taken, others are lost, then both parties remain facing each other for years. The violent struggle is over, but peace is not made and both sides wait passively for the slow process of disintegration which in the course of time will gradually disperse what power of resistance remained. From time to time echoes of the struggle at Cork have reached our shores, and paragraphs concerning various episodes in the contention have appeared in the papers, but there has been no systematic attempt to give a complete history of the movement. So far as limited space will allow I shall attempt to supply this deficiency. This account will show what organisation can do and will constitute an encouraging example for the members of the profession practising in other towns.

Some 60 years ago the City and County of Cork Medical and Surgical Society was founded. Practically it was simply a medical social club. The members met and dined and read purely scientific papers. But on May 13th, 1892, they held a meeting to consider the advisability of re-establishing the Cork branch of the British Medical Association, either to replace or to act in conjunction with the Medical Society. For this purpose 11 practitioners signed a circular convoking all the members of the British Medical Association established in the locality to meet on June 4th. The object of this meeting was not merely to resuscitate the Cork branch of the Association but to draw up a plan of action dealing with ethical questions that concern the medical profession. The meeting was held and the following resolution was carried unanimously:—

> That the branch be re established and be peculiarly devoted to the discussion of ethical questions, and in no way to interfere with the work of the Medical Society.

The meeting also elected a committee to draw up rules, and a general meeting to approve the same was convoked for June 18th. By that time 40 practitioners had already joined; and even at this early date the question of canvassing by the agents of benefit societies and medical aid associations was raised. So quickly did the interest in this question spread that the temporary council of the newly re-constituted branch of the British Medical Association found itself impelled to convoke a meeting of the South of Ireland Branch Council to consider the whole question of club practice or contract work. This meeting was held on July 13th, 1892; and on that occasion Dr. Ashley Cummins complained that the medical officers of the clubs were sometimes called upon to attend the country relatives of members though the latter had only come to town for a short visit. A few days later another meeting was held, and then it was agreed to draw up a circular containing 12 questions to be sent to all the members of the profession in Cork and its neighbourhood with a request that they would answer the questions. On Oct. 12th following a meeting was held to consider the replies that had been received, and these replies supplied the basis of the rules that were ultimately drawn up. Thus it will be seen that great care was taken to ascertain what were the needs and opinions of the profession before attempting to impose rules and obligations. This is very important, for a constitution that is workable, that is freely accepted even though it may have some defects, is better than a model constitution which is not fully appreciated or approved.

With some slight modifications and additions, the rules then adopted have been maintained to the present day. The most important are those which deal with contract work.

First it is stated that the scale of remuneration for such club practice shall be fixed in proportion to the income of the subscribers or members, and that, when the income cannot be ascertained, it shall be estimated according to the valuation of the dwelling-house. If the member's income is under £100 or the valuation of his dwelling not more than £7 10s., the annual subscription shall be 7s. 6d. Above these figures but under £200 income or a £15 valuation of the dwelling the subscription must be 15s., and no one whose income is above £200 shall be admitted. The maximum distance for attendance is two miles from the General Post Office. Then we find the fundamental rule and principle of all unions that "no medical man shall take an appointment from which another retires in consequence of his society or club not complying with these rules." But another rule states that when a medical officer retires from a society because he has not been fairly treated he must first submit his case to the committee and must not send in his resignation till such action has been approved by the committee, and then he will be supported by all the members of the profession. In regard to the detail of the work there is a rule to the effect that if a member subscribes to two societies he shall only call upon the services of the medical officer of one of these societies. If the medical officer of the other society is also called in then he must be paid the fee of a consultant. An extra charge is made for anæsthetics, midwifery, and premature confinements, and this shall not be less than a guinea. The above charges include attendance on the family, but a rule stipulates that this shall mean only relatives who are entirely dependent on the member. Another rule demands the absolute abolition of all personal canvassing for clubs and benefit societies. The secretaries of the different societies are called upon to supply the committee with a list of their members which will be held as private and only accessible to inspection by the committee assembled. These rules apply to all contract work except when the contract is for £5 per annum and upwards for each member and his family.

Such are the main points which were agreed upon during the year 1892; but of course here, as elsewhere, the difficulty arose as to how these rules were to be enforced. Practically the only weapon is the "boycott," and this is established by Rule 16:

> That any member of the medical profession who wilfully violates these rules be excluded from professional intercourse.

Hardly had these principles been discussed and accepted than an occasion occurred to enforce their application. In March, 1893, Dr. Collins informed the committee that he proposed to resign his position as the medical officer of the Bakers' Society. This society paid him a fixed salary of £30 a year, and as there were 120 members this made only 5s. instead of 7s. 6d. per member; therefore the proposed resignation was approved. A few weeks later (on May 27th) the branch as newly re-constituted was officially recognised by the Council of the British Medical Association. In a short time many other questions began to claim the attention of the members. Prominent among these was the question of hospital abuse, and at the same time many further attempts were made to persuade all the practitioners of Cork and the neighbourhood to join the organisation. Early in 1894 a resolution was passed and forwarded to all the Members of Parliament elected in Munster in favour of a Bill for the superannuation of Poor-law medical officers. After several discussions on these two questions it was resolved:

> That two representatives from each hospital staff be elected to meet a chosen deputation of the Poor-law medical officers.

This meeting took place in May and four hospitals and the Poor-law Medical Officers' Association were represented. They adopted a resolution affirming the existence of many abuses and calling on the management of the hospitals to help to abolish the same and to form for that purpose a joint sub-committee. At about the same time the medical officer of the Central Hall Methodist Benefit Society was called upon to give an account of himself and he replied that he had not infringed any of the rules. The question of the wage-limit was again very fully discussed and the limit already established was not only confirmed but on Oct. 25th, 1894, it was decided to send a circular explaining these conditions to all the clubs, benefit societies, &c. It was also agreed that though 7s. 6d. was to be the minimum charge for a member and his family this should not include drugs. The medical officers were as a general rule to prescribe but not to provide drugs. The dispensing chemists, who throughout have sided with the medical men in the struggle, though unsolicited, came forward voluntarily and offered to contract with all members of clubs who accepted the conditions of the medical profession and to supply them and their families with the necessary drugs for 5s. a year. All the dispensing chemists of the town have now agreed to these conditions, so that the members of the clubs can select any chemist according to their convenience and preference.

The position, it will be seen, differs considerably from what generally prevails in England. Though the wage-limit of £100 a year is high, the subscription of 7s. 6d., plus 5s. for drugs, would also be considered high in England if it applied to a single individual. But at Cork single men hardly ever join benefit societies or clubs and the subscription entitles all the family to medical aid and medicine if they are dependent on the members for their sustenance. It must also be borne in mind that marriages are more frequent in Ireland than in England and there is not so large a proportion of single men. But still the question will be asked, What becomes of these single men? for they exist though they may not be numerous. Are they forced to pay the traditional guinea fee? I was assured that the guinea fee was a pure fiction. The workman pays what he likes or what he can afford, and it does sometimes happen that they do pay the full guinea; but then it covers a long bout of illness and not, as sometimes imagined, a single consultation.

In answer to the circular addressed to all the clubs, only two Jews' societies and four other clubs replied accepting the terms laid down by the medical men, and these were but small organisations. 20 clubs or societies refused to entertain the rules. These 20 recalcitrant societies employed nine medical officers, and at the end of December, 1894, their nine medical officers without hesitation simultaneously forwarded, in registered letters, their resignations. To prevent any undue suffering among the members they offered to continue attendance for one month, but would cease further attendance if by that time their conditions were not accepted. In the interval the clubs held a big meeting at which it was decided that the rules as proposed by the medical men should not be accepted and that they would advertise and import medical men from other districts to do the work. Thus, at the beginning of the month of February, 1895, the strike of the Cork club medical officers commenced. The clubs succeeded in importing four outside medical men to do the work of their nine medical officers who were on strike. The new-comers were approached by the medical men of the town and their true position was explained, but they were already well acquainted with the situation and showed that they had no feeling of solidarity with the other members of the profession to which they belonged. The acuteness of the struggle which was now beginning forced the Cork and South of Ireland Branch of the British Medical Association to alter its constitution. Several practitioners who were involved were not members of the British Medical Association and yet it was indispensable that they should be members of the local medical organisation, which, indeed, must be a union of the entire profession. Therefore the title was changed to that of the Medical Profession Association, including in its ranks the local branch of the British Medical Association and all other medical men practising in the district. The members of the profession being thus firmly welded together a strong feeling was manifested that those who fought for the interests of all should not be allowed to suffer. It was therefore resolved to start a strike fund, and it was willingly agreed that the senior practitioners should give £20 during the first year. The others might give less, but the minimum was £5. In this manner nearly £400 were realised and the greater part of this sum was subscribed in a single afternoon. This in itself suffices to show how strong was the feeling and how enthusiastic was the support given to the movement. Outside help was also obtained, notably from THE LANCET and the *British Medical Journal*, the subscriptions received through these papers amounting to about £125.

In one respect, however, the movement was badly managed, and the same blunder has been committed by medical men in other towns. They failed to conciliate the working classes. As the action they were about to take affected principally the working classes it is obvious that their first care should have been to educate the working men to a true understanding of the purpose which they had in view. This should have been a movement of the working class and the medical men against interlopers belonging to other classes. For instance, a large tradesman of the town belonged to one of the benefit societies, and so did a manufacturer and a professional man. What right had these men to be in an organisation created exclusively for the wage-earning class? Several club members possessed incomes up to and even exceeding £1000 a year. Some of them were justices of the peace, others managers of large businesses. It will hardly be credited, but it is the fact, that a few of these wealthy people not only availed themselves of the assistance of the club medical officer, but actually asked for certificates of illness so that they might claim the 7*s*. 6*d*. weekly sick allowance intended to help poor men in the hour of need. The presence of these wealthy members in the ranks of the benefit societies entirely altered the character of such institutions. Instead of being organisations that might justly claim general sympathy and approbation as teaching poor men to be provident, they had been allowed to provide rich men with the means of making niggardly economies. They robbed the medical man of the time he should have devoted to the care of the poor. Therefore it was to the interest of such clubs not to accept wealthy members. But all these points were not driven home and even the trades-union papers abused the profession. As for the wealthy members of the clubs, who were the cause of all the trouble, they complained lustily against their medical officers on strike, but when they fell ill they sent for these medical men and preferred to pay them proper fees to employing the intruding medical men in the service of their clubs. Indeed, these interlopers were in no wise popular and one of them was publicly snowballed by some medical students. This led to proceedings at the police-court, and on Feb. 19th, 1895, one of the students was fined 10*s*. and the others were discharged. In spite, however, of police prosecution and the active support of the clubs the four imported medical officers have not prospered. The medical man who was snowballed died the following July and the clubs were not able to import anyone else to take his place. No professional intercourse was held with these four club medical officers. If one of their patients wanted a consultant the patient was first compelled to dismiss his club medical attendant. Several such cases occurred. Nor did the intruding medical men succeed in making friends in the town.

In August, 1895, the mayor of Cork made an attempt to settle the dispute, and persuaded delegates from each side to meet. This conference was amicable and at one moment it seemed as if peace would be concluded. The delegates of the clubs seemed to recognise that the rules drawn up by the medical men were reasonable and they presented to the medical men for signature a document which the latter imagined to be a copy of these rules. Acting in confidence the medical men signed it, and only afterwards discovered that it was not a copy of their own rules, but that those rules had been very much altered. This caused a great disturbance, as, of course, the signatures given under such a misapprehension were held to be valueless. The clubs also insisted that the remaining three medical practitioners whom they had imported into the town should be maintained in their position and recognised by the profession. This stipulation was absolutely inadmissible; consequently the dispute continued and became more and more venomous.

While the strike was progressing several speculating companies sent agents to Cork and tried to profit by the dispute to establish branches of their insurance businesses. The first in the field was the National Medical Aid Society, Limited, but all the local practitioners refused to have anything to do with this venture. Then the Canadian Order of Foresters wanted to establish a branch at Cork and they were followed by the Rechabites, but no allurements could persuade any of the Cork practitioners to accept the offers which they made. The endeavours of these societies or companies awakened the profession to the realisation of a danger for which they had not yet made any provision. Consequently a resolution was passed on Jan. 1st, 1896, to the effect that no new medical aid society or club should be formed in Cork unless it had obtained the approval and consent of a general meeting of the medical profession. This led to a renewal of proposals that had formerly been made in favour of establishing some sort of coöperative provident organisation to be managed by the medical practitioners themselves. A committee was now appointed to study the question and propose rules, ways, and means.

In January, 1896, the first balance-sheet of the strike fund was issued. This showed that £219 4*s*. 8*d*. had been paid out as strike allowance and that £306 16*s*. 9*d*. still remained in hand to continue the struggle. The payments were made in proportion to the former known receipts. The strike allowance given was equal to two thirds of the annual receipts, except in those few cases where the club medical officer provided medicine, then a further reduction of 3*s*. per annum per member was made. It was found that two thirds of the annual sum received from the clubs against which the strike had taken place was ample compensation, because some of the patients followed the practitioners, and out of the old clubs there was the means of forming the nucleus of a private practice. Indeed, this seemed so promising that it soon became probable that the strike allowance need not be continued for more than one year, and this proved to be correct. The medical men who were on strike had in a year's time built up new positions, and when, after some 12 months, the strike allowance by general consent ceased there still remained £80 in hand. Nevertheless there are considerable impediments in the way of reform. For instance, if a member of one of the clubs against which the strike still continues does not call in the club's medical officer he cannot get a medical certificate that will be recognised by the club and on which sick allowance will be paid. Therefore, if a member of a club calls in one of the practitioners who are on strike he has not only to pay this medical man the usual fees but he loses his right to claim sick allowance. Yet one of the medical officers on strike had, on the day I met him at Cork, been called in by one of the club members and was paid £1 for his services, and the patient had further the courtesy to apologise for having caused him to come out during exceptionally bad weather. Indeed, the medical officers on strike now make larger incomes and work less than they did before the strike. One of the medical officers of the clubs explained to me that before the strike he made a list of all his visits to the houses of the members of his club, and he found that his receipts were equal to 4*d*. per visit, and this did not include the numerous consultations which he gave at home to the club patients who were well enough to come to his surgery. Thus by allowing 4*d*. for each visit the consultations at his surgery were given gratuitously. He then received 6*s*. a year from the Foresters' Benefit Society and had to attend whenever called upon to do so. Now he is at liberty to refuse. But after the strike he was sent for by one of the Foresters and received during the course of the year £20 from this one patient, whereas on the old terms it would have taken 66 years to earn the same amount. Other members of the Foresters' Society, rather than lose their medical man, pay him a retaining fee of £5 a year while formerly they only paid 6*s*. From another patient he had received £46 in four years instead of 24*s*. Another medical officer told me that he had two patients at £5 a year each instead of 10*s*. The fact that such high payments are freely made shows that these patients are well enough off not to have any need to join a working men's provident organisation.

During the years 1896 and 1897 nothing more of any great importance occurred except that the better class of trained nurses and midwives joined the medical men's strike. They refused to attend any of the club patients who had not accepted the terms which the Medical Profession Association sought to impose. During the following year very ardent discussions were held as to the possibility of the medical practitioners themselves establishing a provident or benefit society under their own management. This was finally accomplished and the society was floated and registered in January, 1898, under the title of the Cork Medical Benefit Association. During this year there was a great disturbance within the ranks of the Church of Ireland Young Men's Association. This organisation had a medical aid branch under one of the three imported medical men remaining in the town. But now their medical officer determined to leave Cork, and, strange to say, before going he advised all his patients to accept the terms of the Medical Profession Association. The majority of the members of the Church of Ireland Young Men's Association were disposed to follow this advice, but the minority wanted to follow the opposite course. The question was put to the vote and the majority carried its point. Then the minority made so great a disturbance that the committee of the Church of Ireland Young Men's Association proposed to dissolve their connexion with them; but before this could be done a new managing committee had to be elected. The election was fought out exclusively on the question of the minority and all the candidates were defeated. The latter appealed to the entire association; therefore a general meeting was held and here again they were beaten. After this a split took place; the minority formed itself into a separate organisation with a medical man in attendance. The majority kept possession of the premises of the association and are now working in complete harmony with the Medical Profession Association. They have prospered so rapidly that there is a larger number of members than there was before the split.

Other successes have been achieved. Thus the North Parish Sick Poor Society abandoned the struggle and reappointed their old medical officer under the rules established by the profession. During the year two more societies seceded—namely, two branches of the Irish National Foresters, with 190 members and 90 members respectively, and took back their former officer according to rule. Also, one of the two remaining intruding medical officers recently left Cork and has been replaced by a medical man who had only just become qualified and had not yet been in practice. Only 12 societies are still standing out and these two medical officers have to attend to all their members. It is true that, with the exception of the St. Finnbarris Society, which has increased its membership to 280 members, the 12 societies are not prospering. The membership of the Ancient Order of Foresters has fallen from 234 to 100. The St. Nicholas Society and the Queen-street Society have also suffered from a great decrease of membership. The Central Hall Society out of 80 members had 20 enjoying incomes of from £200 to £500 a year. This society is now in a bad financial condition, its membership is reduced by about half, and they belong to a much poorer class. Thus the hostile forces are gradually dwindling; the imported medical officers have been reduced from four to two On the other hand, the Cork Medical Benefit Association is making good progress. The members have the choice of 12 medical officers and of all the consultants. Nor are any of these medical officers likely to be overworked and therefore compelled to neglect their patients, for there is a rule that they must not have more than 400 subscribers on their books. There is also a rule that no fully recognised hospital surgeon or physician shall take club practice, thus giving the younger practitioners a better chance of making their way; but all practitioners may make individual contracts if for not less than £5 without medicine. Though in the Directory the names of 71 medical men will be found as residing at Cork, many of them are not in practice, have died since the publication of that list, or are now away in South Africa. In actual practice there are not more than 56 medical men, including the two imported. The secretary, Mr. Philip G. Lee, informs me that when a meeting of the Medical Profession Association is convoked he sends out 49 notices. Thus it will be seen that the members of the profession at Cork are almost unanimous and are nearly all in union. It may therefore be fairly anticipated that complete victory is only a question of time. This is the more certain as not one single member of the union has deserted the cause. Such devotion and steadfastness are all the more admirable as there were many and great temptations held out to the junior and less prosperous members of the profession. Yet it has been a hard fight and the means employed to attack the medical profession were not always fair and above-board. Thus a local paper published antagonistic letters apparently signed by fictitious names. In any case registered letters were sent to the supposed authors of these communications, and as the letters were returned by the post-office it would appear as if the correspondents did not exist All these and many other manœuvres have, however, proved futile. The strike has lasted five years. Several of the clubs have given way and the medical officers who resigned their positions are now making better incomes with less trouble than they did formerly, so it is quite certain that they will not give way. Under these circumstances the Cork medical practitioners are quite satisfied to hold out another five years if necessary. They have only to remain true to each other and their position must improve from day to day.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Dose of the Plague Prophylactic.—Official Instructions about Inoculation.—The Progress of the Epidemic.—The Need for a Pasteur Institute.—Plague Measures in Bengal.

EXPERIENCE has shown that the doses laid down in the instructions for the use of the plague prophylactic by M. Haffkine require revision. It has been found that children are less affected by inoculation than adults and can be given proportionately larger doses. Accordingly new rules have been promulgated and official instructions for the use of the plague prophylactic have been sent out. Considerable improvement has been effected in the matter of packing and fitting up the bottles. At one time this appears to have been carried out very insecurely and many bottles of the fluid were found to have undergone decomposition. The following dosage is now ordered:—

	If the dose marked on the bottle is	
	2·5 c.c. then give—	5·0 c.c. then give—
Below 2 years	0·5 c.c.	1·0 c.c.
From 2 to 5 years ...	1·0 c.c.	2·0 c.c.
„ 6 to 11 „ ...	1·5 c.c.	3·0 c.c.
„ 12 to 15 „ ...	2·0 c.c.	4·0 c.c.
„ 16 to 50 „	2·5 c.c.	5·0 c.c.

It is thought that persons over 50 years of age should get 0·25 cubic centimetre less for each decade above that age.

The official instructions contain the following paragraph indicating the usual symptoms of plague inoculation: "The symptoms commence, as a rule, three to five hours after inoculation and consist chiefly of swelling and pain at the seat of inoculation and of a rise of temperature. The pain is felt particularly on movement of the part. The fever is accompanied by general discomfort usual to this condition. No treatment of the symptoms is required beyond applying ice for the relief of headache, if any is felt, and enjoining some rest. General symptoms subside after 24 to 36 hours; the pain at the seat of inoculation lasts for three or four days, disappearing gradually; a painless induration remains for some time longer. It is desirable to produce a rise of temperature to at least 102° F. If the reaction is less marked the operation may be repeated three or four days later with the same or an increased dose, according to the result of the first inoculation. There is no harm in leaving a longer interval between the two inoculations. No changes in diet or occupation are necessary, beyond if possible ensuring some rest. Bathing in the open air should be avoided for some days. A simple purgative may be given 24 hours after the inoculation."

Beyond the very serious increase of mortality in Bombay city there is little to record as to the course of plague in Western India. In Bengal, however, the long-dreaded development of the epidemic seems to have begun in earnest. Reports from Barisal, in the delta of the Ganges, show that the disease has been very rife and I now hear that it has broken out in Patna city. Official returns keep these facts silent. In Calcutta the disease seems to be subsiding after the long-continued low mortality since the outburst last March. The same thing occurred at the corresponding period of the first outbreak, so that a period of quiescence may be expected at least for some weeks. After that interval a renewed development may be expected.

In Bombay city the weekly general mortality has increased from 1642 last week to nearly 1900. These figures mean that there were at least 1200 deaths above the normal. The official returns of plague give less than 400 deaths as due to this disease—a discrepancy which shows palpably the incorrectness of these returns. To cover increased deaths from ordinary diseases it may be therefore safely estimated that there have been *1000 deaths from plague in Bombay city during the past week* I hear that inoculation is finding more favour in Bombay, but the increased number of applicants seems largely due to private enterprise and to measures of "compensation."

Five weeks ago the general mortality of Bombay city was returned at 1049. Poona and Karachi are now practically free.

The necessity for the establishment of a Pasteur Institute in India can be readily seen from the increasing number of patients sent to Paris from India year by year. From the year 1886 to 1896, that is, during the first 11 years of this treatment, out of 3396 foreigners treated in Paris only 95, or less than one-thirtieth, went from India, while 870 went from England. In 1897, however, out of a total of 175 foreigners no fewer than 33, or over one-sixth, went from India and only 83 from England. In 1898 out of 132 foreigners no fewer than 56, or nearly one-half, went from India and only 25 from England.

An attempt at something like active plague measures by the Bengal Government is notified in the *Calcutta Gazette.* "In any case in which the sub-divisional magistrate or health officer thinks fit he is authorised to isolate the house, village, or part of a village in which a case of plague is believed to have occurred by cordons, patrols, or in such other manner as he may think expedient. When action has been taken by the sub-divisional magistrate or health officer under this rule no inmate of such house, village, or part of a village shall leave the same or shall hold any communication with any other person, and no other person shall enter the same or hold any communication with the inmates except in accordance with such directions as may be given by the sub-divisional officer or health officer." Here it is seen almost for the first time that the health officer is given powers in addition to the civilian officer. The actual carrying out of the measure must, however, devolve on the magisterial authority. If the two officers failed to act in harmony the regulation would of course fall through. The same thing would probably happen if the civilian officer acted in opposition to the health officer and resisted a policy of isolation.

Jan 11th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Northern Hospital: Annual Report for 1899.

THE number of patients attended to had been 1795 in-patients and 7411 out patients, involving 26,349 attendances. The hospital contains 155 beds. The ordinary expenditure had been £7305 odd, against £7284 in 1898. There was a balance of £3761 17*s.* 2*d.* due to the bankers of the institution, against £2925 2*s.* 8*d.* in 1898 The outstanding liabilities were £1116 11*s.* 3*d.*, against £945 14*s* 8*d.* in 1898. The receipts from all sources have been £6469 1*s* 8*d* and were derived as follows: legacies, £881 5*s* ; donations, £728 6*s.* 10*d.* ; Hospital Sunday and Saturday Fund, £1638 ; subscriptions, £1858 3*s.* 10*d* ; and other sources, £1363 6*s.* It would have been impossible to have carried on the work that had been done without the Hospital Sunday and Saturday Fund contribution. The new building was nearing completion. One large pavilion and the circular wards were now finished and were partially occupied. The laundry and boiler-house had been in use during the last six months. The other large pavilion had been built and was progressing towards completion. In view of the increased cost of maintenance when the new hospital was completed the committee earnestly appealed to the public for funds. The convalescent fund continued to be of great service. The horse ambulance, now in the charge of the corporation, had been called out 1143 times and was invaluable in cases of serious accidents. The stable accommodation and professional services were still provided by the hospital, hence the committee trust that the former subscriptions to the ambulance fund will be continued. The committee have had to regret the death of Mr. Arthur H Wilson, which occurred in January, 1899 Mr R. W. Murray, honorary surgeon to the Children's Infirmary, was appointed his successor in the post of honorary surgeon.

Report of the Liverpool School of Tropical Diseases.

The first annual report of the Liverpool School of Tropical Diseases deals mainly with the work of the school for 1899. The formation of the school was originally suggested at the annual dinner of the Royal Southern Hospital held on Nov. 12th, 1898. A committee was formed under the chairmanship of Mr. Alfred L. Jones. Mr. William Adamson, President of the Royal Southern Hospital, was appointed vice-chairman (representing together with Mr. A. L Jones the committee of the Royal Southern Hospital), and the following gentlemen were nominated by the public bodies named: Principal Glazebrook and Mr. Charles W. Jones, by the Council of University College; Professor R. W. Boyce and Professor A. M. Paterson, by the Senate of University College; Professor Carter and Dr. Alexander, by the Medical Board of the Royal Southern Hospital; Mr J. O. Strafford and Dr. E. Adam, by the Chamber of Commerce; Mr. C. Booth, jun., and Mr. J. W. Hughes, by the Liverpool Steamship Owners' Association; and Colonel Goffey and Mr. J. Chadwick, by the Liverpool Shipowners' Association Professor Boyce was elected Dean of the School, Mr. J. O. Strafford honorary treasurer, Mr. A. H. Milnes honorary secretary, Major Ronald Ross, late I.M.S., lecturer, and Dr. H. E Annett demonstrator, and the school was formally opened on April 22nd, 1899, by Lord Lister. A subscription list, headed by the chairman with a contribution of £350, to be paid yearly for three years, was opened and the total amount subscribed in 1899, including fees and other items, amounted to over £3000. During the early part of the year Dr. Van Neck, a delegate of the Belgian Government, attended to observe the work for the purpose of reporting to the Minister of Education in Belgium. The year's work consisted of (1) a lecture delivered three, four, and sometimes five times each week by the lecturer on tropical medicine, illustrated by lantern and microscopical demonstrations; (2) clinical instruction in cases of tropical disease at the special ward of the Southern Hospital twice or three times a week by the honorary physicians of the hospital; (3) instructions in special clinical methods in connexion with tropical diseases by the lecturer and demonstrator of tropical medicine; and (4) practical work and demonstrations on the parasitology, bacteriology, and pathology of tropical diseases by the demonstrator at the Thompson-Yates Laboratory, University College. Two special memoirs have been issued by the committee, an account of the first of which will be found in another column. The hospital report shows that in all 176 cases were treated, of which 152 were malarial fever cases, two malarial neuritis, three blackwater fever, five dysentery, three sprue, one diarrhœa, one Malta fever, five beri-beri, two hepatic abscess, one scurvy, and one bilharzia disease. Out of all these only six patients died. The nationalities of the patients were as follows: English, 151; Norwegian, five; German, three; Finnish, three; Swedish, two; Lascar, three; Italian, two; Chinese, two; and American, Dutch, Spanish, Malay, and Austrian one each. The interesting points in connexion with this table are (1) the variety of diseases treated; and (2) the different nationalities of the patients. With more accommodation the list will, no doubt, be largely extended, but as it stands it thoroughly justifies the establishment of a School of Tropical Diseases in Liverpool The most important work of the school was, of course, the malaria expedition to the West Coast of Africa, the members of which were Major R. Ross, late I.M.S., Dr. H. E. Annett, Dr R. Fielding-Ould, Mr. E Austen of the British Museum, and Dr. Van Neck. The work of this expedition was chronicled in our pages at the time and the power of the anopheles to transmit quartan as well as the other fevers was fully demonstrated, thus confirming the results already arrived at by Grassi and Bignami.

Jan. 30th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Royal Infirmary.

ON Jan. 25th a warrant was granted to the managers of the Edinburgh Royal Infirmary by the Edinburgh Dean of Guild Court to erect new pavilions at the Royal Infirmary. These pavilions are to comprise the ear and throat pavilion and the ophthalmological pavilion. They are to be placed on ground partly occupied at present by old houses in Lauriston-lane and partly by the old laundry. The pavilions will lie east and west instead of north and south as do the old pavilions. The ear and throat pavilion will consist of an administrative portion in the centre three storeys high with wings two storeys in height. On the ground floor is a large waiting-room for out-patients with separate entrance, an examination room, an operating room, and a large operating theatre. On the upper floor are two wards to accommodate eight patients each and two wards for two patients. On the attic floor of the central portion are nurses and servants bedrooms, bathrooms, &c The ophthalmological pavilion is to be constructed after a similar plan, but will be somewhat larger, the central portion being four storeys high and the wings three storeys in height The pavilions will be carried out in the same style as the Diamond Jubilee Memorial Pavilion which is now nearing completion All the floors are fire proof, the warming will be carried out by steam pipes and radiators, and the ventilation will be effected by exhaustion by means of electric fans The new pavilions will be connected with each other and also with the main hospital by a light corridor of glass and wood along which food for the patients in the new wards will be conveyed from the main kitchen which is being largely extended to meet the wants of an increased number of patients

Edinburgh Medical Missionary Society

The annual meeting of the Edinburgh Medical Missionary Society was held on Jan 25th The chair was taken by Sir William Muir The report stated that during the year 8752 new cases had been dealt with at the Livingstone Dispensary in the Cowgate Dr Main of Hangchow moved the adoption of the report and was seconded by Dr Laws of Livingstonia

Edinburgh Company Volunteer Medical Staff Corps

The fourteenth annual dinner of the Edinburgh Company Volunteer Medical Staff Corps was held in the Imperial Hotel on Jan 26th, Surgeon Captain Hepburn being in the chair The toast of "The Navy Army, and Reserve Forces was proposed by the Rev G Marjoribanks Stenton and responded to by Colonel J P Rooney, R A M C, and Surgeon Lieutenant-Colonel P A Young, 1st Midlothian Volunteer Artillery The toast of the evening The Volunteer Medical Staff Corps," was proposed by Colonel Rooney and the chairman in acknowledging it said that the company was ' full up '

Proposed Sanatorium for Consumptives at Dundee

At a meeting of the executive committee of the proposed sanatorium for consumptives held at Dundee on Jan 24th it was reported that the best site that could be obtained was on the Auchterhouse estate about two miles from the station and that Lord Airlie had, through Lady Airlie, intimated his resolution to grant the site as a free gift to the city of Dundee The committee accepted the site and passed a hearty vote of thanks to Lord Airlie The site extends to 21 acres and is from 800 to 1000 feet above the sea It is sheltered on all sides and the possibilities as regards water and drainage are satisfactory Ex Provost Moncur, who had presented £10 000 to the committee for the erection of the institution was appointed a trustee together with his son Mr Alexander Moncur

Edinburgh Town Council and Women Sanitary Inspectors

At a meeting of the Edinburgh Town Council on Jan 30th among other matters the council took up consideration of two recommendations of the Public Health Committee under re committed reports, in both of which cases the committee adhered to their former recommendations The one for the addition of four male assistant sanitary inspectors for the sanitary department was agreed to unanimously but the other, for the appointment of two qualified female assistant sanitary inspectors gave rise to a somewhat heated discussion The approval of the latter recommendation was moved by Mr Pollard and seconded by Bailie Brown while Mr Lang Todd, Sir James Russell and Mr Auldjo Jamieson also supported the motion On a vote 21 voted each way and the Lord Provost gave his casting vote against the recommendation

Typhoid Fever Epidemic in Ayr

Fresh cases of typhoid fever continue to be reported in Ayr

The Fife Miners and Medical Fees

There has been some discussion at the various collieries in the county of Fife during the past month as to the rates to be paid for medical attendance At present the rate of contribution in some collieries is 6*d* a fortnight in others only 4*d* From a meeting of the Executive Board of the Fife and Kinross Miners' Association held in December a recommendation was sent out in favour of a uniform deduction of 6*d* a fortnight from the wages At a meeting of the board held at Dunfermline on Jan 17th reports were submitted on the subject and as a considerable diversity of opinion was shown the board decided to leave the matter in the hands of the men to be decided at their respective collieries

Aberdeen Royal Hospital for Sick Children

The ordinary revenue of the Aberdeen Royal Hospital for Sick Children for the 12 months ended Dec 31st last was £1757 19*s* 0½*d* and the ordinary expenditure was £3333 10*s* 6½*d* The number of patients treated in the wards during the year was 758

Death of Dr Henry Jackson of Aberdeen

By the death of Dr Henry Jackson which occurred on Jan 26th Aberdeen has lost one of its oldest and most respected medical practitioners Originally trained as a druggist, Dr Jackson graduated as M D at Marischal College Aberdeen in 1850 and at the time of his death was the oldest member of the Aberdeen Medico Chirurgical Society The deceased was at one time a member of the Aberdeen Police Board and afterwards of the Aberdeen Town Council. He was a total abstainer and was for long a liberal member and office bearer of the Free Church of Scotland He was predeceased by his wife and never had any family

The London Scottish Rifle Volunteers in Aberdeen

The Aberdeen University Corps are to entertain at a smoking concert the detachment of the London Scottish Rifle Volunteers which has just arrived in Aberdeen in order to be affiliated with the Gordon Highlanders previously to their departure for active service in South Africa

Jan 31st.

IRELAND

(FROM OUR OWN CORRESPONDENTS)

The Health of Dublin

A NOTABLE fall has at last been registered in the death rate of Dublin, the report by the superintendent medical officer of health for the week which ended on Saturday last, Jan 27th being 37 9 per 1000 persons living, The mean death rate in the corresponding period of the previous 10 years was 39 4 per 1000 The zymotic death-rate was 1 5 per 1000, the mean rate for the corresponding week in the previous 10 years being 3 3 per 1000 These figures show that at least relatively and in comparison with other years there has been a notable, if only temporary, improvement in the health of Dublin

The Local Government Act

The Local Government Board have announced that all persons who are paid salaries out of the Poor rate are disqualified from acting as guardians This will exclude the county infirmary officials and the asylum officials

Death of Sir William Miller

Sir William Miller M B Dub J P, High Sheriff for the county and for years mayor of the chief town of Derry, was well known as a physician in large practice and as a public man of whom his fellow citizens felt themselves proud He held the positions of physician to the Londonderry City and County Infirmary and medical attendant to the Londonderry Prison Sir William Miller succumbed to an attack of influenza and died on Jan 29th to the great regret of a very wide circle of friends

The Condition of the Bones in the Insane

A contribution to the pathology of this rather doubtful matter has recently appeared in the evidence given at an inquest held at the Richmond Lunatic Asylum Dublin on Jan 24th in connexion with the death of a female aged 64 years who had been an inmate of the asylum for 39 years She died from bronchitis and heart failure while the post mortem examination showed numerous fractures of the ribs There were indications of nine on the left side and of no less than 21 separate fractures 11 ribs having been broken one in four places one in three and five in two situations Dr Rambaut deposed that the ribs on post mortem examination showed an extreme degree of wasting and were in the highest degree fragile so that they could be easily broken between the finger and thumb and without the crackling which usually accompanies a fracture of bone The bones of the legs and arms were also extremely fragile and could be broken easily with the hands Mr Conolly Norman the medical superintendent of the asylum, gave similar evidence and stated his opinion that the fragility of the bones and the absence of the ordinary signs fully accounted for the fractures not having been detected during life.

Health of Belfast.

The death-rate for the week ending Jan. 20th has been from all causes 24·1 and from the principal zymotic diseases 2·3 per 1000. This is less than the average annual death-rate of the 23 principal urban sanitary districts, which was 31·4 per 1000 during the same time. As it appears that there is a large number of deaths of children under six years of age instructions have been given by the public health committee of the city corporation for returns relating to infant mortality to be prepared and submitted to the committee for consideration at their next meeting.

The Belfast Maternity Hospital.

A sale of work in aid of this charity was held in Belfast on Jan. 25th, which it is hoped will bring a large addition to the funds of a very deserving and necessary institution. The committee are most anxious to start the building of a new hospital, which is necessary alike to the poor women of Belfast and to the medical school, but a delay has arisen as they have discovered that they cannot retain the site of the old one without paying a rent equal to the market value of the land which would now be very high. Several new projects are being considered, but nothing so far is finally settled.

The Belfast Hospital for Sick Children.

At the annual meeting of the friends of this hospital, held on Jan. 26th, it was reported that in 1879 there were treated in the wards 474 children (243 medical, 220 surgical, and 11 eye and ear cases), while in the out-patient rooms 5007 new cases were seen (3011 medical, 828 surgical, 863 eye and ear, and 305 dental cases). Dr. Leathem has been elected on the physicians' side, a vacancy having occurred through the resignation of Dr. F. Howard Sinclair. There is a large clinical class of senior students. New cots have been placed in the surgical ward during the year of the most modern design. Financially there is a deficit of £100 owing to the increase of both intern and extern cases; but the legacies of the year enabled all debts to be paid.

The Samaritan Hospital, Belfast.

The annual meeting of the friends of this hospital was held on Jan. 29th. It was reported that 771 patients had been treated in the extern department and 203 in the wards, and of these 130 were operated on. In spite of the grave nature of these operations (35 were abdominal) the death-rate was under 2¼ per cent. Financially there was a net balance of about £136. A ladies' committee has been formed and has been found most advantageous to the hospital. They have spent a sum of £200 on necessary repairs to the building. The debt at the end of 1898 was £200, which, thanks to the exertions of a member of the ladies' committee (Miss F. Henderson), has been more than paid off. Dr. J. St. Clair Boyd, one of the retiring surgeons, was re-elected.

Jan. 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A Victim to Professional Duty.

DR. DEVAY, medical officer in charge of the lunatic asylum which is maintained by the Brothers of Saint-Jean-de-Dieu at Lyons, was recently assassinated by one of the patients. On Jan. 23rd Dr. Devay was vaccinating the paying patients of the institution and while performing this operation a patient struck him a violent blow in the abdomen with some sharp instrument which he had concealed under his clothing. The wound was very severe and the bowel was perforated. Dr. Devay was at once removed to the Hôtel Dieu and Dr. Jaboulay performed a laparotomy, but in spite of all Dr. Devay succumbed to acute peritonitis. Dr. Devay occupied a prominent place among the ranks of specialists in mental diseases and for many years had contributed most valuable papers to the Archives of Neurology, more especially one in 1897 entitled "Melancholia and Exophthalmic Goitre." At the Congress of Alienists and Neurologists of Bordeaux held in 1896 he communicated another very notable paper upon Melancholia in Syphilitics. Besides these occupations he edited with great skill a monthly journal of medicine, the *Echo Medical de Lyon,* which is in its fourth year of public tragic death of so distinguished a professional naturally been the cause of much sorrow amon fession in Lyons.

The Budget of the Assistance Publique.

Dr. Napias, the director of the Assistance P Paris, has just issued the annual report upon th expenses of the organisation for the year 189 expenses, which increase year by year, amount t of 23,033,050 francs. This is equivalent to a sum o for each inhabitant. In 1891 the rate was 7f. 41c., and 5f. 49c. Dr. Napias attributes the increase to the cre new departments and the perfecting of the old ones. statement Dr. Napias counts upon a great augmenta income for the year 1900 owing to a large increase yield from the *droit des pauvres.* These dues enable of 10 per cent. to be levied upon the gross receipts theatres and places of amusement. Taking into conside the number of such places which will be open durin forthcoming exhibition Dr. Napias counts upon a re from this source of 1,500,000 francs in excess of the nary revenue. This estimate, which seems at first enormous, is not really so if the receipts in former exhib years be taken into account. In 1878 the *droit des pau* realised 3,906,342 francs, whereas in the preceding the figures were 2,728,154. In 1889 the assets were 4,438, francs and in the preceding year 3,023,430, showing difference of 1,414,712 francs. Even if there be allow a sum of 30,000 francs for increased expenditure during t period, as Dr. Napias assumes, it will be seen that t increase which he hopes for is by no means unreasonabl although there will no doubt be increased expenses owing the strain which will be thrown upon the hospitals.

Dissensions between Medical Men.

An unfortunate state of matters has arisen between the medical man in charge at the Blind Children's Institute and his second in command. As a rule, when there is a chief and a second in command the latter succeeds to the post of the former at his death or his resignation. But at the Blind Children's Institute there seems to be a tradition that the senior post should be farmed by members of the same family without any consideration for the rights of the assistant medical officer. In 1872 Dr. Lombard, the senior medical officer, resigned in favour of his son-in-law, Dr. Claisse. Dr. Brognard, the junior medical officer, being left out in the cold, resigned. In 1898 Dr. Claisse resigned, nominating as his successor his son, Dr. Paul Claisse, without regarding the claim of his junior, Dr. Watelet, although the latter was an elderly man and well known, while Dr. Paul Claisse is but 33 years of age. Dr. Watelet protested against this arrangement, and it was determined, with the concurrence of Dr. Paul Claisse, to submit the matter to the arbitrament of the medical men of the Seine. These gentlemen decided against Dr. Paul Claisse and in favour of Dr. Watelet. Dr. P. Claisse, however, in spite of this opinion stuck to his post. Dr. Watelet wrote him a letter marked "personal and private," in which he reproached him for his action in not abiding by the result of an arbitration accepted by him. Dr. Claisse thereupon sent this letter to the Minister of the Interior, M. Waldeck Rousseau, with an intimation that he took it as an act of insubordination on the part of the junior medical officer. M. Waldeck Rousseau has just intimated to Dr. Watelet, who is able to count 30 years' service, that he must apologise to Dr. Claisse or resign. This unfortunate incident, which is the subject of much comment in the public press, has made a great sensation in Paris.

Reform in the Provision for Medico-Legal Expert Evidence.

At a recent meeting of the Forensic Medical Society the introduction of an amendment to the new law concerning expert evidence was discussed on the motion of M. Jacomy. The society considered that the words "*expertise contradictoire*" should be expunged from the text of the regulations as defective and leading to misunderstanding. The chief part of the discussion was, however, taken up in considering the length of time allowed to the accused for making up his mind as to the choice of an expert witness. M. Jacomy considered that the period of three days allowed to the accused — which were in reality five days, viz., three days in which to make up his mind, one day to notify his choice to the judge, and one day for the notification of the expert chosen by the judge to the accused—was much too long for at an interval of five days after death expert evidence was not of any use. M Jacomy considered that the examining magistrate should be empowered to nominate a provisional expert on behalf of the accused as soon as he should signify his choice after consultation with his solicitor. Professor Brouardel laid great stress upon the necessity for making expert examinations at as early a date as possible, for the earlier they were made the more valuable they were Especially was this the case in the country where there was a lack of freezing apparatus, and in such circumstances bodies were almost always in a state of decomposition by the time they were submitted to the expert It is almost impossible to make satisfactory expert examinations from June to October. Even in Paris 48 hours generally elapsed before any examination could be made, and if a second expert were necessary who could not begin his work before the lapse of five days expert evidence would be an impossibility. In the interests of justice the choice of a second expert should be made within 24 hours After a very interesting debate the above conclusions were unanimously agreed to.

Jan 29th.

BERLIN.

(FROM OUR OWN CORRESPONDENT)

The Sale of Secret Preparations

A BILL relating to the sale of secret preparations is being introduced by the German Government According to the *Pharmaceutische Zeitung* its principal provisions will be as follows The central authorities of each State of the empire shall register the medicinal compounds which are to be regarded as of secret composition Substances which are contained in the German Pharmacopœia or are generally recognised as remedies by medical science, or are intended only for disinfectants or cosmetics, however, may be sold without registration The public advertisement of medicines of secret composition is prohibited. The bottles, boxes, &c, must bear only the name of the compound, the name of the maker, and the price. It is strictly prohibited to affix to the bottles or boxes labels containing recommendations, professional opinions, expressions of thanks by patients, or any other statement by which a special action of the compound is announced Licensed druggists may sell secret preparations only on the written prescription of a medical man The sale of secret preparations which are prejudicial to health is prohibited The medical journals generally are in favour of the new Bill; they recommend, however, that the registration of secret preparations should be undertaken not by the individual States of the empire but by the Imperial Health Office for the whole territory of the empire so as to avoid the anomaly that a compound may be regarded as a secret preparation in one place whilst it may be sold without restriction in a neighbouring town belonging to another State.

Medical Journals in Germany

The Berlin medical press has been increased by the issue of a new periodical entitled *Die Medicinische Woche* (*The Medical Week*), which is to appear every Monday The editor is Dr. Paul Meissner of Berlin The first number contains a leading article by the editor, an address by Professor von Bergmann on first-aid service, original articles by Professor Brieger and Dr. Friedjung, together with other matter consisting of reports of meetings of medical societies in Berlin and abroad, reviews of books, and other miscellaneous subjects The number of medical journals has greatly increased of late years Apart from the surgical, obstetrical, and other specialist weekly, fortnightly, or monthly periodicals, there are now many journals dealing with medicine and professional matters Up to 1864 there was only one journal of this kind, the *Allgemeine Medicinische Central Zeitung*, which still continues to appear and is now in its sixty-eighth year. In 1864 the *Berliner Klinische Wochenschrift* was founded by Dr. L Posner, the father of the present co-editor, Professor C Posner This was the first important medical journal in Berlin and was the only one till 1875, when the late Dr Borner founded the *Deutsche Medicinische Wochenschrift*, which was afterwards edited by Dr Gutmann, the present editors are Professor Eulenburg and Dr. Julius Schwalbe The two last mentioned periodicals are the leading medical journals of Berlin, and together with the *Münchener Medicinische Wochenschrift* are the leading medical journals of Germany, occupying a position in this country equivalent to that of THE LANCET and the *British Medical Journal* in England. A few months ago a similar journal called the *Deutsche Aerzte Zeitung* appeared under the editorship of Professor Stadelmann, it is somewhat smaller and therefore cheaper than those above mentioned Another paper containing fewer original articles but devoting much attention to reports and reviews of books, German and foreign literature, and medical societies is the *Deutsche Medicinal Zeitung* conducted by Dr. Grosser The contents of all these medical weekly papers are almost exclusively scientific, and, contrary to the customs of the British medical press, the space allotted to the social and economical interests of the profession is relatively small On the other hand, there are a number of papers which are devoted exclusively to professional as distinguished from scientific matters Most of them are distributed free of charge to the Berlin practitioners either because they derive their income from advertisements or because they are supported by professional societies To the latter class belong the *Berliner Aerzte Correspondenz*, the organ of the Berliner Standesvereine, edited by Dr Joachim, the *Medicinische Reform*, the official organ of the Free-choice Society the *Deutsche Medicinische Presse*, and others The *Aerztliches Vereinsblatt*, which is the official organ of the German Practitioners' Association, and the *Aerztlicher Central-Anzeiger*, which is specially devoted to the interests of country practitioners, are edited not in Berlin but in Hamburg.

Jan 29th

ROME.

(FROM OUR OWN CORRESPONDENT)

A Congress of International Hygiene.

THE invitation addressed to the European Governments by their Italian sister "to give an opinion as to the opportuneness and advisability of convening a Congress of International Hygiene similar to that held at Venice in 1897, to take measures for the defence of Europe against the pestis bubonica," seems, according to information derived from the Consulta (the Foreign Office), to have elicited replies favourable to such a project From the same source I learn that the Italian Government has had quite sufficient encouragement from the Powers to employ itself in formulating a "questionario" or schedule of debateable points in view of the Congress becoming a *fait accompli* Among these points the chief, I understand, are quarantine, and the rules to be enforced against the diffusion of plague or contagious maladies capable of assuming an epidemic form. Minor points for the consideration of the Congress are said to be "il commercio delle specialità medicinali, delle acque minerali, e degli altri articoli farmaceutici" (the trade in medicines of a special kind, in mineral waters, and in other articles sold by pharmaceutical chemists) On the completion and distribution of the "questionario" the Italian Government will next propose to the Powers the place at which the Congress shall meet and the time at which to hold it This latter detail will, as THE LANCET[1] has abundantly shown, be the most difficult to settle The tension between several of the great Powers is at present too severe to conduce to amicable discussion of such topics as "international sanitation" These, as late events have shown, may be highly debateable—even the organisation of the Red Cross having had to lay its account with the susceptibilities of Powers more or less closely identified with alliances "dual" or "triple" Postponement to a season when the political atmosphere is less charged with explosive element is, as THE LANCET suggested, the course least open to difficulty in convening the proposed Congress; and, indeed, it is significant that in their replies to the Italian invitation the sister Powers, while unanimous as to the "advisability" of holding some such meeting, appear to be, one and all, silent as to its "opportuneness."

Influenza

Not only epidemic but pandemic, influenza is master of the situation Nearly every public interest or occupation has to pay tribute to it. Indeed, the more numerous the *personnel* employed the greater the number of its victims. True, the inmates of monasteries, or prisons, where a simple, austere life is the rule, are singularly free from it; but once let an infected individual find entrance into these communities and it passes from inmate to inmate till two-thirds or three-fourths of them are attacked. The two facts were noted by the Italian profession centuries ago. Lancisi, for example, the Pope's physician, remarked in 1709 when influenza prevailed in Rome that the prisoners *of the Holy Inquisition were untouched by it.* On the other hand, Mercuriali in 1580 observed that once an infected case found admission into a community or family the malady *diffused* itself rapidly. "*Mirum est*," he says, "*ubi unus* corripitur aliquã in domo, statim singulis ejus familiæ malum communicari" (It is remarkable when one person in any household is attacked that forthwith the disease is communicated to the other individuals composing it). The bacillus lurks in the mucosa of the air passages, so that the breath and still more the bronchial secretion and sputa of the patient are perhaps the most prolific source of its multiplication and spread. In Italy the churches, open all day and frequented by the very poor, who never use pockethandkerchiefs, have their pavements converted into "influenza preserves"—the desiccated sputum parting with its bacilli every time a current of wind comes through the door, till the said bacilli load the air and impregnate the *bénitiers* or fonts of holy water with which the devout daub their faces. These are facts which the "*Uffizi d'Igiene*" *of municipalities* are now thoroughly alive to, with the result that, wherever practicable, expectoration on floor or pavement *is* prohibited, sometimes under penalties. Meanwhile the prevalence of the disease is, as the health officers throughout Italy are reporting, "assai inquietante" (very alarming). In Rome there are over 40,000 cases under treatment and possibly as many more among the very poor unknown to the profession. Coincident with the severe, prolonged winter, the virulence of the malady is at its worst in Northern Italy—in Turin, for instance, the "tavole necrologiche" registering 73 deaths in the 24 hours. This mortality is even higher than that of the epidemics of 1889-90 and 1891-92 when influenza, with its peculiarly "neurotic note," decimated the Subalpine capital. At the Vatican the vigilance of the Pope's body physician is, if possible, redoubled, and the utmost care is practised so as never to let the temperature of the apartments frequented by His Holiness fall below 65° F. Of the three patients mentioned in THE LANCET of Jan. 20th (p. 205) Cardinal Trombetta is dead; Prince Altieri, commandant of the pontifical guard, is also dead; and the Cardinal Vicar (Jacobini) has received the last consolations of the Church and is *in extremis*. On the other hand the Minister of Public Instruction (Dr. Baccelli) is now convalescent and is shortly expected at Genoa on business connected with his portfolio.

---

[1] THE LANCET, Dec. 2nd, 1899, p. 1534

Jan. 30th.

RUSSIA.

(FROM A CORRESPONDENT.)

Another Outbreak of Plague in Southern Russia.

NEWS has just been published of the occurrence, in the second half of November, of yet another outbreak of plague in Russia. The facts now made public are scanty, but though the assertion is not definitely made that the disease in question was in truth plague it is scarcely possible to doubt that it was so. The symptoms appear to have resembled in every respect those of the outbreak at Kolobovka on the Volga last summer, and, moreover, the disease proved fatal to every person attacked by it. The scene of the late outbreak was two Kirghiz *aouls*, or encampments, in the maritime division of the Krasnoyarsk *uyezd*, or district, in the Government of Astrakhan. As the town of Krasnoyarsk, which gives its name to the district, is situated on one of the mouths of the Volga river quite close to the village of Kolobovka it would appear that the scene of the late outbreak was at no great distance from that of last summer's epidemic. The *aouls* in question are situated on an island, and as exceedingly stormy weather prevailed at the time of the outbreak the inhabitants were unable to communicate with the shore. It was only at the end of November (according to the Old Style which is 12 days posterior to the western mode of reckoning), when the waters froze, that communication with the shore was re-established and the authorities came to hear of the epidemic. The names of the *aouls* were Kishkine-Aral and Kine-Aral. The symptoms of the disease were described as consisting of fever, headache, pain over the heart, and expectoration of blood. As soon as the Governor of Astrakhan learnt of the outbreak he telegraphed the news to the Imperial Plague Commission, and at the request of the Commission he at once personally visited the island. The most radical measures of disinfection and destruction of infective material were put in force. Not only infected articles which had belonged to those who died from the disease, but the tents themselves, were *burnt*. The sick were *isolated* and the other inhabitants were first given a bath, then provided with new clothes, and put into clean tents at a distance from the old ones and kept under supervision by medical men. By Dec. 5th (17th) the outbreak was at an end; but not until 59 persons had succumbed to the disease. As already stated not a single patient recovered, and the case-mortality was consequently cent. per cent. The epidemic was therefore a considerably more extensive one, and even more fatal, than that at Kolobovka, where 24 persons were attacked and one did recover. From the brief summary of the symptoms and from the extremely high mortality it can scarcely be doubted that the later outbreak, as the earlier one, was one of the pneumonic form of plague. Some further light upon its character will probably be thrown by the inquiries of Professor Levin, Professor Raptchevski and Professor Vinogradof, who have been sent by the Imperial Plague Commission to investigate the outbreak. Their report will be looked forward to with interest.

Recent Prevalence of Diphtheria in Russia.

Diphtheria has for some years past been one of the most widespread and fatal of all zymotic diseases in Russia. Dr. *Rankhfus*, a leading authority upon all diseases of childhood, read a valuable paper upon the subject before a medical society in St. Petersburg in March of last year. That paper has just been published in full in *Botkin's Hospital Gazette.* As an epidemiological and therapeutical study of the recent prevalence of this disease Dr. Rankhfus's essay is a model, and it is regrettable that it is not possible here to do more than summarise the conclusions at which he arrives. Those conclusions are briefly as follows: 1. The present epidemic of diphtheria in St. Petersburg dates since the year 1894, and is part of a pandemic of the disease which has affected a great portion of the Russian Empire. 2. The preceding epidemic of diphtheria in St. Petersburg was in the years 1881 to 1884 inclusive. It affected probably fewer persons than the present epidemic, but, on the other hand, the case-mortality was then nearly twice as high as it is now. The change from high to low case-mortality did not occur at the beginning of the present epidemic, but came on suddenly and exactly at the time of the introduction of the serum treatment—that is to say, in the second year of the epidemic. 3. The case-mortality from diphtheria in the Prince Peter of Oldenburg's Children's Hospital—the principal hospital of the kind in St. Petersburg—was during the 25 years 1870-1894 on an average 54 per cent. The maximum had been 60·6 and the minimum 46·2 per cent. From 1870-1880, a period when the disease was not epidemic, the average mortality was 52 per cent.; in 1881-1884, an epidemic period, it was 59 per cent.; and in 1885-1894, a non-epidemic period, it was 55·8 per cent. The case-mortality was, therefore, not very materially affected by the degree of prevalence of the disease. In 1894 the case-mortality was as high as ever. But in 1895, when the serum treatment began to be widely practised, there was a sudden fall in the mortality to 23·9 per cent., and since that year it has varied between 21·4 and 25·5 per cent. 4. The character of the recent epidemic has not been the same throughout. In the last two years (1897-1898) the number of cases of phlegmonous (septic) diphtheria has largely increased, and the number of cases of diphtheritic croup has correspondingly diminished, in comparison with the numbers of each class in the first two years (1895-1896), and at the same time the phlegmonous cases have become more malignant in character. 5. The same reduction in case-mortality since the introduction of the serum treatment has also been observed in the other children's hospitals in St. Petersburg. The remaining conclusions deal in detail with the different types of the disease and the effect of the serum treatment upon them. It was fo the mortality in cases of diphtheritic croup to a greater extent than in cases of phlegmonous or septic diphtheria Excluding those cases which died within 24 hours of admission to hospital the mortality in patients treated with the serum was only 19 6 per cent, while in those not so treated it was 39 6 per cent, or almost exactly double Finally, Dr Rankhfus concludes that in the anti diphtheritic serum we possess the most powerful remedy for the disease which has hitherto been discovered

New Style and Old Style

No little confusion arises at times from the retention in Eastern Europe of the Julian calendar and the constant necessity of indicating whenever a date is mentioned whether that date is according to the New Style or according to the Old Style A commission is already sitting in Russia to consider the advisability of doing away with this discrepancy, and it may be hoped that it will be found practicable to introduce the New Style and so (should Greece follow suit) make the dates the same all over Europe The difference between the two styles is now 12 days, but in another month it will be 13 days as this year is not a leap year according to the Gregorian calendar, while it is one according to the Julian calendar Up to two centuries ago the date of the year was reckoned in Russia as from the creation of the world The year 1699 was called the year "7208 from the creation of the world" (*ot} sotrorénia mira*) and it was only in that year that the western mode of reckoning from the birth of Christ was introduced The change was made by Peter the Great in an ukase dated Dec 19th 1699, and at the same time the beginning of the year was altered from September 1st to Jan 1st The new mode of reckoning was not, however, made compulsory, and it was permitted to use either the date *Anno Domini* or the date "from the creation of the world" or both together On the day following the issue of this ukase another was published announcing the commencement of a new century on Jan 1st 1700 Moscow was *en fete* for a whole week, guns were fired, and the city was illuminated in honour of the event This imperial method of settling a highly controversial question—of which a recent and exactly parallel instance will be fresh in every one's mind—has not a little to commend it

at P
etary of
1 to the emn
on the

Obituary.

SIR WILLIAM MILLER, M B T C D, J P

THE death is announced of Sir William Miller—one of the most respected and able practitioners in Ulster—after a short illness at his suburban residence Braehead, Londonderry on Jan 28th, at the advanced age of 73 years He had been attending to his usual duties until he was attacked by influenza Sir W Miller was the second son of the late Joseph Ewing Miller M D, J P a medical man who several times during his long life of 92 years had held the office of Mayor of Derry Born in Derry young Miller studied in Trinity College, Dublin where he graduated M B in 1853 becoming a Licentiate of the Royal College of Surgeons in Ireland in the same year Returning to his native city Dr Miller began practice and followed his father's footsteps in taking an active part in public life there For 40 years he held a prominent professional and social position in Derry He was a magistrate of the city and of the county of Derry and a grand juror of the county In the year 1875 he was chosen mayor of the city of Derry and on that occasion he entertained the Lord Lieutenant of Ireland (the Duke of Abercorn) and the members of the Royal Agricultural Society who visited the city during his year of office He was re elected mayor the following year and was then knighted and was again chosen chief magistrate for the third year in succession He also was elected mayor in 1888 and in 1889 He gave a great portion of his time to the administration of public affairs of the city and county of Derry and he had just been appointed high sheriff of the county for the present year Professionally he had a large private and consulting practice He held all the best medical appointments being surgeon to the County Derry Infirmary, medical officer to the County Derry Gaol and Londonderry Post Office physician to the County of Derry Fever Hospital and Surgeon Major of the Londonderry Artillery Militia He was also a member of the Londonderry Bridge Board It is given to few men in any profession to attain such a distinguished public position in his native city as fell to the lot of Sir W Miller He was a level headed Ulsterman of great prudence, caution, and sagacity and it was these qualities of head as well as his kindly disposition which gave him such a commanding civic and professional position He has left a widow and a large family Two of his sons occupy prominent positions in Derry, one of them (Dr Joseph Miller) being in the medical and the other in the legal profession

ALEXANDER CHARLES ARCHIBALD ALEXANDER OF BOYDSTONE, B A CANTAB, M R C S ENG, L S A, MAJOR R A M C.

THE death of Major A C A Alexander, R A M C, of the Coldstream Guards who was recently permanent medical officer to the Royal Military Tournament, which occurred on Jan 23rd has occasioned great regret to a wide circle of friends Major Alexander was educated at Cheltenham and Trinity College Cambridge On obtaining his degree in Arts he entered the medical school of St George's Hospital After qualifying as M R C S Eng he obtained a commission in the 3rd Battalion of the Royal Scots Fusiliers He served later in the 1st Battalion Coldstream Guards, which regiment he accompanied in the Suakim Expedition in 1885, and was present at the engagements at Hasheen at that near Tofrek, and at the destruction of Tamai for which services he obtained the medal with clasp and the Khedive's star Last year he returned from Gibraltar on sick leave having had a slight sunstroke, from which unfortunately he did not entirely recover so that to his great grief he was unable to accompany his regiment on the present South African campaign

Major Alexander succeeded to the estate of Boydstone on the death of his father some twelve years ago He was a justice of the peace for the counties of Ayr and Lanark, in each of which he owned property He was a man of splendid physique and in the prime of life and his many friends in the service in the medical profession, and in society generally will find it hard to credit that death has seized upon so vigorous a man, who seemed to have before him a long and useful life

THOMAS JONES DYKE J P, F R C S ENG, L S A.

WE have to record the death on Jan 20th, at the advanced age of 84 years, of Mr Thomas Jones Dyke who had held the position of medical officer of health of the town of Merthyr for over 36 years He was articled at the age of 15 years to Mr David Davies who was then surgeon to the Cyfarthfa Iron and Coal Works, Merthyr and at the end of three years he entered as a student at Granger's School in the Borough He took his L S A in 1837 and his M R C S in the year following In 1866 he was elected a Fellow of the College The Public Health Act 1848 gave permissive authority to local boards of health to appoint a fit and proper person to act as officer of health to the district, but it was not until 1872 that such an appointment was made obligatory upon sanitary authorities From the days of the Health of Towns Commission Mr Thomas Jones Dyke became an enthusiastic sanitarian and by means of public lectures he succeeded in bringing home to his fellow townsmen in Merthyr such a sense of their responsibilities in public health matters that in the year 1849 it was decided to form a local board of health Throughout the cholera epidemics of 1849 and 1854 Mr Dyke acted as medical officer to the board of guardians In the former year there were nearly 1700 fatal cases and he himself was attacked by the malady In 1863—nine years before the appointment was made compulsory—he was elected medical officer of health to the local board at the modest salary of 20 guineas per annum and in 1873 he was appointed to a similar office by the Merthyr Rural Sanitary Authority, continuing an official under both bodies under their altered titles, until the day of his death During the last six years he had retired altogether from general practice and devoted himself entirely to his public health duties

Mr Dyke was a Fellow of the Incorporated Society of

Medical Officers of Health and of the Sanitary Institute and a Member of the Société Française d'Hygiène. He was a Justice of the Peace for the county of Glamorgan and in 1876 and 1877 held the office of high constable of Merthyr. He was the oldest Freemason in Wales, having been initiated in the Loyal Cambrian Lodge, No. 110, in the year 1839, acting as secretary of the lodge for 20 years. In the Provincial Grand Lodge of South Wales and Monmouthshire he had filled the office of grand senior warden.

FREDERICK EDWARD PEARSE, M.D. St. And., M.R.C.P. Edin., M.R.C.S. Eng.

At the meeting of the Frome Board of Guardians held on Jan. 23rd a vote of condolence was passed with the family of the late Dr. Frederick Edward Pearse who had been medical officer and public vaccinator for the first district of the Frome Union for the past 18 years and had previously held the appointment of medical officer of health of Wellington.

Medical News.

Foreign University Intelligence.—*Basle:* Dr. L. G. Courvoisier, Extraordinary Professor of Surgery, and Dr. K. Mellinger, Extraordinary Professor of Ophthalmology, have been promoted to Ordinary Professorships.—*Berlin:* Dr. Gustav Fritsch, Extraordinary Professor of Histology and Comparative Anatomy, has been promoted to an Honorary Professorship.—*Bonn:* Dr. Julius Strasburger has been recognised as *privat-docent* of Internal Medicine.—*Breslau:* Dr. Groenouw, *privat-docent* of Ophthalmology, has been granted the title of Professor.—*Budapest:* Dr. Michael von Lenhossék of Tubingen has been appointed to the chair of Anatomy in succession to the late Professor Mihálovics. Dr. Wilhelm Friedrich has been recognised as *privat-docent* of Professional Diseases.—*Catania:* Dr. Gaetano Traversa of Naples has been recognised as *privat-docent* of Experimental Pharmacology and Therapeutics.—*Clausenburg:* Dr. Rigler has been appointed Extraordinary Professor of Hygiene.—*Copenhagen:* Dr. Rovsing has been appointed to the chair of Surgery.—*Florence:* Dr. Salaghi of Naples has been recognised as *privat-docent* of Orthopædic Surgery.—*Freiburg (Baden):* Dr. Otto Manz has been recognised as *privat-docent* of Surgery.—*Geneva:* Dr. L. Bard of Lyons has been appointed Professor of Clinical Medicine.—*Gratz:* Dr. J. Haberman, Extraordinary Professor of Otology, has been appointed Professor.—*Iurieff (Dorpat):* Dr. Muratoff has been promoted to the Professorship of Midwifery and Gynæcology.—*Kazan:* Dr. Arnoldoff has been recognised as *privat-docent* of Hygiene.—*Lemberg:* Dr. Oskar von Widmann, *privat-docent* of Medical Pathology, has been granted the title of Professor.—*Moscow:* Dr. Poliskoff has been recognised as *privat-docent* of Respiratory Diseases.—*Munich:* Dr. Karl Schloesser, *privat-docent* of Ophthalmology has been promoted to an Extraordinary Professorship. Dr. Ludwig Neumayer has been recognised as *privat-docent* of Anatomy.—*Naples:* Dr. Ferdinando Matoni has been recognised as *privat-docent* of Medical Pathology, Dr. Cesare Colucci as *privat-docent* of Neurology, Dr. Gaetano Angiolella as *privat-docent* of Psychiatry, Dr. A. Sandulli as *privat-docent* of Operative Medicine, Dr. Andrea Zinno as *privat-docent* of General Pathology, Dr. Antonio Virdia as *privat-docent* of Surgical Pathology and Operative Medicine, Dr. Enrico Rossi as *privat-docent* of Surgical Pathology, and Dr. Giovanni Piccoli as *privat-docent* of Midwifery and Gynæcology.—*New York (Post-Graduate School):* Dr. Max Einhorn has been appointed Professor of Medicine and Dr. R. T. Morris and Dr S. Lloyd Professors of Surgery.—*Prague (Bohemian University):* Dr. Anton Heveroch has been recognised as *privat-docent* of Neurology and Psychiatry.—*St. Petersburg (Military Medical Academy):* Dr. G. Rein of Kieff has been appointed to the chair of Midwifery and Gynæcology vacant by the death of Dr. Slavianski. Dr. L. Popelski has been recognised as *privat-docent* of Physiology, Dr. Dmitri Kuralieff as *privat-docent* of Medical Chemistry, and Dr. Constantin Georgievski as *privat-docent* of Internal Medicine.—*Turin:* Dr. J. Arslan and Dr. Giuseppe Strazza have been recognised as *privat-docenten* of Laryngology and Otology.—*Vienna:* Dr. Moritz Sachs has been recognised as *privat-docent* of Ophthalmology.—*Zürich:* Professor Billeter has been appointed Director of the newly-established Dental School.

Walton Convalescent Home, near Clevedon.—The annual report shows that 431 patients (158 males and 273 females) were admitted during 1899.

University College of North Wales.—At a meeting of the Court of Governors of the University College of North Wales held at Bangor on Jan. 22nd it was decided to construct new college buildings in Bangor.

Clevedon Convalescent Home.—The annual report for 1899 states that 396 patients were admitted during the year (175 men and 221 women). The authorities of the home have offered 24 beds for the reception of wounded soldiers and this has been accepted.

Vaccination Returns.—At a meeting of the Calne (Wilts) Board of Guardians held on Jan. 23rd it was reported that during the year ended Dec. 31st the births of 171 children were registered, of whom 36 were vaccinated, nine were exempted, 15 died, and 111 remained unvaccinated.

Hospital Saturday Fund.—At a special meeting of the board of delegates of this fund held at the offices, Gray's Inn-road, on Saturday, Jan. 27th, on the recommendation of the distribution committee a sum of £17,013 was awarded to the 174 participating institutions and £2938 to 27 miscellaneous institutions, including ambulance, distribution, and surgical appliance committees, and institutions for the gratuitous nursing of the sick poor in their own homes. The total receipts for 1899 were £20,023, an increase of £684 upon the previous year, but the awards were less.

Presentations to Medical Men.—Mr. James Carlisle, L.F.P.S. Glasg., of Crossgar, co. Down, and his wife have been the recipients from friends, on their leaving Crossgar, of an address and a drawing-room clock and ornaments as tokens of esteem and regard.—On retiring from the post of acting medical superintendent at the Grove Hospital of the Metropolitan Asylums Board Mr. F. Foord Caiger, M.D. Lond., has been presented by the medical staff, the matron, nursing staff, [illegible] employées in the domestic service with a silver [illegible] case, a chased silver cake-basket, and [illegible] sugar caster as marks of regard and friendship.—[illegible] well-attended meeting at the Coöperative Hall, N[illegible] on Jan. 25th, Mr. John Sutherland, M.B., C.M. Edin., B.Sc., after six years' residence in that village, was presented with a silver tea and coffee service on the occasion of his recent marriage. The Vicar, in making the presentation on behalf of the subscribers, concluded his remarks by wishing that Dr. Sutherland might have happiness and prosperity and that it would be many years ere he ceased to administer to their ailments.

University of Cambridge.—An Allen Scholarship of the value of £250 for one year will be awarded this term for research in medicine, mathematics, physics and chemistry, biology and geology, or moral science. Candidates must be graduates under 28 years of age at the beginning of this year and must undertake to devote themselves to research in the subject of their choice in Cambridge or elsewhere. Applications are to be sent to the Vice-Chancellor on or before Feb. 20th.—The Faculty of Medicine of University College, Cardiff, has been recognised by the university for the purposes of medical study.—The Botanical School buildings have presented plans and estimates for the new laboratories to be erected on the ground recently purchased from Downing College. The buildings will cost about £22,500 and will meet the present and prospective requirements of the department, which has long suffered from overcrowding. The source of the necessary funds is less apparent, though doubtless the recent benefactions to the University will be drawn upon to some extent.—Lord Lister has been appointed an elector to the professorship of Pathology in the place of the late Sir James Paget.—Dr. Henry Jackson has been elected without opposition to the place on the council of the Senate vacated by Mr. Dale, now principal of University College, Liverpool.—By a very large majority the Governors of Addenbrooke's Hospital have adopted a scheme whereby the University Medical School shall be brought into closer relations with the hospital. In consideration of an annual subsidy of £300 the governors will elect the Regius Professor of Physic and

Professor of Surgery to the staff of the hospital, and will provide all needful facilities for clinical instruction and examinations

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

Opening of the Session

THE Seventh Session of the present Parliament was opened on Tuesday, Jan 30th, when a message from Her Majesty the Queen was read in the House of Lords by the Lord Chancellor, acting as one of Her Majesty's commissioners In this message Her Majesty spoke of the heroism shown by her soldiers and sailors in South Africa, and expressed her regret that so many valuable lives should have been sacrificed, and said, "*I am confident that I shall not look to them* in vain when I exhort them to sustain and renew their exertions until they have brought this struggle for the maintenance of the empire and the assertion of its supremacy in South Africa to a victorious conclusion With regard to India Her Majesty said, 'I regret that owing to insufficient rainfall in the autumn over a great part of Western and Central India, the harvests and pasturage have failed to such an extent as to create a famine Timely measures have been taken by my *Government* and by the rulers of the Native States affected to relieve suffering and to prevent starvation I regret to add that the epidemic of plague continues and that although its severity has not increased since last year there is at present no prospect of its diminution' The references in the *message to intended* legislation were not numerous *nor* were they of very great importance Mention was made of Bills to amend the law of lunacy factory legislation, the Housing of the Working Classes Act and the Companies Acts, and to lessen the number of accidents among railway servants The Bill for the Amendment of the Companies Acts will, in all probability, contain a provision with reference to companies carrying on medical practice There was no mention in the message of any Bill to amend the Medical *Acts* but *it does not follow that such a measure will not be introduced* by the Government in the course of the session

The London Water Question,

The final report of the Royal Commission appointed to inquire into the subject of the water supply within the limits of the metropolitan *water companies has been* laid on the table of Parliament.

Special Rules for Chemical Works and Match Factories

The Secretary of State has prepared two new sets of special rules—one in regard to the employment of persons in chemical works in which is carried on the manufacture of bichromate or chromate of potassium or sodium, and the other in regard to the employment of persons in lucifer match factories in which white or yellow phosphorus is used

BOOKS, ETC , RECEIVED.

BAILLIÈRE J B, ET FILS, *Paris*
Maladies des Pays Chauds et Tropicaux Par Dr J Brault 1900
Anatomie Clinique des Centres Nerveux Par Dr Grasset. 1900

BAILLIÈRE, TINDALL, AND COX London
The Pathological Statistics of Insanity By F O Simpson, L R.C P Lond , M R C S 1900 Price 10s 6d net

BAUERMEISTER F , Glasgow
Das Trainieren zum Sport Von Henry Hoole 1899 Price 2s 3d
Vorfragen der Biologie. Von Dr E Albrecht. 1899 Price 2s 6d
Die Missbildungen des Gaumens und ihre Zusammenhang mit Nase Auge und Ohr Von Dr F Danziger 1900 Price 3s 6d
Lerne gesundheitsgemäss sprechen Professor C R Hennig 1899 *Price 1s 3d*
Die Hygiene der Stimme. Von Dr O Korner 1899
Verhandlungen des Congresses fur Innere Medicin Von Dr E von Leyden und Dr E Pfeiffer 1899 Price 12s

BLACK A. and C Soho-square London
The Grammar of Science. By Karl Pearson M A , F R S Second edition 1900 Price 7s 6d

BROWNE T B Queen Victoria street London
T B Browne's 1900 Directory The Advertisers A.B C Price 10s 6d

CASSELL AND Co London
A Manual *of Chemistry Inorganic* and Organic. By A P Luff, M D B Sc Lond F R C P and F J M Page B Sc Lond , F I C Illustrated 1900 Price 7s 6d

DORNAN W J , Philadelphia
Transactions of the American Surgical Association Vol xvii Edited by De Forest Willard A M M.D , Ph D 1899

FISCHER G , Jena
Die Technik der Speziellen Therapie Von Dr F Gumprecht Zweite Auflage 1900

HOLDER, A., Wien
Specielle Pathologie und Therapie Von Dr H Nothnagel Die Pest. Von Weil Docent Dr H F Müller, und Dr R Poch, in Wien. Mit 4 Tafeln 1900

LIVINGSTONE, E AND S , Edinburgh
The Student's Handbook of the Practice of Medicine By H A Husband, M B C M B.Sc. F R C S E., M R C S Fifth edition Illustrated 1900 Price 10s 6d net.

LONGMANS GREEN, AND Co , Paternoster row London
A Manual of Surgical Treatment By W W Cheyne, M B , F R C S , F R.S and F F Burghard M D M S Lond , F R C S In six parts Part I Second Edition 1899 Price 10s 6d
A Manual of Pathology By Jos Coats M D Fourth edition revised by L R Sutherland M B Illustrated 1900 Price 31s 6d.
Training of the Young in Laws of Sex By Rev the Hon E Lyttelton. 1900 Price 2s 6d net

MACMILLAN AND Co , London
Text book of Palæontology By K. A von Zittel Translated and edited by Chas R Eastman Vol. I Illustrated 1900. Price 25s net.

MASSON ET CIE Paris
Notions de Laryngoscopie utiles au Médecin. Par Dr F J Collet

METHUEN AND Co , Essex street Strand London
A Handbook of Nursing By M N Oxford 1900 Price 3s 6d

NEWNES GEORGE, Southampton street, Strand London.
The Story of Life's Mechanism By H W Conn. Illustrated *1899 Price 1s*

PUBLISHED AT THE CONNAUGHT MANSIONS Victoria street, London
The Medical Review (Medical and Surgical Review of Reviews) Edited by N E Boyd, M.D Vol. II , January-December, 1899

PUBLISHED BY THE AMERICAN ORTHOPEDIC ASSOCIATION, Philadelphia
Transactions of the American Orthopedic Association Thirteenth session June, 1899 Vol xii 1899

REBMAN COMPANY, London
The Gross and Minute Anatomy of the Central Nervous System. By H C Gardiner, A M , M D Illustrated 1900 25s net
A Text book of Physiology By W S Hall, Ph D , M D Illustrated 1900 *Price 20s* net
The Pasteurisation and Sterilisation of Milk By A E Bell, F I C , F C S 1899 Price 1s 6d net

SEITZ AND SCHAUER München
Taschenbuch für Dermatologen and Urologen Von Dr A F von Notthafft. 1900 Price 2s

SOCIÉTÉ D'ÉDITIONS SCIENTIFIQUES Paris
Précis d Urologie Clinique Par L Lematte Première partie

UNWIN T F, Paternoster buildings London and BAILLIÈRE, TINDALL, AND COX King William street Strand, London
Experiments on Animals By S Paget With an Introduction by Lord Lister 1900 *Price 6s*

WOOD, WILLIAM AND COMPANY, New York
The Treatment of Diseases of the Nervous System By Jos Collins, M D Illustrated 1900

Laboratory Note-Book for Chemical *Students* By N B Lewes and J S S Braine (A. Constable and Co , Whitehall gardens, Westminster) price 4s —Magazines, &c., for February ; Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly *Greetings*, Myra's Journal, Pall Mall Magazine, Windsor Magazine, English Illustrated Magazine, Knowledge, Humanitarian, Wide World Magazine New Century Review, The Captain The King

Appointments.

Successful applicants for Vacancies Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub Editor, not later than 9 o clock on the Thursday morning of each week, for publication in the next number*

AUBREY, THOMAS M R.C.S , L R C P has been appointed Assistant House Surgeon to the Bristol General Hospital

DUNCLE, T M , M B Ch M Edin has been appointed Medical Officer for the Second Sanitary District of the Morpeth Union, vice P W Skrimshire deceased

CRAIG, PETER L L , civil surgeon M A., M B , C M. Glasg , has been appointed to fill a temporary vacancy in the Western District

DAVIES A J L R.C P , L.R.C S Edin., L F P S Glasg , has been appointed Medical Officer at Beaudesert, Queensland.

DUKE EDGAR, M D Durh M R C S has been appointed Honorary Physician to the Police Convalescent Home, Hove, vice F J Waring deceased

FLOYD E W M B , Ch B Vict has been appointed Resident Medical Officer to the Guest Hospital Dudley

GETHING W J , L.R C.P I R C S Edin L F P S Glasg has been appointed, pro tem , Medical Officer at Port Adelaide, Australia.

Goldie, W. H., M.D., C.M., has been appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham-road, London, S.W.

Gorrick, H. P. C., M.D. New York, has been appointed Government Medical Officer and Vaccinator at Cassilis, New South Wales.

Gregg, J. L., M.B., B.S. N. Zeal., has been appointed Officer of Health for the Shire of Mansfield, Victoria, Australia, vice P. H. Liddle, resigned.

Hawthorne, C. O., M.D. Glasg., M.R.C.P. Lond., has been appointed Examiner in Materia Medica and Therapeutics in the University of Edinburgh.

Healy, J. J. S., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Officer of Health for the Shire of Phillip Island and Woolamai, Victoria, Australia.

Jones, P. T., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Coleford Sanitary District of the Frome Union, vice T. C. Lawson, resigned.

Low, C., M.B., Ch.M. Edin., has been appointed a Public Vaccinator for the District of Opunake, New Zealand.

Messiter, A. F., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Belton Sanitary District of the Throne Union.

Mills, H. H., M.B. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham-road, London, S.W.

Morley, G. F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Portsmouth Sanitary District of the Portsea Island Union, vice F. Morley, deceased.

Mullen, W. L., M.D., Ch.B. Melb., has been appointed Acting Medical Superintendent of the Metropolitan Lunatic Asylum, Victoria, Australia.

Palmer, C. S., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the First Sanitary District and the Workhouse of the Reigate Union, vice A. Kelsey, resigned.

Ridsdale, A. E., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the First Sanitary District of the Newhaven Union, vice F. Dalton, resigned.

Robson, F. W. H., M.B., C.M. Edin., has been appointed Medical Officer for the Burscough Sanitary District of the Ormskirk Union, vice A. J. Partridge, resigned.

Scott, J. M., M.B. Melb., has been appointed Acting Medical Superintendent of the Lunatic Asylum, Beechworth, Victoria, Australia.

Stedman, S. B., L.S.A., has been appointed Medical Officer for the Swinhope Sanitary District of the Caistor Union, vice J. B. O. Richards, resigned.

Shorland, Ernest Trevor, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Wiltshire, Gloucestershire, and South Wales Regiment of the Imperial Yeomanry.

Weld, J. C., L.K.Q.C.P. Irel., has been appointed Officer of Health for the borough of Carisbrook, Victoria, Australia, vice C. B. Duigan, deceased.

Wiggins, H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Second (B) Worthing Sanitary District of the East Preston Union, vice B. H. Lees, resigned.

Wray, C. J. H., L.R.C.P. Edin., has been appointed Visiting Surgeon to the Reformatory School for Boys, Diamantina, Queensland.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

Aldershot Urban District Council.—Medical Officer of Health. Annual election. The inclusive salary will be £300 per annum payable quarterly.

Bath General or Royal Mineral Water Hospital, Bath.—Resident Medical Officer, unmarried. Salary £100 per annum, with board and apartments.

Birmingham and Midland Eye Hospital, Birmingham.—Assistant House Surgeon. Salary £60 per annum, with apartments and board.

Bolton Infirmary and Dispensary.—Junior House Surgeon for twelve months. Salary £80 per annum, with apartments, board, and attendance.

Borough of Southport.—Medical Officer of Health for the Borough. Salary £500 per annum. Apply to the Town Clerk, Town Hall, Southport.

Brecon Infirmary, South Wales.—Resident House Surgeon, unmarried. Salary £90 per annum, with furnished apartments, board, all found except beer, attendance, fire, and gas.

Brixton Dispensary, Water-lane, Brixton, S.W.—Resident Medical Officer for two years, unmarried. Salary £150, with furnished apartments, attendance, coals, and gas.

Cancer Hospital (Free), Fulham-road, S.W.—Assistant House Surgeon. Salary £50 per annum, with board and residence.

Cardiff Infirmary.—Assistant House Surgeon and Assistant House Physician, each for six months. Salaries at the rate of £50 per annum, with board, washing, and apartments.

Central London Ophthalmic Hospital, Gray's Inn-road, W.C.—House Surgeon. Salary at the rate of £50 per annum, with board and residence in the hospital.

Chelsea Hospital for Women, Fulham-road, S.W.—Clinical Assistant. Tenable for three months on payment of eight guineas.

City of Liverpool.—Assistant to the Medical Officer of Health. Salary £350 per annum, subject to certain conditions. Applications to the Town Clerk, Town Clerk's Office, Liverpool.

Evelina Hospital for Sick Children, Southwark, London.—Surgeon to Out-patients.

Eye and Ear Hospital, Tunbridge Wells.—House Surgeon for one year. Salary £60, with board and residence.

French Hospital and Dispensary, 172, Shaftesbury-avenue, London.—Resident Medical Officer. Must speak French. Salary £80 per annum, with board.

General Infirmary at Gloucester and the Gloucestershire Eye Institution.—House Surgeoncy. Salary £100 per annum, with board, residence, and washing.

Gravesend Hospital.—House Surgeon. Salary £80 per annum, with board and residence.

Hants County Asylum, Fareham.—Third Assistant Medical Officer, unmarried. Salary £125 per annum, increasing to £150 after twelve months' service, with furnished apartments, board, washing, and attendance.

Hospital for Consumption and Diseases of the Chest, Brompton.—Assistant Physician.

Infirmary of the Wandsworth and Clapham Union, St. John's-hill, Clapham-junction, S.W.—Third Assistant Medical Officer for twelve months. Salary £70, with board, lodging, and washing.

Leeds General Infirmary.—Resident Ophthalmic Officer. £50 a year, with board and lodging.

Loughborough and District General Hospital and Dispensary, Loughborough.—Resident House Surgeon. Salary £100 per annum, with furnished rooms, attendance, and board.

Mason University College, Birmingham.—Lecturer on Osteology and Chief Demonstrator of Anatomy.

Metropolitan Hospital, Kingsland-road, N.E.—Assistant Physician and Pathologist, Surgeon for Diseases of Women, and an Assistant Surgeon.

Miller Hospital and Royal Kent Dispensary, Greenwich-road.—Junior Resident Medical Officer for six months. Salary at the rate of £40 per annum, with board, attendance, and washing.

Nottingham General Dispensary.—Assistant Resident Surgeon. Salary £140 per annum, all found except board, unmarried.

Nottingham General Hospital.—Assistant House Physician for twelve months. Salary £50, with board, lodging, and washing in the hospital.

Poplar Hospital for Accidents, London.—Senior House Surgeon for twelve months. Salary £120 per annum, with board and residence.

Radcliffe Infirmary, Oxford.—Honorary Assistant Physician.

Royal Hants County Hospital, Winchester.—House Surgeon, unmarried. Salary £65 per annum, rising to £75, with board, residence, &c.

Royal Infirmary, Sheffield.—House Surgeon for three years. Salary £120 per annum, with board, lodging, and washing.

Royal Sea Bathing Hospital, Margate.—Resident Surgeon. Salary £100, with board and residence. Apply to the Secretary, Royal Sea Bathing Hospital Offices, 30, Charing-cross, London.

Royal South Hants Infirmary, Southampton.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with rooms, board, and washing.

Seamen's Hospital Society (*Dreadnought*), Greenwich.—Senior House Surgeon. Salary £75 per annum, with board and residence, and an additional £25 per annum conditionally. Also House Surgeon. Salary £50 per annum, with board and residence. These vacancies are for Officers at the Branch Hospital in the Royal Victoria and Albert Docks.

Stockport Infirmary.—Junior Assistant House Surgeon for six months. Salary at the rate of £2 per mensem, with residence, board, and washing.

Sussex County Hospital, Brighton.—Fourth Resident Medical Officer, unmarried. Salary £30 per annum, with board, washing, and residence in the hospital.

Ventnor Royal National Hospital for Consumption and Diseases of the Chest.—Assistant Resident Medical Officer. Salary £100 per annum, with board and residence.

West Kent General Hospital, Maidstone.—Assistant House Surgeon for six months. Honorarium at the rate of £50 per annum, with board and residence.

Worksop Dispensary Hospital.—Resident Surgeon, unmarried. Salary £120 per annum, paid monthly, with increase when hospital is opened. Rooms, coal, gas, furniture, and housekeeper provided. Apply to Mr. Charles A. Whall, Worksop.

Births, Marriages, and Deaths.

BIRTHS.

Carter.—On Jan. 24th, at Elm House, Chapel Allerton, Leeds, the wife of Eustace G. Carter, M.R.C.S., of a daughter.

Gilpin.—On Jan. 25th, at Bridge House, Evesham, the wife of R. Harrison Gilpin, M.R.C.S., L.R.C.P. Lond., of a son.

Howden.—At 24, Burdon-terrace, Newcastle-upon-Tyne, on Jan. 29th, the wife of Professor Robert Howden of a son.

Smelt.—On Jan. 26th, at Holloway-road, N., the wife of C. A. Casterton Smelt, M.B., C.M. Edin., of a daughter.

MARRIAGES.

McGeagh—Ryder.—On Jan. 31st, at St. Mary's, Crumpsall, Manchester, by the Rev. J. Falconer, Vicar of Tunstead, Stackstead, and the Rev. R. Catterall, Rector of the parish, William McGeagh, M.D., of Liverpool, to Eliza Jane, only daughter of the late W. B. Ryder, J.P., of Gransden Hall, Hunts.

Mudie—Somerset.—On Jan. 27th, at All Saints, Margaret-street, W., Arthur Mudie, L.R.C.P. Edin., of York Lodge, West Norwood, to Marianne, daughter of the late Francis Flower Somerset.

DEATHS.

Crossley.—On Jan. 25th, at Maltby, William Henry Crossley, M.R.C.S., L.S.A., L.M., aged 63 years.

Hulme.—On Jan. 25th, at Philbeach-gardens, South Kensington, Edward Charles Hulme, F.R.C.S., aged 78 years.

Sewell.—On Jan. 28th, at Lintoch House, Canterbury, Charles Brodie Sewell, M.D. Lond., in the 83rd year of his age.

Sutcliff.—On Jan. 29th, at Torrington, N. Devon, Edward Sutcliff, M.D., in the 61st year of his age.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PROPERTY IN A PRESCRIPTION.

AN amicable dispute illustrating one side of the question that is often asked: To whom does a prescription belong? is placed before us in the following letter Our comments are based, of course, upon the letter which has been written by the patient, but with the facts in which we presume the medical man agrees.

To the Editors of THE LANCET.

SIRS,—Will you kindly say in an early number of THE LANCET who is right under the following circumstances? A patient who has been attended for an illness for some time by a doctor in general practice expresses a wish to see a consulting physician and does so accompanied by the general practitioner (hereinafter called "the doctor) The consultant having heard all about the case and examined the patient, says to the doctor, "What medicine have you been giving him?" The doctor tells him and the consultant then says, "Very well, he can go on with it," or words to that effect. Now, had the patient gone to the consultant alone he would have had a prescription from him, and he contends that he is entitled to ask the doctor for the one of which the consultant approved and therefore practically prescribed, as otherwise he is worse off by taking his doctor with him than if he had gone alone, and except a general opinion gets nothing for his fee The doctor contends that the patient is not so entitled Which is right, both in the legal and professional aspects of the case? The doctor and his patient are perfectly friendly in the matter and only want what is proper, but each entertains a strong opinion on the point. The patient goes about a good deal from place to place The patient could, of course, at any time pay the consultant a second visit and fee unaccompanied by the doctor and so obtain the prescription he wants, but this would only put him to unnecessary trouble and expense without in any way benefiting the doctor

I enclose my card and remain, Sirs, yours obediently,

PATIENT.

"Patient's" letter touches upon several interesting points We do not attempt to give an opinion upon the legal aspects of the case—it is not within our scope to do so—and we cannot more than guess what would be the decisions of judges upon the question of to whom the copyright in a prescription belongs Sophistry, we imagine, could make out an excellent claim on either side. "Patient" does not bring any good arguments to bear to support his claim He had no right to assume that he would get a prescription *from* the consulting physician as the result of consulting him What he would certainly get would be consideration of his case and recommendations as to treatment, but it was not inevitable that he should receive a prescription Nor is his view of the value of a prescription a sound one though it is a common one "Patient" should remember that a *prescription* is only given to meet the existing conditions when the sufferer comes under the physician's eye It is not a formula to be kept in his desk so that he can get it made up at a druggist s whenever he thinks that the remedy will suit his physical ills nor is it intended that he should recommend it to his friends for the alleviation of troubles which he or they may think resemble the troubles for which medical advice was originally given. A prescription is designed purely to meet temporary circumstances it is to be taken for such a time as the prescriber thinks desirable and no longer without a renewal of his authority So that "Patient cannot maintain that he sustains any *loss* by not being in a *position to* use it for other than temporary purposes Some medical men recognise this temporary character of their prescriptions more decidedly than others, and in writing their prescriptions indicate that after such and such a date the formula is not to be used without their written sanction, a proviso to which every good druggist would attend implicitly "The patient goes about a good deal from place to place," says our correspondent, and this seems to imply that he will find it inconvenient to consult his medical man every time that he wants medicine, hence, probably, he wishes to have the prescription that he may drug himself as occasion arises It is well, from a medical point of view, that he should not be in a position to do this

Two other points in "Patient s" letter call for notice. Firstly, he feels that he has not had his money s worth because he is deprived of a chance of getting unlimited medicine. He evidently regards the medicine as the thing and not the diagnosis or the general plan of treatment. Secondly, he speaks of the situation that would have arisen if he had placed himself under a consultant physician directly, having clearly no idea of the position which the consultant physician is supposed to occupy towards the general practitioner It is distinctly unprofessional of any consultant physician to take over the care of a general practitioner s patient, and before "Patient" could have obtained from the consultant the assistance he desired he would have had to conceal the fact that his medical man was already treating him.

"IMPROPER ADVERTISEMENT."

REFERRING to the letters which appeared under this heading in our issues of Dec 23rd, 1899, p 1790, and Dec 30th, 1899, p. 1870, we desire to say that we unreservedly accept the statements in Dr Fürth s letter of Dec 26th, 1899, and published in our issue of Dec, 30th, 1899, and to express our regret that a letter which imputed improper advertising to Dr Furth should have been allowed to appear in these columns.

"THE VOMITING OF PREGNANCY"

To the Editors of THE LANCET.

SIRS,—"Obstet," in THE LANCET of Jan 20th, 1900, p 212, asks a question which requires a very long reply, but if he will glance at Sections 860 and 861 of the Medical Digest he will find all he needs in the two columns of remedies A mixture that has been found efficacious in most cases is as follows: two drachms of bromide of potassium, half a drachm of liquor strychnia, and three ounces of chloroform water, one-twelfth part to be taken in water three or four times a day.

I am, Sirs, yours faithfully,

RICHARD NEALE, M D Lond.

Finchley road, Hampstead, N W, Jan 25th, 1900

"THE MOTHER S CALL"

WE have been informed that the following stirring verses which appear in the *Wellington Evening Post* are from the pen of a medical man, and that the initials stand for the name of Dr G E Anson of Wellington, N Z —

I

What whisper this which ripples round the world,
  And stirs the Viking pulses in our veins?
Ten thousand flags of Liberty unfurl'd!
  Ten thousand dreams of battle in our brains!

CHORUS—

'Tis the Nation mother whisp ring 'neath the waves,
Calling for her children, calling on her braves!
  O, mother who has bred us,
  Protected us and led us,
We are coming, coming, coming o'er the waves!

II

Bleeding she grips, nor counts the cost or time;
  While envious nations stand around and jeer!
Shall we, the pampered darlings of her prime,
  Craven, ungrateful, deem the price too dear?

CHORUS—'Tis the Nation-mother &c., &c

III

The Sumac, and the Maple, and the Pine,
  The Rata, and the Wattle and the Gum,
All bow their heads together at the sign,
  And chorus back —"O, mother, we will come!"

CHORUS—'Tis the Nation mother, &c., &c

IV.

We reck not of the traitor's poison'd lie,
  Nor sharp-tongued arrows of the fickle press,
Sure of the Right, we hear thy Mother-cry,
  And give our lives to thee! We give no less!

CHORUS—

'Tis the Nation mother whisp'ring 'neath the waves
Calling for her children, calling on her braves!
  O, mother who hast bred us,
  Protected us and led us,
We are coming coming, coming o er the waves!

G E A.

"THE CHAIRMAN'S HANDBOOK."

To the Editors of THE LANCET

SIRS —Can you or any of your readers recommend a small book as guide to a chairman s conduct at a meeting? I believe there is such a book called "The Chairman s Handbook."

I am, Sirs, yours faithfully

Jan 27th, 1900. M D

*** "The Chairman's Handbook," by Sir Reginald Palgrave (Sampson Low, Marston, and Co) 2s —ED. L.

"THE DEARTH OF QUALIFIED ASSISTANTS"

To the Editors of THE LANCET.

SIRS,—With respect to your remarks *re* the dearth of locum-tenents I cannot think that the suggestion of "Unqualified" in THE LANCET of Jan 20th will solve the difficulty I am not sufficiently learned in political economy to know whether in the event of the demands exceeding the supply the locum tenent is justified in attempting to raise his market value, though it appears to me that it is a general consequence in the commercial world, and that for much the same reason the salary of the permanent assistant has been advanced about 30 per cent during the last 18 months I have noticed that in the past there has been a marked tendency manifested to obtain a locum tenent below the usual market rates, which I take to be three guineas per week and travelling expenses. If this tendency was the result of the employment of the unqualified assistant, who, doubtless on occasion, assumed the rôle of locum tenent, it is hardly to be wondered at if, now that the iniquity of allowing the unqualified to

Presidential Address

ON

THE PRESENT POSITION OF AURAL SURGERY

Delivered at the First Meeting of the Otological Society of the United Kingdom on Feb 5th 1900,

By SIR WILLIAM B DALBY, M B CANTAB, F R C S ENG,

CONSULTING AURAL SURGEON LATE AURAL SURGEON AND LECTURER ON AURAL SURGERY TO ST *GEORGE'S HOSPITAL.*

GENTLEMEN,—I beg to offer you my sincere thanks for having done me the honour to appoint me the first President of the Otological Society of Great Britain, and I venture to predict that this society has a great future before it Seeing that it comprises amongst its members all the aural surgeons attached to the metropolitan hospitals and very nearly all of the provincial hospitals, as well as those of Scotland and Ireland, it cannot fail to succeed and to exercise a very important influence on the progress of British aural surgery, for it will represent the work of the aural surgeons and will record it

The objects of the society are as detailed in its rules 1 The exhibition and demonstration of patients, models, drawings, and specimens (microscopical or otherwise), illustrating the anatomy, physiology pathology, and therapeutics of the ear 2 The reading of papers and the discussion of questions in otology previously approved by the Council 3 The investigation by committees—(*a*) of matters of public importance relating to otology, and (*b*) of new methods of investigation or treatment of the diseases of the ear

If I were to allow myself to comment on the avowed objects of this society it would be to say that I am much inclined to agree with the general view which I think I have detected amongst the members and especially the subcommittee which drew up the rules that the time of the meetings should not be occupied quite so much in the reading of papers as in demonstrations and discussions of questions which deal with treatment I think this opinion perhaps owes its origin to an idea that papers sometimes tend to be too discursive or to go over ground that has already been explored and thus to repeat what has been said by others and is therefore within the knowledge of the members We are all aware that the very best work in medicine and surgery has been through the medium of papers at various societies, but there are papers and papers, and I only mention the view which I think is generally shared, as I conceive it is my duty to give expression to the wishes and ideas of members of the society

The essential difference between this society and one composed of general surgeons is that whatever is brought forward is certain to be of great interest to every individual member who attends our meetings, for the subject is sure to be one upon which every member is working, and it has been felt that to bring before a society composed of physicians and surgeons a paper on a subject essentially one of aural surgery is to obtain for it very little attention and imperfect discussion It is in this that the great utility of our society will, we hope consist

Another point is that when cases are brought forward it is not only rare cases which perhaps few of us have seen before that will be welcome, but more ordinary ones in which if we have not seen the exact counterpart we have seen something so like that the very comparison is sure to throw some new light on the disease, for it is by incessant mental comparison that knowledge slowly but surely becomes more complete More light, more knowledge is what we all seek so long as we practise our art

I think what would be chiefly noticeable to a lay visitor if he were admitted into this assemblage of aural surgeons would be the comparative youth (with a few exceptions) of the members And the reason is not far to seek It is only of recent years that the progress of aural surgery has reached such a point as to attract young surgeons of good abilities and prospects to devote their lives to its practice I am not going to weary you with an account of this progress, for its remarkable history is within the memory of the older members, but to myself, looking back 25 years when I was beginning to work at our specialty, the contrast is very striking Three or four London hospitals only had aural surgeons on their staffs, at other hospitals the ear cases were distributed amongst the surgeons or perfunctorily attended to by an assistant surgeon Comparatively few patients attended, for the public had not learned to apply for aural surgery except at one well known institution The bulk of patients went for treatment to those who professed to treat and confined themselves to professing (for there was nothing beyond)

The changes which have taken place in our knowledge of diseases of the ear and in their treatment are not the only ways in which the practice of aural surgery has been affected For more than 20 years past there have gradually been established out patient departments and aural clinics at every one of our general hospitals, and in most provincial towns of any size there have arisen special hospitals for diseases of the throat and ear No earnest student considers that he has properly qualified himself till he has attended for some time in the aural department, and he gains there a very considerable knowledge of ear disease and its treatment, so that when he commences practice he considers himself, and often rightly so competent to treat ordinary cases which some years ago he would have sent for advice to an aural surgeon Now when he seeks the help of a consultant it is only to obtain his assistance in the complete diagnosis of the case and its future treatment, which he himself, unless it is a case of a serious nature, carries out Inasmuch as treatment often involves manipulations in which the practised hand of the specialist might be more beneficial some will be found to say that patients would be more successfully treated if they had throughout been solely under the care of the specialist Now, in my opinion this is a very narrow view to take of the situation For one person who might possibly make a more rapid recovery in this way there are thousands who at this period throughout the length and breadth of the land are by timely and judicious treatment by their medical attendant who has acquired his knowledge in the out-patient department, at our hands saved from those conditions which follow inflammatory processes within the middle ear, if these processes are allowed to proceed unchecked even for a few days Never can the spread of knowledge in the long run be anything but good, and never let it be said that the specialist of to-day (how different from the specialist of 30 years ago!) regretted for a moment that any skill which he may have acquired had become the property of others by his teaching I have practised my profession long enough to know that by the light which we have turned upon diseases of the ear at our clinics we have burned away, we have melted away, the areas of quackery which some years ago imposed upon the public to their loss and detriment to a degree unknown by the present generation

I hope I may be excused for saying a few words upon a subject which is at this moment agitating the minds of some general surgeons and all aural surgeons It is the operations which have for their object the protection of patients who are the subject of a disorder which renders them liable at any time to septicæmic poisoning and a rapid death I refer to those who are suffering from suppuration within the middle ear How attention is fixed upon this subject may be estimated by a glance at current otological literature which is full of it to the almost complete exclusion of any other The last volume of the Transactions of the American Otological Society is almost entirely filled with papers and discussions on this matter and a most important paper on a new method of operation was read by Mr C A Ballance only a few days ago before the Royal Medical and Chirurgical Society On this intensely interesting question we are going through a crisis—a revolution in surgery Let us remember that in all revolutions however righteous some mistakes must be made, for the man who makes no mistakes achieves nothing In all revolutions it is not without profit to look back for a moment to their origin There was a time not so many years ago when it was a recognised rule in surgery, and taught at every hospital to students, that the mastoid antrum should not be opened unless there was some redness, pain, œdema, or tenderness on pressure, or all of these symptoms—in short, the usual conditions of what was termed abscess At this period the mortality from cerebral abscess and meningitis was terrible, and surgical recognition was confined to the records of post-mortem examination. I shall not easily forget seeing in the year 1878 a patient with a recent perforation in the membrane and a profuse discharge, with a high temperature, who had had three severe rigors within 24 hours, with no symptoms of mastoid abscess, but in whom I made a wretchedly small opening into the antrum, letting out pus, and who made a rapid recovery. In the face of the methods of to-day I feel ashamed of the small opening Now, in regard to the operations for cerebral and cerebellar abscess which between that date and the present have come into practice we must confess that they were initiated and performed by general surgeons such as Mr. A. E. Barker, Mr. Victor Horsley, Mr. Ballance, Dr. W. Macewen, and others. I feel it as right and just to say this as I do to say that the mastoid operations were initiated by aural surgeons—so on this great question the general and aural surgeons meet on common ground.

I believe that I speak for both divisions when I say that during the period which is to be expended in the perfection of these operations, there will be no feeling of jealousy as to the encroachment of one into the domain of the other—there will be some aural surgeons who will gladly avail themselves of the skill of the general surgeon, as, indeed, has been largely done in the case of such men as I have mentioned, and they, on the other hand, will be equally glad to obtain the help and opinions of aural surgeons whose great experience in the local condition and history of these cases will carry great weight in the selection of cases, suitable or unsuitable, for operation At any rate, I believe I know that the one idea which will swamp all other considerations will be the security of life to each patient. You will forgive me if I am in any way presumptuous in speaking so plainly of a matter which is at the present time uppermost in our thoughts, but I feel confident that it will meet your wishes that I should refer to this part of our work which holds such a prominent position just now in British and foreign surgery.

A Clinical Lecture

ON

MENTAL DISSOLUTION.

Delivered at the Medical Graduates' College and Polyclinic on Jan 31st, 1900,

BY G. H. SAVAGE, M.D., F.R.C.P. LOND.,

PHYSICIAN FOR AND LECTURER ON MENTAL DISEASE, GUY'S HOSPITAL; LATE SENIOR PHYSICIAN AND SUPERINTENDENT, BETHLEM ROYAL HOSPITAL.

GENTLEMEN,—I recognise the responsibility of my position in addressing you who are anxious-minded searchers after medical truth. It is not as if I had to sketch an outline suited for the ordinary medical student and yet time will only allow me to indicate the lines of my subject. The most powerful idea of the generation is evolution and with it a great deal has been said about dissolution and the process has been considered as if it were but the reversal of evolution. This is only very partially true for there are many things seen in dissolution to which evolution gives no clue. Much may, however, be learnt by the study of dissolution as to growth and development, and my endeavour will be to point out some of this in relationship to mental dissolution. I shall at once proceed to my subject in detail and I think it will be best to introduce typical cases into the body of the lecture rather than to begin with examples.

Dissolution is separation into parts or constituent elements, reduction of any body or mass to elements or atoms, destruction of existing conditions, disintegration, decomposition. Hughlings Jackson has said: "I have often urged that for the scientific study of maladies of the nervous system we should investigate them as dissolutions (reversals of evolution) of this or that portion of the nervous system." It is rather with the idea of following these indications that I have selected dissolution in relation to mental disease for my subject to-day. In looking at the various definitions of the word "dissolution" I think I prefer separation into constituent parts or destruction of existing conditions. It is hardly necessary to point out that every compound may resolve itself into simpler elements. The very power of growth means the power of passing from the more into the less definite, passing from the stable into the unstable, from the condition of reacting to few stimuli to that of being able to react to many and varying excitants. In dissolution we get a reverse process—the passage to simpler states. Dissolution may serve the geologist in his search for the elements of the rock, "weathering" or weather dissolution making clear what was hidden before; in the same way the breaking up of the complicated facial bones clears up their origin and relationships, and similarly we shall learn much from watching the forms assumed or disclosed by the disintegrating mind. It must at once be said, that dissolution when properly studied must include temporary dissolution as well as that which is the result of normal wear and tear. We see parallelism in the temporary and the organic dissolutions. Thus a man suffering from drink, which for the time reduces his moral and mental level, has the same symptoms as the general paralytic who has progressive brain decay, and both resemble in some ways the decay due to old age. I say they resemble one another, but there are very marked differences. In studying dissolutions one has to remember that each structure varies in its stability and also in its power of resistance; the degeneration will depend in its character, too, on the causes of destruction. To put it concisely, there are some, I fear many, minds built on the jerry-builder's lines. They look all right, but they will not last long. Such degenerate persons come into the world only fit for very light work and they fail before they have reached any power or position; it is thus that certain boys and girls reach adolescence but get no further, their dissolution is progressive, and they pass into what resembles the undeveloped state of the imbecile.

There is then the class of dissolution in undeveloped persons and the symptoms as might be expected differ from those present in older patients. I only have time to say that they pass from defective self-control to impulsive violence, sexual excess, and mental weakness of a very marked and permanent kind. Then there are the cases of alcoholic dissolution which may be transient but on the other hand which may be permanent. In these cases the lines indicated by the temporary defects are generally followed by the more marked decay. The patient who during his drinking bouts becomes violent and aggressive with loss of all control of language, when he begins to become really and permanently weak as the result of continued excesses is equally violent, aggressive, and regardless of the conventions of his social surroundings. There is no doubt that the perfectly acting machine works without noise and it is equally true the perfectly fitting man best fulfils his functions quietly. In quietness we possess ourselves. One of the earliest and most marked signs of dissolution is want of resting power. This shows itself in constant movement, in perpetual talking, and in perpetual changes in occupation. I have seen many elderly ladies who wear their relations and maids to shadows by their constant movements. One no sooner is downstairs than she gets up to go to her room, when there turns out her various drawers and then leaves all in a muddle only to go down once more to return to another room or to another chest of drawers. In these patients as a rule there is defective memory and they do not recollect what they have done immediately before. The restlessness has seemed to me to resemble an "itch," and it may be associated with some skin irritability, so that such patients scratch themselves in any part of their bodies indelicately. I saw an aged lady the other day who with senility thought nothing of lifting up her dress in public and scratching her thigh. In some of these cases there is something more, a local sexual-organ irritability leading to sexual faults of various kinds to which I refer elsewhere. The perpetual talking is the evidence of defective education or is a kind of relapse into a lower form of culture. Dickens's characters said all they thought. The most cultured certainly consider that words, like Nature, should half-reveal and half-conceal the soul within. The older person with dissolution of his faculties will say all he is thinking and often seem incapable of tiring. A perfect logorrhœa is met with. Restlessness and changing occupation is often met with, but this is also associated with another type of mental disorder, namely, doubt Some of the dissolving patients can never make up their minds as to what they ought to do while others are ever from sheer restlessness moving from occupation to occupation. One rare and distressing symptom is that of swearing, or saying aloud what one would rather conceal. I suppose all will admit that with temporary dissolution due to alcohol a man will say things and use words he would not when quite under self-control. I have seen a gentleman who when suffering from a mental dissolution, which fortunately for him did not go too far for recovery, used to swear like a trooper and used to be heartily ashamed of himself for his bad ways. Loss of temper—i.e., loss of higher control—is often associated with the saying and doing things alien to one's nature, so with the dissolution of age or disease this may occur.

With dissolution, from time to time one comes across patients in whom the decay is chiefly marked by sensory hallucinations. Such cases may give rise to trouble from legal or medico-legal points and I will relate two very interesting cases. I was called to the north of England to decide whether an old man who undoubtedly had hallucinations was in a state requiring his detention in an asylum. I found a well-preserved old man who had made a large fortune. He was an old bachelor who had lived near the seat of his wealth and surrounded by valuable pictures and a pleasant garden. It was said that in consequence of thinking there were burglars about and believing that he saw them he fired a revolver out of his bedroom window. He told me at once that he knew he saw things which others said did not exist, but still he believed they were real. He asked, for example, if I saw a stream running across the dining-room floor, and on my saying I did not he said he did, but that having doubts he had taken blotting-paper to see if it became wet; it did not, yet he felt there was an overflow from the cistern running over the floor. He took me to the window and asked if I saw the rabbits. He pointed out what he believed to be a family with the young ones running in and out of the laurel bushes. I said no such rabbits existed, and asked if he would shoot at them if he had a gun; at once he said "No," yet he fully felt they were there. This state of defect had lasted for several years, and it was decided by the Court of Chancery that though he was not fit to manage an estate worth over half a million yet that he did not require asylum treatment.

I saw a shrewd and successful gentleman who on my being introduced said he was glad to have a talk with a nerve doctor for he thought there was something wrong. Then he told his tale, which was that he was pestered by gangs of gipsies who appeared everywhere. He said that he had just come in from chasing them in his garden for wherever he looked out he saw them pulling up his shrubs. I said, "But the shrubs are not removed, how do you account for this?" He said, "Well, it is hard to tell but I still feel they do it, and when I wake in the morning I see the same gipsies using my tooth-brush and my hair-brushes; I jump up only to find they have disappeared." He admitted the absurdity of the whole thing, but yet he said he felt it was true and he must act upon his belief. What might have proved a serious loss followed the persistent hallucinations, for before I insisted on his withdrawing from all business he had on one Bank Holiday gone to his office to look through his private safe with its very valuable securities; before leaving he thought he saw his son in the adjoining office and told him to put the things away and to lock the safe. The son was a hallucination and it was only by accident that the son discovered the state of affairs before others arrived next day.

In some cases one sees an interesting intermediate state in these cases of progressive dissolution, the hallucinations only occurring during states of reduced vitality. I have seen such haunted by some hallucinations on waking in the early morning, and an illness like influenza may start the same morbid process.

Though not wishing to make too much of it, yet I feel that I should point out to you that a certain number of patients, most of whom later have had some serious nervous breakdown, such as apoplexy, have very well-marked hallucinations of smell. This is very interesting to me, for though I do not say that the disorder of the sense of smell is always associated with some sexual disorder, yet I have found that it is a very common experience to meet with hallucinations of smell in patients in whom there is some sexual trouble. We have, then, to remember that in many of these cases of nervous dissolution we get hallucinations of smell and also sexual perversions. I have met with several patients in whom the hallucinations of smell have given rise to social or even legal trouble in consequence of the accusations brought by the patient against sanitary and other authorities.

One of the most characteristic signs of mental dissolution is the loosening of the mental unity. The individual is no longer himself. He has slowly been built up to fit into certain definite positions and the higher his social position and his professional work the more highly specialised has he become; with early signs of dissolution he ceases to be nimble in his social and other relations; the lady offends her friends; the politician is no longer to be trusted by his party and the religious man begins to be lax in his observances. Though this may be the whole evidence of decay yet it is very common for the signs of decay to be more marked. Let me take examples. The wife of a public man, his right hand in all social work, began to lose grasp of things and caused confusion to her husband's interests by getting the wrong people to meet each other and by doing the wrong things socially. In another case a man who was the soul of honour, with dissolution began to forget his debts of honour. Then he borrowed money even from his servants and never paid it back. Another, who had been dressy and precise, became dirty and untidy, and I may say that self-neglect and a state of dirtiness are very commonly met with in this state of dissolution. I have known a man to lie in bed for weeks together without once getting up to wash. Honesty may suffer in the process of decay, but probably the symptom which causes most trouble is the neglect of morality. Men who have led the most pure and virtuous home lives not only neglect their wives but consort and become the prey of very coarse designing women. One patient of mine saw nothing peculiar in travelling openly with his mistress, while he wrote daily to his wife in affectionate terms and in his letters openly described what "we" were doing. Men of the most strict life when passing to mental weakness seem first of all to lose self-control, they also appear to lose all power of judging of how their conduct appears to others. A leading Dissenter when he began to fail in mind spent money lavishly on designing women and saw nothing either improper or unconventional in expecting his family to entertain, or at least to receive, women of doubtful antecedents. It therefore is to be remembered that persons in the earlier stages of mental dissolution often become changed in every way, so that they pass from the moral to the immoral, from the quiet, peace-loving man to the boisterous roysterer. Sexual desire is increased or uncontrolled, and it is not very uncommon for me to be consulted about mentally failing persons who have done some indecent or indelicate or immoral act. Old men exposing their persons to children or to women, old men who take liberties with small children, and those who even exhibit signs of sexual perversions—I have had several such cases in whom the evidence of misconduct was clear and yet it was hard to find any other sign of mental failure, and it is in these cases that the jury and judge may most cruelly punish one who is irresponsible.

In general, memory is looked upon as the gauge of dissolution but I have to qualify this a good deal, for though in senility there is what I might almost call a normal decay in registering power, yet similar defects can occur quite independent of any general process of mental decay, and in some cases of progressive loss of mental power the memory is retained. First then, there is frequently in mental dissolution gradual failure of memory for recent events and the memory seems to be slowly driven back as it were till only the events of early life are recalled. The old man forgets what he has done during the early part of the day, repeats the same question, and tells the same tales.

I have not time to trace the lines along which the decay spreads, extending as it does from the isolated independent memory to that which is more organised and associated. Here I would call attention to the fact that the memory of the long past may appear with unusual vividness so that there is, or appears to be, an increase in exactness in memory of the long past. I remember an old officer who astonished me by going into the minutest details in reference to his regiment and its officers—details of the most trivial nature. At first I thought that this was but the old man's power of romancing, but on investigating some few of the statements I found that they were true. I have on similar occasions been able to show the probability of a clearing up of memory by denudation. This leads me to another important point. I have met with several patients who seemed to have gaps in their recent memories, so that they skipped from to-day back many years and confused the events of the past with those of the present. I have known the father forget the contrition of the prodigal son and wish to treat him as an enemy when he was by devotion attempting to atone for his youthful folly. In such cases serious legal complications might arise, because the father might act on his belief in the persistent wickedness of his son. Though such defects are common in mental dissolution, yet, as I have said, you may have progressive mental decay with little evidence of this. Thus in general paralysis of the insane the memory remains much longer active and good than would have been expected when you have to consider that there is a progressive decay of the highest nerve tissues. Again, great, almost absolute, defect of recent memory may be almost the only symptom of mental weakness. Such cases are met with most commonly in alcoholics. One patient of mine had no memory from moment to moment so that he could be got to repeat the same thing a dozen times in an hour without knowing that he had done the act before. This gentleman was fully able to reason on the past and though his memory became slightly more weak in sub-recent as well as recent affairs, yet he was in no way an example of a person passing through true mental dissolution. He was not progressively degenerating but only part of his nervous system seemed to be affected so that he could keep no recent sensory impression of any kind, and this leads up to the interesting subject of particular forms of memory and the special defects which may occur in them with age. Doubtless in dissolution, as I have said, the loss of power begins in the most independent and isolated impressions, but it may proceed to the more simple and organised; thus I have met with persons with mental dissolution who seemed to have no memory as to their appetite; they would eat and eat till they were sick and then begin again. There is not infrequently associated with mental dissolution an apparent increase of vigour, and I may here say that there is gain in some ways which is hard to explain. Many an old man sleeps more restfully than he has done for many years, his appetite and power of digestion are good, he has a return of sexual desire and on occasion sexual power as well.

I have already said that the rate of dissolution and the nature of the symptoms produced depend on the inherited and acquired nature of the whole nervous system. The restless, active-minded man might be expected to show the signs of wear and tear earlier than the more placid person, but this is not generally true. I see but few patients in whom dissolution is started by overwork, but I see a large number in whom the signs of decay are evident when the machine is slowing down. Men retire from very active pursuits to enjoy calm in old age and they do not get it. It is like the skater or the gymnast who while moving rapidly can do many things in which he would fail if he attempted while going slowly. So there seems as if there is a dissolution which I may compare to the rusting rather than the wearing out. Just as a healthy function should be unconscious, so soon as it becomes unhealthy it becomes first consciously, then painfully, evident. With early dissolution the unity, as we have seen, is broken and the harmony with it. Then come many uneasy feelings which receive various explanations. One patient will think that his body is seriously affected, that cancer has developed, that paralysis is imminent, or that he is suffering from some hidden but certainly fatal malady. With others various forms of melancholia occur among the signs of dissolution, the most common having the element of truth in them that they point to the decay which the patient says he feels. After all, the insanity rests in the interpretation of the morbid feeling.

Probably the most common interpretation of the morbid feeling of dissolutions is that which refers to poverty and the fear of the workhouse. This form of delusion is not confined to those who are suffering from mental dissolution, but it is more common among these than among others; it occurs chiefly in men or in women who have either had to earn their own living or else have had to manage their own business affairs. Every week I see some such case as the following. A healthy, active-minded man of very sensitive nature who has always had his hands full of work reaches the age of 70 years; he is still engaged in business, but he feels that he is not so [illegible] as he was and he is recommended to take rest and a holiday. This he does, but instead of being able to rest he cannot throw off the idea that something will happen to his affairs while he is away. He sleeps badly, he gets thin and worried, he can neither apply his mind to reading nor sight-seeing, his digestion suffers, and it is decided that he should return home. When he gets there he is more content for a short time, then the worries begin again; nothing assures him of his solvency, everything done in his absence involves him in disaster. He cannot sleep or rest and he becomes more and more the victim of his dreads. He is certain his bank is failing, that his clerks have robbed him, that he will soon be taken to prison as a fraudulent debtor, that all his professions of religion and philanthropy have been mockeries, and that the sooner he is dead the better. Such persons are very suicidal. Nothing will persuade the patients that the balance at the bank is all right or that the business affairs are in order; they say the proof you have brought them was right at the time but now some fresh thing has arisen which you do not understand and so reason is worthless and evidence of no avail. The weight of years and the interpretation of their gravity vary as I have said and this symptom is one of the most trying. It may lead to a melancholic ruin, the result of melancholic dissolution. There are many old wrecks who pass from active acute misery into the more chronic but hopeless form of the disorder and so live weaker in mind and suffering less acutely, but break up on rocks of melancholic delusions.

I have several times pointed out that the dissolution varies in form according to the original constitution and here I may say there are certain families in which the members being nearly all long-lived yet always end with prolonged depression. I have seen several such families. In one the members go on in useful public work till they are between 70 and 80 years of age when the first signs of physical decay occur; in one with gouty troubles, in another with neuralgias or respiratory troubles. Then comes the darker shadow of melancholia which may be thrown off once, or more frequently but sooner or later claims its victim. Under loss of higher control one has to consider the loss of control of the emotions. I suppose all of us who have passed 50 recognise that while we cannot leap and run as we did, and while we forget names and slight details that we also are more easily moved to express our emotions, at least some of them; a tale which we could have read aloud with expression and feeling enough to bring tears to the eyes of others did not affect us but now we struggle and stumble through the pathetic part with difficulty. At the theatre scenes affect us more readily than they did and yet we must recognise that the feeling is not increased, it is only the expression. That this is true must be known to all of us. The old man who loses his nearest relations does not suffer in the way a middle-aged man does and I have found but little difficulty in telling the worst news to very old people. With age then there is the loss of control not the increase of feeling; and this is parallel to what has been pointed out about other emotions, that the elder person may be sexually-minded but he may be impotent at the same time. In fact, Rabelaisian wit is suited to the older rather than to the younger men. Another exhibition of loss of control is seen in the violent passions which arise from small causes in many old persons. These storms are like the storm of passion in childhood which can be allayed rather by distraction than anything else. The passionate child must be interested in something out of the cause of trouble, and so with the old person we have to reckon with the facility of their emotions and to divert the stream.

In mental dissolution, then, we see various symptoms depending on defect of power and, as Hughlings Jackson has so often pointed out, with loss of power there is always a letting free of mechanisms which have been under control of the higher parts. So that with loss of power there is always a tendency to over-action on the one hand and defective action on the other. Dissolution may be regular in its progress or it may be irregular in its rate and also in the parts chiefly affected so that we cannot use any one faculty such as memory as a gauge of the depth of the dissolution. The effects of the dissolution will vary with the age of the individual and with his hereditary disposition. I have pointed out that, whereas certain persons seem built to last for very long periods before they break down along their nervous lines, others come into the world predisposed to break down with the first serious strain thrown upon them, and this is commonly of sexual origin. Though the very word dissolution seems to imply a hopeless condition, I would wish to impress on you the fact that though most people who live long enough show signs of failure, yet many even of those with marked defects due to dissolution by fresh methods of accommodation manage to carry on the life's battle to the end.

Remarks
ON
FETISHISM IN SURGERY.

By E. STANMORE BISHOP, F.R.C.S. Eng.,
HONORARY SURGEON, ANCOATS HOSPITAL, MANCHESTER.

IF I were asked to define what is meant by this term, I should, I believe, best express it by "a tendency to mistake the relative value of the various objects sought to be obtained or the various facts which go to bring about the result desired"—an error in mental perspective, in short. And such an error may either be committed by elevating a factor of relatively little importance to an unduly high level or by unconsciously depreciating or ignoring one of primary rank. The same attitude of mind is usually responsible for both. Of course, the word, as ordinarily employed, denotes the elevation of a totally unimportant and unworthy thing to a position of honour, admiration, and even worship; but amongst educated and scientific men fetishism to this extent is absurdly impossible. Such finer shades of it as I have indicated, however, are not only possible but occur with some frequency.

Every teacher of practical surgery must have encountered the student who has a profound respect for some particular author. Any attempt to demonstrate to such a student a proceeding which has not been described in so many words by his dominating genius is rejected because Erichsen, Heath, or Jacobson, whoever it may be, has not included it in his work. "Erichsen doesn't say so," is to him a sufficient answer. No power on earth can make such a man work his own brain. He accepts and registers as final the teaching of the particular writer whose text-book is accepted at the medical school of which he is a member, and no argument has any effect on him. His fetish is the written word of the teacher whom he was very properly taught to respect and believe in during his studentship.

Not very far distant from this condition of mind is that of the man who devotes himself almost fanatically to the writings of a particular nation. Not long since it was the fashion always to quote German authors. The man who had at his tongue's end and could always quote glibly Martin of Berlin, Duhrssen, Doderlein, Zweifel, Virchow, Koch, &c., with the magic references of *Berliner Klinische Wochenschrift*, *Sammlung Klinischer Vortrage*, *Centralblatt fur Chirurgie*, &c., was always certain of an awed, respectful hearing from this class of mind, who accepted almost blindly any dictum which emanated from Germany. The thing must be final, for was it not written in somebody's *Archiv?* His fetish also was plain.

Little different is the case of the man who prides himself on being "up to date." Is any method of surgical procedure praised or advocated? That is not the latest, and *therefore* not the best. Some man in Japan or in some unheard-of village in Russia has "brought out" a later plan. What is the date of the former? 1856. Dear! dear! perfectly obsolete, of course. So and so of Piatigorsk wrote a long article only last week in which the new method is described and above all things we must be "up to date" and swear by the latter, until in its turn it is displaced by another and still later method.

Now it will be noted that in all these cases there is an element which deserves respect, which is absolutely good in itself, and which only becomes wrong and misleading because it is dislocated, so to speak, from its proper place, and elevated to an undue prominence in the mind. Respect for the dicta of a teacher of the professional and mental rank of the names mentioned is most praiseworthy and to be encouraged. Respect for the painstaking, thorough, and usually complete work of the Germans has been well earned by them and should be ungrudgingly given. A desire to be acquainted with all that has appeared on our own special subject and not to be left behind and to become fossilised is absolutely necessary for all of us who desire to excel in our work. Accepted in due relationship to other and more important points, these are no hindrances, they are great helps. Elevated unduly in importance they become fetishes.

But fetishism is possible in minds otherwise constituted than those already considered. The modern surgeon is specially liable, it would seem, to fetishism in two directions, and the first is in that of undue importance attached to certain details in technique. No one who passed through it can have forgotten the controversy that raged between surgeons who used antiseptics and the "full Listerian method," as it was termed, and those who did not: the airs of impeccability that the first class—I was one of them—put on, and the sneers of the gentlemen who, in the elegant words of one writer in an American journal, "never bothered themselves about bacteria or bugs of any kind." Did the former lose a patient? the death was treated as of comparatively no importance—except as spoiling statistics—so long as the primary requisites had been complied with and the operation had been carried out under "complete antiseptic precautions." Some surgeons went even further, and not content with elevating the whole principle, almost worshipped some detail of it. A striking instance of this might be seen in the spray producer—that magnificent and imposing structure in brass, glass, and nickel-plate, which at one time was such a prominent feature in our operating theatres. Was the "spray" used? was the one essential question. If so, all was done that human ingenuity or skill could suggest, and if the patient was so wrong-headed as to die after that, well, it was his own fault, and no human power could have saved him. Now that the spray is relegated to the shelf does not the same tendency remain? and are we not tempted unduly to consider the importance of corrosive sublimate, hot air, steam under pressure, mercuric iodide, iodoform gauze, and a hundred other things according to the school in which we happen to have been taught, making these things principals, as it were, instead of looking upon them as simply means towards the one true end of all our work—the restoration to health of our patients? Some such feeling as this probably explains the opposition to Listerism of the late Sir William Savory and Mr. Lawson Tait, not to mention certain living writers.

The second direction is one of late date, but it bids fair unless checked to blossom into a fetish of great dimensions. In the old days, before our time, rapidity in operating was a point of first-class importance. When a patient was acutely conscious of every step in any operation he was the successful surgeon who could perform his work with lightning-like celerity. Every second of the awful bodily and mental anguish which could be spared to the unhappy victim was immense gain to his chances of life. But it must be remembered that operations in those days were almost limited to amputations. Take down any work, Chelius or Ambroise Paré, for instance, and turn up abdominal, gynæcological, or cranial surgery. The two former will be found to be almost non-existent, as we know them to-day, and the latter reduced to trephining, an operation usually performed under nature's own merciful oblivion. Every step of an amputation was known and had been practised many times beforehand. There was no careful separation of adhesions as in modern pelvic surgery, which process has frequently to be done before the surgeon can even be sure what it is he has to deal with or can decide what particular operative procedure has to be carried out; the position, size, and condition of all vessels were matters which had become commonplaces; there was scarcely a possibility of the surgeon being for one moment in doubt. How different in every way from the removal of an old pyosalpinx, buried in adhesions, with the imminent danger of rupture of the sac itself during the process, or the possible division of a ureter, or the perforation of an adherent loop of intestine. Once anæsthesia was introduced with its splendid elimination of mental and physical suffering, procedures never before possible came within the range of practicability, and the race with time became no longer an absolute necessity. It sank to the level of a factor of the third grade, and security with perfection in final results rose, as they ought to do, to the level of the second—the main end being now, as always, the recovery of the patient. But quite lately, as I have said, a most determined effort from a quarter which commands respect has been made to raise speed again to the level it originally occupied. Once more the skill of the surgeon, and, indeed, his reputation, is to be measured by the chronometer, and with the aid of the latest scientific—and popular—invention, the kinematograph, the powers of various men are to be judged of by the rapidity of their work. Not only so, but these records are to be handed down to posterity, and the operator is to be made to feel that he is not merely pitted against his contemporaries, but against all the surgeons of the future in this and all other countries. May it not follow as a matter of course that we shall vie with one another as to the rate at which we can open the abdomen, tear out the tumour, and sew all up again before the accusing film can have run half its course? Unfortunately the kinematograph will not record the after-condition of the patient, or the deaths which will inevitably follow from secondary or consecutive hæmorrhage, sepsis, or the miseries due to new adhesions, fæcal fistula, and the like. Rapidity in operative work is to be made a fetish, to which we shall all, for a time at least, have to bow [illegible] All, I say, but that is not so. Level-headed surgeons—and they are the majority—will, I am certain, refuse. Rapidity, like all other things, which carry with them this possibility of fetishism, is a good thing—a thing to be aimed at in its due proportion. Its opposite—dawdling or fumbling—is most strongly to be avoided, to be reprobated. But rapidity is good only when used in its true and fitting relation to other things. Always the main end to be kept in view is the sound and perfect restoration to health of the patient; and we must get that, or as near to that as possible, by the use of all these means in their due relation to one another.

The risks of undue rapidity—of racing—are many. Consecutive hæmorrhage is one of the most likely to occur. I watched carefully the reproduction of a hysterectomy by kinematograph at Edinburgh, and one of the things which struck me most forcibly was the extraordinary behaviour of the vessels in the abdominal wall. One stroke of the operator's knife and the abdominal cavity was open, one wipe down by the assistant with a piece of lint and all bleeding from the cut edges ceased. To go no further, what became of those vessels? Not a single pressure forceps was placed, not a vessel was ligatured, but there was no further bleeding—from those parts at least. I appeal to any surgeon who has ever done abdominal section if this is credible? If all parts are to be treated in the same way deaths from peritonitis afterwards are certain to be many. Clark and Waterhouse have shown that the peritoneum can deal with bacteria to a great extent if it is clean, but if any appreciable clots of blood are left behind or find later entrance peritonitis is promptly set up by the septic changes induced in such clots, where bacteria find a fitting breeding ground and immunity from rapid absorption and phagocytosis. Vessels treated in this lightning fashion will certainly bleed afresh when the force of the circulation recovers itself after the patient has returned to bed, when all is closed up and the mischief can progress unseen until it is too late to remedy. Will the kinematograph be re-introduced into the sick room and record for us the gasping, restless tossing of the exsanguine victim who is bleeding to death into her own abdominal cavity; or the hurried, anxious—often, alas! useless—groping of the surgeon with imperfect aid and light for the vessel now retracted into the subperitoneal tissues, or bidden under constantly increasing clot—that vessel which might so easily have been safely and finally secured in the morning had not the surgeon been racing against time in his devotion to the latest fetish of all—rapidity.

No protest can, I conceive, be too forcible against this new development of our art. Quick, nervous, prompt work is most desirable, but as all good things are liable to abuse, and such abuse is detestable in proportion to the very excellence of the thing abused, so racing in operative work is certain to entail results which will be as deplorable as those produced by careful rapidity are admirable. In surgery, as in everything else, a due perception of the proper perspective of things is absolutely necessary to produce perfect work.

Manchester.

TIVERTON INFIRMARY AND DISPENSARY.—The annual meeting of this institution was held recently under the presidency of Sir John Heathcote-Amory. The report showed that 1293 patients had been treated. The Victoria ened in August last by Lady Northcote, were now

---

EIGHTY SUCCESSIVE C
OPERATION.

BY PERCY JAKINS, M.D. DURH.,

SURGEON TO THE CENTRAL LONDON THROAT AND EAR HOSPITAL

THE following consecutive series of 80 cases in which I have performed the radical mastoid operation (Stacke's) in cases of chronic suppurative otitis media serves to illustrate the symptoms demanding the performance of that operation and the beneficial results that may be expected. It should be premised that in all cases the procedure must be considered exploratory until the cavity of the antrum has been exposed, and by no method that I know can the medical man foretell with certitude what will be revealed. Broadly speaking, Stacke's operation consists in laying open the mastoid antrum and any diseased mastoid cells connected with it, opening the aditus leading from the antrum to the attic of the tympanum, cutting away all overhanging bone, removing the posterior wall of the osseous meatus, and in some cases removing the malleus and the incus. All morbid products, such as cholesteatoma, pus, granulations, and diseased bone, are then removed, the cavity is thoroughly cleansed and disinfected, the cartilaginous meatus slit, and the upper and lower flaps are cut away. This series of 80 cases could be increased to 124 by inclusion of 44 cases of Schwartze's operation, a procedure of similar import, except that the posterior osseous wall of the meatus is left intact. All these additional cases have resulted in recovery. It should also be added that concurrently my colleague, Dr. Dundas Grant, has had a similar series of cases of something like equal number. I think I may say that the success of both of us has been largely due to mutual conference and coöperation.

The indications for the performance of the operation are various. Together with persistence of purulent discharge one or other of the following symptoms was presented by these patients previously to operation: pain in the affected ear or corresponding side of the head, vertigo, nausea, vomiting, and general malaise; in some cases there were mental lassitude and a sullen demeanour. In most of them one or more of the following conditions was present: polypi or granulations in the tympanum, tenderness over the mastoid process, swelling of the meatus, bulging downwards of the posterior superior wall of the meatus and the adjacent part of Shrapnell's membrane, facial paralysis, caries of the ossicles or dead bone felt by the probe in the walls of the cavum tympani. The symptoms and physical conditions mentioned were rarely found singly but were mostly grouped in varying proportions. In every case the necessity for the operation was fully proved by the discovery of granulations, cholesteatoma, or necrosed bone, in the antrum or in the surrounding parts. In several of the cases it was necessary in the course of the operation to lay bare the dura mater in the middle fossa of the skull, to a greater or less extent, by the removal of a lamina of necrosed bone in the roof of the antrum. For the same reason the groove of the lateral sinus also was sometimes exposed in taking away a small piece of its bony wall. It was only occasionally that the mastoid cells became involved and required to be dealt with.

In recommending the operation the question of the effect upon the hearing power was naturally of but secondary consideration. It is, however, gratifying to report that audition was seldom rendered worse by the performance of the operation, while in some cases it was materially improved, probably owing to the removal of the accumulations of pus, granulations, and cholesteatomatous material which had filled the tympanum and so prevented the sound waves from reaching the labyrinth.

An examination of the appended table shows that out of the 80 patients operated on 45 were females and also that in 49 cases the left was the ear affected. The preponderance o the female sex among the cases cannot be explained, for it contrary to the statistics of the hospital with regard to a diseases of the ear, both acute and chronic. The preferen for the left ear is in accordance with what is generally no with regard to deafness, but especially in cases accompan with any degree of acuteness of inflammation. Len Browne[1] found that in 32 cases of othæmatoma the left

---

[1] Othæmatoma, or the Insane Ear, West Riding Asylum M Reports, vol. v, 1875.

EIGHTY SUCCESSIVE CASES OF STACKE'S OPERATION: TABULAR STATEMENT.

No	Sex	Age.	Ear	Duration	Symptoms previously to operation	Date of operation	Remarks	Result
1	F	20	R	18 years	Recurrent polypi	Oct. 13th, 1896	Granulation tissue and cheesy matter in the antrum	Cured
2	F	6	L	—	Pain, nausea, and giddiness.	Oct 31st	Antrum contained granulation tissue	„
3	F.	27	L.	—	Pain and giddiness.	„ „	Granulation tissue and cheesy matter, dura mater exposed in the middle fossa	„
4	M	10	R.	—	Headache and mental dulness	Nov 20th	Fœtid pus in the antrum and granulation tissue	„
5	F.	25	R	8 years	Recurrent polypi	Feb 5th, 1897	Cholesteatoma in the antrum	„
6	F.	17	R	12 „	Recurrent polypi	March 5th	Granulation tissue in the antrum lateral sinus exposed	„
7	F	19	L.	15 „	Recurring polypi, pain, and giddiness.	„ 12th	Antrum was very large, full of granulation tissue	„
8	F.	13	L.	6 „	Swelling over the mastoid, pain	May 6th.	Mastoid cells, antrum and attic were full of granulation tissue and pus	„
9	F.	12	R.	4 „	Pain, giddiness, and recurring polypi	„ 13th.	Cholesteatoma in the antrum.	—
10	M	14	L.	5 „	Swelling over the mastoid, pain.	June 4th	Pus and granulation tissue in the mastoid cells and antrum, the incus was removed	Cured.
11	F	23	R	17 „	Pain, nausea, and giddiness	„ 8th	Mastoid cells and antrum contained pus and granulation tissue; the incus was removed	„
12	F	25	L.	9 „	Recurrent polypi and pain	„ 18th	Antrum was deep, granulation tissue	„
13	F.	29	L.	20 „	Pain and giddiness.	July 16th.	Antrum was very deep, granulation tissue	„
14	M	13	L.	—	Pain and recurring polypi.	„ 27th	Antrum was full of granulation tissue	„
15	M.	7	L.	14 days	Sinus over the mastoid leading into the antrum	August 3rd	Antrum was full of granulation tissue and cholesteatoma.	„
16	F	32	L.	14 years.	Facial paralysis, vomiting, and pain	Oct 21st	Pus and granulation tissue in antrum	„
17	F	17	R.	15 „	Nausea, pain, and giddiness	Nov 19th	Granulation tissue and cholesteatoma in antrum	„
18	F	25	R.	12 „	Pain, giddiness, and nausea	„ 30th	Pus and granulation tissue, dura mater of the middle fossa and lateral sinus were exposed	„
19	F	11	L.	8 months	Recurring polypi pain, and facial paralysis.	„ „	Mastoid cells were necrosed, antrum was full of granulation tissue, lateral sinus was exposed	Facial paralysis. Cured
20	M.	28	L.	20 years.	Recurring polypi, extreme pain, nausea, and giddiness	Dec 6th	Full of granulation tissue, lateral sinus covered with granulation tissue and thrombosed, left internal jugular filled with pus.	Died Jan. 6th, 1898
21	F	40	L.	38 „	Irritability, giddiness, nausea, shivers, and pain	Jan 18th, 1898	Antrum was very deep, cholesteatoma.	Cured.
22	M	13	L	12 „	Polypi, recurring facial paralysis	March 15th.	Full of granulation tissue, lateral sinus was exposed	Facial paralysis. Cured
23	F	26	L.	20 „	Nausea, pain and giddiness.	April 19th.	Granulation tissue and cholesteatoma, necrosed bone	Facial paralysis Well in nine months.
24	F	36	R	25 „	Pain, shivering vomiting and giddiness.	„ „	Granulation tissue	Facial paralysis Well in six months.
25	F	10	L.	6 weeks.	Mastoid swelling, fistulous opening leading into the antrum	„ 26th.	Granulation tissue, lateral sinus covered with granulation tissue	Cured.
26	M.	30	R.	25 years.	Recurrent polypi and repeated attacks of giddiness	„ „	Antrum deep, full of granulation tissue and cholesteatoma.	„
27	F	17	L.	1 year	Pain sickness, and polypi	May 24th	Antrum filled with granulation tissue	„
28	F	13	L.	2½ years.	Semi unconscious; head well retracted, bulging of the posterior superior meatal wall	June 15th.	Cerebellar abscess. (Published in the *Journal of Laryngology*, October, 1899)	„
29	F	1½	L.	12 months.	Polypi, mastoid swelling, and necrosed bone.	„ 18th	Disease of the whole temporal bone; antrum was full of granulation tissue and cholesteatoma	„
30	M	9	L	—	Mastoid swelling.	July 9th	Mastoid cells full of pus also antrum, and attic, with cholesteatoma.	„
31	F	15	L.	5 years	Pain, nausea, and giddiness	„ 19th	Mastoid cells and antrum full of granulation tissue, lateral sinus exposed	„
32	M	10	L.	—	Mastoid swelling, sinus in the bone leading to the antrum	„ 26th.	Carious bone in the mastoid cells, antrum enlarged, containing pus and cholesteatoma	„
33	M	23	L.	—	Stenosis of the meatus, pain and giddiness.	August 16th	Antrum filled with pus and granulation tissue.	„
34	F.	19	L.	3 years.	Facial paralysis	„ „	Antrum full of cholesteatoma, incus was removed	„
35	M	18	L.	—	Delirious, rigors, swelling over the mastoid, and great pain	„ 20th.	Pus over the mastoid and in the antrum, extradural abscess	Died August 22nd

EIGHTY SUCCESSIVE CASES OF STACKE'S OPERATION: TABULAR STATEMENT.

No.	Sex.	Age.	Ear.	Duration.	Symptoms previously to operation.	Date of operation.	Remarks.	Result.
36	M.	23	L.	3 weeks.	Mastoid swelling.	Sept. 3rd.	Full of granulation tissue filling the antrum, and also found on the lateral sinus.	Cured.
37	M.	8	L.	4 years.	Mastoid swelling, sinus in the bone leading to the antrum, and pain.	Oct. 5th.	Mastoid cells and antrum full of pus and granulation tissue.	,,
33	F.	20	L.	16 ,,	Pain, vomiting, and giddiness.	Nov. 8th.	Antrum full of pus and cholesteatoma.	,,
39	F.	15	L.	2 ,,	Subject to epileptic fits; no cause.	,, 8th.	Small granulations and carious bone in the attic.	Cured. Fits not improved.
40	M.	8	L.	7 ,,	Polypi recurring, drowsiness, and pain.	,, 29th.	Antrum full of large granulation tissue, also attic.	Cured.
41	F.	6	L.	3 ,,	Fistulous opening in the mastoid leading to the antrum.	Dec. 12th.	Mastoid cells and antrum full of granulation tissue; granulations over the lateral sinus.	,,
42	M.	8	L	2 ,,	Mastoid swelling.	,, 17th.	Antrum full of granulation tissue and pus.	,,
43	M.	8	R.	7 ,,	Mastoid swelling; sinus leading to the antrum.	Jan. 2nd, 1899.	Pus and granulation tissue in the mastoid cells and antrum,	,,
44	F.	13	L.	2 ,,	Recurring polypi.	Jan. 31st.	Antrum full of cholesteatoma and lateral sinus exposed.	,,
45	M.	7	L.	3 ,,	Pain, nausea, and giddiness.	Feb. 2nd.	Antrum very deep; granulation tissue.	,,
46	F.	20	R.	17 ,,	Giddiness and pain.	,, 21st.	Antrum full of granulation tissue.	,,
47	M.	13	L	8 ,,	Mastoid swelling, pain, and nausea.	,, 25th.	Antrum opened, full of pus and granulation tissue.	—
						March 2nd.	Extradural abscess.	—
						,, 10th.	Lateral sinus thrombosis; internal jugular vein tied.	Died March 21st Empyema of the chest.
48	M.	19	R.	—	Mastoid swelling; fistulous opening leading to the antrum.	Feb. 28th, 1899.	Pus in the antrum and granulation tissue.	Cured.
49	M.	24	R.	—	Pain, giddiness, and nausea.	March 14th.	Antrum very deep; pus and granulation tissue.	,,
50	M.	19	R	12 years.	Recurring polypi, pain, and drowsiness.	April 11th.	Carious bone removed, antrum full of granulation tissue. Lateral sinus exposed.	,,
51	F.	22	R	10 ,,	Pain, giddiness, and nausea.	May 9th.	Dura mater of the middle fossa exposed; antrum full of granulation tissue.	—
52	M.	32	R.	10 ,,	Giddiness, pain, and nausea.	,, 16th.	Antrum contained cholesteatoma.	—
53	F.	14	R.	10 ,,	Pain and nausea.	,, 30th.	Fistulous opening into the antrum; lateral sinus completely exposed.	—
54	F.	25	L.	20 ,,	Had attacks of epileptic convulsions.	June 2nd.	Antrum contained granulation tissue.	Cured.
55	F.	33	R.	20 ,,	Depression of spirits, pain, giddiness, and nausea.	,, 6th.	Antrum full of cholesteatoma.	,,
56	M.	20	R	—	Mastoid swelling, pain, and giddiness	,, 11th.	Antrum full of pus and granulation tissue; extradural abscess.	,,
57	M.	29	L	—	Pain, nausea, and giddiness.	July 18th.	Antrum and attic full of granulation tissue and cholesteatoma.	—
58	M	28	L	20 years.	Pain and recurrent polypi.	,, 25th.	Antrum contained granulation tissue.	
59	F.	37	R	5 ,,	Pain, nausea, and giddiness.	August 1st.	Antrum and attic full of cholesteatoma.	Cured.
60	F.	32	R.	—	Facial paralysis and pain.	,, 22nd.	Antrum and attic full of granulation tissue and cholesteatoma; lateral sinus was exposed.	,,
61	M.	24	R.	2 years.	Pain, vomiting, giddiness, and bulging of the meatal wall.	,, ,,	Temporo-sphenoidal abscess	,,
62	F.	15	L.	—	Swelling over the mastoid; pain.	,, 19th.	Fistulous opening into the antrum, pus, and granulation tissue	,,
63	M.	40	L.	30 years.	Pain, nausea, and giddiness.	,, 31st.	Antrum full of granulation tissue.	,,
64	F.	16	L.	11 ,,	Vertigo, sickness, and pain.	Sept. 5th.	Antrum contained granulation tissue and necrosed bone.	,,
65	F.	26	R.	20 ,,	Recurrent polypi.	,, 26th.	Antrum contained granulation tissue.	,,
66	M.	41	L.	11 ,,	Pain, papillitis, and giddiness.	,, ,,	Antrum contained granulation tissue and cholesteatoma.	,,
67	F.	16	R.	6 months.	Pain and giddiness.	Oct. 3rd.	Antrum contained a cholesteatomatous cyst.	,,
68	M.	37	L.	12 years.	Pain and recurring polypi.	,, ,,	Antrum contained granulation tissue and cholesteatoma.	,,
69	F.	28	L.	18 ,,	Pain, nausea, and giddiness.	,, 10th.	Antrum was deep and contained granulation tissue and cholesteatoma, dura mater of the middle fossa was exposed.	,,
70	M.	24	L.	20 ,,	Pain, vertigo, and nausea	,, ,,	Antrum was large and contained a brown fluid and cholesteatoma; dura mater of the middle fossa was exposed.	,,
71	M.	30	L.	20 ,,	Giddiness.	,, 17th.	Antrum contained granulation tissue and cholesteatoma.	,,

EIGHTY SUCCESSIVE CASES OF STACKE'S OPERATION: TABULAR STATEMENT.

No.	Sex	Age.	Ear.	Duration.	Symptoms previously to operation.	Date of operation.	Remarks.	Result.
72	F.	29	L.	25 years.	Pain, nausea, and giddiness.	Oct. 17th.	Antrum contained granulation tissue; dura mater of the middle fossa was exposed.	Cured.
73	M.	62	R.	4 months	Mastoid swelling, pain, and nausea.	,, 31st.	Fistulous opening leading to the antrum full of pus and granulation tissue.	,,
74	F.	29	L.	12 years	Pain, giddiness, and nausea.	,, ,,	Antrum full of granulation tissue and cholesteatoma.	,,
75	F.	23	L.	20 ,,	Pain, giddiness, and nausea.	Nov. 7th.	Antrum contained granulation tissue.	Recovery.
76	F.	30	L.	20 ,,	Pain, giddiness, and nausea.	,, 23rd.	Mastoid cells and antrum contained granulation tissue	,,
77	M.	13	R.	10 ,,	Pain, giddiness, and nausea.	,, ,,	Antrum very deep, contained granulation tissue	,,
78	M.	5	L	—	Mastoid swelling and pain.	,, 28th.	Fistulous opening leading into the antrum containing granulation tissue.	,,
79	M.	26	R.	14 years.	Pain, nausea, and giddiness	,, ,,	Antrum was very deep and contained granulation tissue	,,
80	F.	24	L.	18 ,,	Pain, nausea, and giddiness.	Dec. 12th	Antrum contained granulation tissue; lateral sinus exposed	,,

For the notes of these cases I am indebted to my colleague, Mr. Chichele Nourse, who has more especially followed their progress.

was affected in 19 instances, in both ears in 11, and the right ear only in two cases. In those cases in which both were affected the left ear was first attacked. His explanation of the fact is the nearer position of the left common carotid to the heart and the more direct and less impeded arterial supply to the left than to the right side of the head, this observer noting, also, that arachnoid cysts so frequent in that form of mental disease in which othæmatomata may be expected are more commonly found on the left than on the right hemisphere of the brain The average age of the patients is between 20 and 21 years, the youngest subject being 14 months old. The average duration of the suppurative disease in those cases where it could be ascertained was 12½ years.

Turning now to the symptoms exhibited by patients before the operation, persistent suppuration of the middle-ear was present in all and pain was very commonly complained of. 39 of the patients were troubled with attacks of vertigo, in 19 there were recurrent polypi, and in 17 there was swelling over the mastoid process. Facial paralysis was present before the operation in five cases and mental disturbance was noted six times. In two cases of old standing suppuration (Cases 39 and 54) the operation was mainly undertaken in the hope of curing the epileptic fits to which the patient had recently become subject. Though the conditions discovered proved that the operation was abundantly justified the fits showed no improvement in Case 39, but a complete cure resulted in Case 54 The original disease was complicated by septic phlebitis of the lateral sinus and the internal jugular vein in two instances and by extradural abscess in three Cerebral abscess was found once and cerebellar abscess once. At the time of the operation dead bone was discovered and removed in seven cases. In 11 a fistulous opening led from the surface of the mastoid process to the antrum. The middle fossa of the skull was exposed six times during the operation and the groove of the lateral sinus was laid bare in some part of its course 14 times. The cerebral and cerebellar abscesses were successfully located and drained and in one fatal case the internal jugular vein was tied. In two cases facial paralysis appeared after the operation, but in both it disappeared again within nine months. Except in those patients—three in number—whose condition was almost beyond hope on admission the results of the operation were uniformly successful.

With regard to the results of this operation the mortality in my hands has been practically *nil*, for the only three deaths reported were brought into the hospital in a very advanced stage of pyæmic poisoning. In the successful cases the threatening symptoms quickly disappeared, the change from sullen stupidity to lively intelligence being very noteworthy. Occasionally a slight purulent discharge continues for some time; but owing to the freedom with which the adjacent cavities have been placed in communication with the now very wide meatus no accumulations can possibly occur, and the whole tympanum, antrum, and attic gradually become soundly healed and can be inspected at any time by means of a speculum. In conclusion, my experience leads me to the opinion that it is safer to operate at an early period of suppurative disease, should there exist any of the enumerated indications for it, rather that wait until the processes have had time to produce signs of a more threatening character, and possibly to infect some of the intra-cranial contents.

Harley street, W.

CONSANGUINEOUS MARRIAGE AND DEAF-MUTISM.

By ALFRED H. HUTH,

AUTHOR OF "THE MARRIAGE OF NEAR KIN"

THE question of the intermarriage of the deaf and its consequences has excited attention almost ever since deaf-mutism itself has been studied, and very various opinions have been expressed upon the subject. On the one side is the remarkable fact that frequently none of the children of deaf parents are deaf, while on the other side we have the indisputable fact that deafness is as strongly inherited as any other disease of the nervous system. In short, this is another example of the now generally accepted axiom that inheritance equals the sum of the ancestry divided by the number of the ancestors, and since there is, at present at least, no deaf race of human beings so the inheritance of deafness must be proportionately uncertain. In the absence of reliable statistics it is difficult to ascertain how far this inheritance is likely to be intensified by the intermarriage of the deaf. Such marriages are not very common in Europe. In the United States, however, where for the last half century a great deal of attention has been paid to the education of the deaf and where consequently they have been more intimately brought together, so much intermarriage has gone on as to excite the alarm of many observers. In 1884 Dr. Graham Bell, the well-known creator of the Volta Bureau of Washington, published his "Memoir upon the Formation of a Deaf Variety of the Human Race," and now Dr. Fay comes forward with an elaborate inquiry into the result of "Marriages of the Deaf in America." By means of circulars and other investigations Dr. Fay has [illegible] total of 3078 marriages, [illegible] drawn from them, and which he has reason to believe represent all the marriages of this kind which have taken place in the continent of North America within a given period. These results he has tabulated and analysed and, as far as the figures allow, he shows that the average of sterility is not greater among such marriages than among the general population; that marriages where both the parties are deaf do not intensify the chance of deafness being inherited by the children, but double it; that since deafness is due to a variety of causes, parents are less likely to transmit their defects whose deafness is due to different causes; and that congenitally deaf parents are far more likely to transmit their deafness than are those who have become deaf since their birth. As to the vexed question as to the effect of consanguineous marriages, he comes to the conclusion that they have no effect beyond the ordinary laws of inheritance—that is, that the probability of inheritance by the children of the defects of their parents is not intensified by the relationship, but is proportionate to the amount of deafness in the ancestry.

Dr. Fay's inquiries only apply to marriages of the deaf, and these, in so far as they were sufficiently reported, numbered, as I have said above, 3078. From these we must, however, deduct 434 marriages which were barren, or 14·1 per cent., leaving 2644 productive marriages, which produced 6782 children. Of these 290 children died before it could be ascertained whether they were deaf or not, and 588 were deaf. As the result, therefore, of 2644 marriages there were 588 children who were deaf and 5904 children who could hear, thus giving 9 per cent. of deaf children and 2 45 children for each productive marriage. Among the 3078 cases of marriage of the deaf Dr. Fay notes 31 cases of consanguineous marriage in various degrees, but he nowhere states how many of these were barren. I can only trace the following from his material :—

Consanguineous Marriages producing Deaf Offspring.

Relationship.	Number of marriages.	Number of children.	Number deaf.
Aunt and nephew	1	4	3
Second cousins	4	17	5
"Cousins"	12	31	9
Total	17	52	17

But in these there is no information regarding the offspring of two marriages of "cousins," one marriage was barren, and in one the number of children is not stated, but "all" were hearing children. Clearly, therefore, at least four marriages must be deducted from the 31 cases. The result is as follows :—

Result of Marriages of the Deaf which produced Offspring.

Relationship.	Number of marriages.	Number of children.	Number deaf.	Children per marriage.	Percentage of children deaf.
None ...	2617	6392	558	2 44	9·2
Consanguineous.	27	100	30	3·7	30·0

We must remember, however, that here only those consanguineous marriages of the deaf which produced at least one deaf-mute are compared with marriages of the deaf most of which produced no deaf offspring, and therefore the comparison is without value. In any case, even taking Dr. Fay's total number of 31 consanguineous cases, the number is far too small to draw any reliable conclusions from. I have, however, drawn from Dr. Fay's material 302 cases of consanguineous marriage which I have tabulated. They do not represent the liability of consanguineous marriage to produce deafness, but appear solely because they have produced deaf children, and therefore the only value of the table is to show that nearness or distance of relationship is without effect. Indeed, we find that the most distant relations produced 100 per cent., first cousins produced 42 per cent., while fourth cousins produced 75 per cent.

Results of Marriages between Relations which produced Deaf-mutes.

(From Fay's "Tabular Statement," including Non-congenital Cases.)

Relationship.	Number of marriages.	Children. Deaf.	Children. Hearing	Children per marriage.	Percentage of children deaf.
Nephew and aunt	1	3	1	4 0	75 0
First cousins	9	29	40	7·67	42·0
Second cousins	55	109	178	5·2	38 0
Third cousins	26	44	63	4·0	41·1
Fourth cousins	7	15	5*	3 1	75 0
"Cousins"	190†	387	675	5 6	36 5
"Related"	10	26	30‡	5·6	46·4
First cousin once removed	3	14	11	8·3	56 0
Second cousin once removed	1	4	—	4 0	100·0
Totals	302	631	1003	5 41	38·6

* "Several" hearing children are put down as three.

† Omitting four cases insufficiently reported and two with no deaf offspring.

‡ Five "unknown" are entered as hearing children.

Although, however, there is no evidence that consanguinity produces deafness, or, indeed, as I have shown in my "Marriage of Near Kin," any other disease, it is not advisable on the grounds of heredity for a deaf person to marry a relative when there is deafness or even a tendency thereto in the family. Dr. Fay found that nearly 21 per cent. of the children where at least one of the parents was deaf and both parents had deaf relatives were themselves deaf; under the same circumstances, but where only one of the parents had deaf relatives, only 6·4 per cent. of the children were themselves deaf; while where there were no deaf relatives only 1 2 of the children were themselves deaf.

Dr. Fay's statistics have a very considerable value for two reasons. First, that they are all derived from one nation and probably represent the whole of the deaf population of that nation over a considerable period; and, secondly, that they are not taken from asylums—that is, working back from the pupils to their parentage, but are an investigation of the results of the marriages of the deaf. Nearly all of the statistics on the subject which had appeared before were derived from an investigation of the relationship between the parents of the children in asylums. The difference between the two is radical. Where there is deafness in the family the proportion of deaf children per family is very much greater than the proportion of deaf children per family in the general population. Hence if an undue proportion of children derived from consanguineous marriages appears in asylums, it does not follow that consanguineous marriages on the whole, including those where there is no deafness to inherit, produce an undue proportion of deaf children. Moreover, the reports from the various asylums are founded on so small a number of cases and are so biased by the preconceived opinions of the reporters that they require very careful investigation and verification.

In the year 1889 the Royal Commission on the Blind, the Deaf, and the Dumb, &c., reported on the result of their inquiries. Among these was the effect of consanguineous marriage on the production of deafness. As to this they say, "We think from the evidence and statistics before us that consanguineous marriages should be strongly discouraged, especially where deafness has occurred in the family." The last part of this sentence is merely a reference to the ordinary laws of inheritance; but what evidence had they before them for recommending the discouragement of consanguineous marriage where there was no history of disease in the family? Mr L. van Ofen, one of the Commissioners, dissents entirely from this recommendation. "I have carefully examined the evidence of the various witnesses," he says, "on this point, and I find that as a rule they either rely upon general impression or upon the fact that they have known a certain number of deaf mutes whose parents were *first or second cousins, without having investigated whether* there were any other circumstances such as deafness in the ancestry or collateral relatives of such parents, and without knowing whether the proportionate number *of such cases—viz, marriages of blood relations having* deaf offspring—was larger than the proportionate number of such marriages to the general marriages of the district I do not deem it desirable or necessary to argue upon or refute the evidence of witnesses who base their evidence upon conjecture though much might be said against the conclusions they arrive at and in some instances their assertions could be entirely disproved As regards the returns made by the institutions I find that they are so imperfect that no satisfactory statistics can be made from them Until more correct records are kept and the statistics are more carefully compiled I think that no reliable deductions on this point can be drawn from them *Mr van Ofen's strictures are amply confirmed by* the published evidence Some of the witnesses did not hesitate to pronounce an unqualified opinion against consanguineous marriage without advancing or apparently *being able to advance, a particle of evidence in support* of their views Others did the same on perfectly ridiculous evidence Then there is the evidence of Dr R Elliott and Mr W H Warwick head master and secretary *respectively of the asylums for the deaf and dumb in the* Old Kent road and at Margate one of whom says that there were 8 per cent on 550 pupils "the offspring of relations", while the other says that 52 children of first and second *cousins have passed through the school since the year 1875* when statistics upon relationship of the parents first began to be collected, but he does not give the total number of children In the official return supplied by these two institutions there were then 343 *pupils out of whom 22*, or 6 4 per cent, were derived from 'cousin marriages' I cannot tell what weight the Commissioners attached to this evidence, but being myself quite unable to reconcile the various statements *I obtained through the courtesy of* Mr Warwick the following additional information from Dr Elliott "I cannot find the particular notes which I referred to in my evidence before the Commission I think however, *the 8 per cent I then mentioned referred to the 350 children* then (in 1886) in the institution to which number reference is twice made just before and that 550 is a typographical error I have before me a list I drew up from our register some years ago of children elected July 10th 1876 to (I think) August 1884 548 cases And he gives the following consanguineous cases out of this total —

Margate and Old Kent road Asylums

Relationship of parents	Number of pupils.	Percentage on 548.
First cousins	25	4 56
Second cousins ..	3	0 55
Cousins" ..	10	1 82
Grandparents first cousins	2	0 37
' Related	1	0 18
Total	41	7 48

He adds "I have not the particulars here whether they are or are not congenital cases of deafness' Even supposing however that all are congenital cases I cannot find in these figures any suggestion that consanguineous marriage is more productive of deaf mutism than any other marriages seeing that the proportion of consanguineous marriages to other marriages must be fully as great as if not greater than, the 7 5 per cent here shown

Another witness Dr E Symes Thompson, says "45 per cent of the applicants for admission to Ealing have been the children of first cousins In the official return to the Commissioners from the Ealing College the total number is given as 18 of which only one is said to be the offspring of cousins I therefore wrote to Dr Thompson and through his kindness obtained the following figures from the lady superintendent concerning the pupils who had passed through the college from 1878 to 1889 —

Ealing Training College

Relationship of parents	Number of families represented	Number of deaf in college.		Number of brothers and sisters not in college.		Total
		Congenital	Non congenital	Deaf	Hearing	
First cousins	3	—	—	—	—	—
Relationship not specified	5	—	—	—	—	—
Total consanguineous	8	7	1	10	5	23
No relationship	35	17	18	—	30	65
Total	43	24	19	10	35	88

It will be seen that these statistics labour under the disadvantage of being exceedingly small, and they unfortunately do not tell us the whole number of children born in each family or the number of those outside of the college who were congenitally deaf But taking the figures as they stand we have —

—	Relatives	Non-relative
Percentage of families affected	18·6	81 4
Average of children per family	2 89	1 85
Percentage of congenitally deaf in college	29 2	70 8
Percentage of all deaf in and outside college	34 0	66·0

Another witness is Mr Hillyer, the secretary of the British Asylum at Clapton who makes the statement that "we find most of the deaf mutes are the children of those who have married cousins But on turning to the reports of the asylum I find that they give no return on the question of consanguinity since the parents were either unwilling or unable to give *information In reply to my inquiries* Mr Hillyer wrote that his statement was based very much on the experience of their training master Mr D Murray The latter gentleman however, hardly goes so far in his evidence before the *Commissioners for he considers the* intermarriage of deaf mutes to be a far more potent cause nor in his reply to me does he confirm Mr Hillyer's opinion

Of the other witnesses who gave evidence, Mr J de Castro found that five out of 31 or 16 7 per cent, were the children of first cousins Mr W S Besant out of a total of 200 children found that two were the offspring of cousins and one the child of distant relatives or together 1 5 per cent Mr F Townend also supplied a table of statistics which I condense for my purpose as follows —

Inter marriages among the Deaf mutes of Birmingham

Description of marriage	Number of marriages	Total number of children	Average number of children per marriage	Number of children deaf
Both parents deaf mutes	16	54	3 37	3
One parent deaf mute ..	6	19 or 20	3 2	2
First cousin one deaf	1	4	4·0	0

Another witness of considerable experience, Mr A Welch, never found a single case in which there was consanguinity of the parents, although he found many cases of the marriage of two deaf mutes

In the official returns from 24 institutions in which some record had been kept as to the consanguinity, if any of the parents on a total number of 1918 deaf-mute pupils, congenital and non-congenital cases, there were :—

Relationship of the parents.	Deaf-mute offspring. No.	Deaf-mute offspring. Per cent.
First cousins	43	2·24
Second cousins	17	0·99
First and second cousins	11	0·57
"Cousins"	2	0·1
More distant relatives	26	1·35
Total of consanguineous	101	5·26
Total of non-consanguineous	1817	94·73
Total	1918	100·00

In six of these institutions, comprising 331 cases, there was no case at all of consanguineous origin, but they are all included in the above table.

From nine board schools comprising 198 pupils, from which the Commissioners obtained returns, there were six cases in which the parents were first cousins, or 3 per cent. The Commissioners further give an extract from the report for 1887 of the American Asylum of Hartford, Conn., in which there is a list of all the children admitted during the previous 10 years, together with references to their relatives, of which I have made the following summary :—

Relationship.	Number of families represented.	Congenital deaf-mutes.	Non congenital deaf-mutes.	Particulars not stated.	Total number of deaf-mutes.	Total number of hearing children.	Total number of children.
Uncle and niece	2	1	1	0	2	6	8
First cousins	8	7	3	6	16	32	48
Second cousins	3	3	1	1	5	12	17
Third cousins	4	2	2	0	4	6	10
"Cousins"	9	3	6	2	11	31	42
Grandparents cousins	2	2	0	0	2	3	5
Total consanguineous ..	23	18	13	9	40	90	130
No relationship ...	34	38	7	35	80	99	179
Totals	62	56	20	44	120	189	309

This summary forms a very extraordinary table indeed. Out of a total of 56 congenital deaf-mutes 18, or 32 14 per cent., were of consanguineous origin. Put as averages per family we have :—

Relationship.	Congenital deaf-mutes.	Non congenital deaf-mutes.	Particulars not stated.	Total average of deaf-mutes.	Total average of hearing children.	Average of children per marriage.
Uncle and niece .	0·5	0·5	0 0	1·0	3·0	4 0
First cousins ...	0 9	0 38	0 75	2 0	4·0	6 0
Second cousins ...	1·0	0·34	0 34	1 7	4 0	5 7
Third cousins ...	0 5	0 5	0·0	1 0	1·5	2 5
"Cousins"	0 34	0 69	0·23	1·2	3 4	4 7
Grandparents cousins	1·0	0 0	0 0	1·0	1 5	2 5
Total consanguineous	0 64	0 46	0 32	1 43	3·21	4 64
No relationship ...	1·12	0·2	1·0	2 35	2 9	5 27

From the above table it appears that the greatest number of congenital deaf-mutes per family will be produced where there is no relationship between the parents, the next greatest number where the grandparents are cousins or are second cousins, while a marriage between an uncle and a niece is less likely to produce many deaf-mutes than any other. In this school it also appears that the non-consanguineous marriages were more prolific than the consanguineous marriages, which is contrary to the most reliable evidence.

At the Illinois Institution, Jacksonville, Ill., out of a total of 1886 pupils from 1075 families, there were 113 belonging to 88 families who were derived from consanguineous marriages as follows :—

Derived from uncle and niece... ... 1 case, or 0·05 per cent.
" first cousins ... ... 76 " " 4·00 "
" second " ... ... 17 " " 0·9 "
" third " ... ... 9 " " 0·48 "
" fourth " ... ... 9 " " 0·48 "
" grandparents first cousins 1 " " 0·05 "

The consanguineous marriages come together to nearly 6 per cent. on the total number of cases; but the principal, Mr. P. G. Gillett, does not state how many of these were congenital. He merely says that of the whole number of 1886 pupils, 490 were congenital deaf-mutes, which is 25 9 per cent. The average number of deaf-mutes per consanguineous marriage is 1·25, and per non-consanguineous marriage, 1·8.

At the Georgia Institution, Cave Spring, Ga., there were returns on 258 cases, which I have tabulated as follows :—

Relationship.	Number of families represented.	Number of deaf children	Average per family.	Percentage on total of deaf-mutes.
First cousins	20	33	1·65	12 8
Second cousins	11	18	1·65	7·0
Third cousins	4	7	1·75	2·7
Fourth cousins	1	5	5·00	1·9
Half cousins (?)	1	1	1·00	0 38
More distant relatives .. .	3	5	1 7	1 9
Total related	40	69	1·72	26 7
No relationship	45	189	1 3	73 26
Total	85	258	1·4	—

Similarly I have tabulated the return from the New Jersey School, Chambersburg, near Trenton, N.J , as follows :—

Relationship.	Number of families represented.	Number of deaf children.	Average per family.	Percentage on total of deaf-mutes.
First cousins	1	2	2	1·5
Second cousins	1	2	2	1·5
Third cousins	1	1	1	0·8
Total consanguineous	3	5	1·7	3·7
No relationship	34	129	3·5	9·6
Total	37	134	3·6	—

These figures seem hardly to bear out the very decided conclusion of the Royal Commissioners, and fully justify the protest of Mr. van Ofen.

It is lamentable to see all this misdirected work and wasted energy and money, due simply to the refusal of the Government to insert a simple question into the census. It need not be repeated. The expense of the Royal Commission on Deaf-Mutes, &c , would have been saved, the work of countless medical men would be made useful, the public would have their doubts set at rest for ever. Since the year 1851 the Irish Census Commissioners have inquired into the number of deaf-mutes and their parentage, but never yet have they inquired into the relationship, if any, of married persons in that country. The consequence here again is a great waste of money and labour, with results that are no more reliable than those obtained by the Royal Commission, except in so far as they are on a larger scale. Even then they permit themselves to draw conclusions which on the evidence obtained are untenable, and present their statistics to the public in a form that is misleading. Only in the years 1871 and 1881 are the special relationships returned. I have disentangled them from the non-congenital or adventitious cases and from those where the patients were not both deaf and dumb, with the following result:—

Irish Census Reports.

Relationship.	1871. Number of marriages.	1871. Number of congenital deaf-mutes.	1871. Average per marriage.
First cousins	62	98	1·58
Second ,, ...	50	89	1·74
Third ,, ...	24	40	1·67
Fourth ,, ...	5	11	2·23
Fifth and sixth cousins ...	12	19	1·58
Total	153	257	1·68
Non-related	2852	3246	1·14
Total	3005	3503	1·17

Relationship.	1881. Number of marriages.	1881. Number of congenital deaf-mutes.	1881. Average per marriage.
First cousins	74	123	1·66
Second ,, ...	29	46	1·55
Third ,, ...	9	21	2·34
Fourth ,, ...	1	1	1·00
Total	113	191	1·69
Non-related	2474	2972	1·20
Total	2587	3163	1·22

An examination of the above table will show that these statistics, so much relied upon to prove that deaf-mutism is caused by consanguineous marriage, proves nothing of the sort. In 1871, fourth cousins produced a greater proportion of deaf-mutes than any nearer relationship, and first cousins less than any others. In 1881 third cousins produced a greater proportion than any other nearer relationship. Comparing the whole of the reports from 1851 to 1891, though the special relationships are not given, we have the following:—

From the Irish Census Reports.	1891.	1881.	1871.	1861.	1851.	Averages.
Total number of congenital deaf-mutes derived from consanguineous marriages	297	191	257	297	199	248·2
Total number of congenital deaf-mutes derived from non-consanguineous marriages ...	2273	2972	3246	3799	3686	3195·2
Average number of congenital deaf-mutes per consanguineous marriage	1·92	1·69	1·68	1·44	1·03	1·62
Average number of congenital deaf-mutes per non-consanguineous marriage	1·27	1·20	1·14	1·14	1·12	1·17
Percentage of congenital deaf-mutes derived from consanguineous marriages	11·56	6·04	7·34	7·25	5·13	7·45

I cannot vouch for the precise accuracy of these figures, as the language of the Census Commissioners is very loose. The figures for 1851 include the cases of persons who were not living in that year; and perhaps the others do also. At all events, as far as this table may be relied upon, we do not see any tendency in consanguinity to produce deaf-mutism in itself, as the Census Commissioners say we should. We do see a slight intensification of a family tendency to deaf-mutism in the half per family greater number of deaf-mutes from cousins up to the sixth degree; and even this difference must be accepted with caution, since in some instances, certainly, the Commissioners have included in their figures *all* the children born in *those* families where the parents were related, whether living or not at the time of the inquiry, while there is reason to believe that this has not been done in the case of the non-consanguineous marriages. Even if the figures could be absolutely relied upon, however, as I have already pointed out they would by no means prove that a greater proportion of deaf-mutes are born from consanguineous marriages, though they do indicate that where there is a family taint of deaf-mutism more deaf-mutes are likely to be born in families when there is double inheritance through the relationship of the parents than when this is not the case.

Looking at the percentage of 7·43 deaf-mutes derived from cousins up to the sixth degree it would seem that on the whole these marriages produce less than their due proportion, seeing that in all probability the marriages between cousins so widely related must be more than that percentage of the whole number of marriages in Ireland.

FURTHER OBSERVATIONS ON PERNICIOUS ANÆMIA (SEVEN CASES): A CHRONIC INFECTIVE DISEASE;

ITS RELATION TO INFECTION FROM THE MOUTH AND STOMACH; SUGGESTED SERUM TREATMENT.

BY WILLIAM HUNTER, M.D. EDIN., F.R.C.P. LOND.,
PHYSICIAN TO ELECTRICAL DEPARTMENT, JOINT LECTURER ON PRACTICAL MEDICINE, AND PATHOLOGIST, CHARING-CROSS HOSPITAL;
SENIOR ASSISTANT PHYSICIAN TO THE LONDON FEVER HOSPITAL.

(*Concluded from page 299.*)

VI.—EVIDENCES OF GASTRO-INTESTINAL INFECTION.

Frequency of gastro-intestinal symptoms.—The symptoms of gastro-intestinal disturbance include, I find, not only vomiting and diarrhœa but almost every variety and degree of disturbance—e.g., indigestion, anorexia alternating with ravenous appetite, nausea, sickness, pyrosis, salivation (rare), acidity, retching, vomiting, gastric pain, dilatation of the stomach with splashings, general discomfort over the stomach, looseness of the bowels, diarrhœa, and colicky pains. An analysis of a total of 273 recorded cases which in the light of the foregoing conclusions I have been interested to make shows that the frequency of such symptoms is even greater than supposed.

A Table showing the Frequency of Gastro-intestinal Symptoms in 273 Cases.

Author.	Number of cases.	Number in which gastro-intestinal symptoms are recorded.	Percentage.
Eichhorst (1878) ...	91	71	78
Lasche (1883)	11	9	81
Hale White (1890) ...	29	25	86
Byrom Bramwell (1899)	47	40	85
Hunter (cases from the literature of 1890-1896) ...	88	73	83
Hunter (1900) ...	7	6	85
Total	273	227	83

NOTE.—I have not included in this analysis the very full and complete record of cases (103 in number) given by Dr. Pye-Smith in his article in 1882, since this includes not only all the earlier cases recorded by Müller and Eichhorst, but also many of those from the records of Guy's Hospital subsequently analysed in Dr. Hale White's list of cases.

The most striking of these symptoms of gastro-intestinal irritation are vomiting and diarrhœa, and their prominence is best brought out by Dr. Hale White's analysis of 29 cases from the records of Guy's Hospital—viz., before admission: vomiting 12 (or 41 per cent.), diarrhœa 10 (34·5 per cent.); after admission: vomiting 16 (or 55 per cent.), diarrhœa 12 (or 41 per cent.). Dr. Cabot's analysis of 50 cases (33 of males and 17 of females)[1]: Nausea and vomiting in 31 cases (62 per cent.), diarrhœa in 12 cases (24 per cent.), constipation in 13 cases, and regular in 13 cases.

Gastric and intestinal lesions.—In the stomach the changes described in individual cases (and these constitute a very considerable proportion of those microscopically examined), I find on detailed analysis of the records of over 150 cases, include every stage of catarrh of the mucosa and its effects—e.g., increase of mucus; swelling of mucosa (Laache, Case 8); punctiform hæmorrhages and submucous hæmorrhages (Eichhorst, Case 4); small-celled infiltration around the follicles with increase of fibrous tissue; fatty changes in the glands, and atrophy of the glands (Fenwick, Nothnagel, Nolen, Hunter, Mader, Weichselbaum, Holt, and Nonne). The usual absence of naked-eye changes of congestion is to me in no way surprising when the extraordinary bloodless condition of the tissues and organs in this condition is borne in mind. I conclude that microscopical examination alone is reliable in determining the presence or absence of lesions.

The changes found in the intestinal mucosa from time to time are, I find, of a closely similar character—hyperæmia, "the mucosa of the intestine, the upper part of the jejunum, the lower part of the ileum, and the whole of the colon œdematous and swollen, with small hæmorrhages on the edges of the villi" (Eichhorst, Case 3).

Œdema; enteritis; erosion; ulcers; and thickening.—"Cæcum œdematous; one or two blackish small spots on the mucous membrane almost diphtheritic-looking" (Hale White, Case 13). "Large intestine; numerous cicatrices of ulcers, or ulcers newly healed, and a little recent diphtheritic inflammatory exudation in parts" (Ibid., Case 3). "Some patches of injection of ileum, and the mucous membrane of the large intestine irregularly injected" (Hale White, Case 20). "Chronic fibrotic changes in the colon with more recent hyperæmia and superficial necrosis" (Morley Fletcher).

VII.—RELATION OF THE GASTRIC INFECTION TO THE ANÆMIA.

It is clear from Case 8 that even during life there may be discoverable direct evidence of infective catarrh of the stomach. It is in connexion with this that the last case (Case 8) has for me such a particular interest, especially when taken in conjunction with Case 1. I had occasion in Case 1 to note the condition of the mouth and tongue and its variations as above described during life. In that case there were no stomach symptoms; but post mortem I found subacute chronic gastritis and atrophy of the gastric glands—a condition of the mucosa of the stomach, in short, identical with the subacute and chronic inflammation with atrophy noted in the tongue during life. In Case 8 there was an identical history as regards the mode of onset, the mouth symptoms (including also salivation), and the subsequent progressive anæmia. Here, however, I had an opportunity to examine the watery fluid without admixture with food brought up from the stomach; and I found evidence of a most intense infective catarrh, chiefly streptococcal—an infection of the stomach causing gastrorrhœa, probably of the same character as the trouble in the mouth which caused the salivation. The condition was clearly infective as was further shown by the effects of treatment. For both the gastrorrhœa and salivation, which had existed for five months, were in the course of a week brought incontinently to an end by the administration of salicylic acid as an antiseptic. Further, the infection thus arrested in activity had obviously some relation to the anæmia. For, following on its arrest, in a fortnight's time the red corpuscles rose from 1,290,000 (25 per cent.) to 2,200,000 (44 per cent.), a difference of 19 per cent.; while the hæmoglobin rose from 24 per cent. to 46 per cent., a difference of 22 per cent. I feel justified, then, in concluding that the infective catarrh in the stomach was not simply a complication resulting from the anæmia (blood-change); but that it really underlay and was responsible for the anæmia, since on removing it by direct antiseptic treatment there was so sudden and remarkable a recovery in the blood itself. In this case I conclude that an intense infection of the gastric mucosa similar to the infection in the mouth underlay the *pernicious anæmia*; and that the progressive *anæmia was not due* to the stomatitis or the glossitis, or even to the catarrh of the stomach *per se*, with their attendant disturbances of nutrition, but to the special infection which underlay and was the *cause of them* all. The stomatitis and the gastritis were the local lesions of an infection, probably of a "mixed" character, chiefly coccal—the progressive anæmia being the result of the destructive action of the poisons absorbed into the blood.

VIII.—ETIOLOGY.

I have now to consider the probable source of the infection pointed to by the preceding *observations*.

On this point the evidence available is extremely limited, confined as it is to the observations on the seven cases which I have described. For the disease has hitherto been examined and studied *solely* with reference to its relations to the usual causes of anæmia—such as loss of blood, pregnancy and childbirth, wasting discharges (diarrhœa), bad nourishment, and unhealthy surroundings. It is under these headings that its etiology has been discussed and beyond these nothing further has been investigated.

General etiology.—To my own mind no fact stands out more clearly in connexion with the etiology of the disease, than that none of the above conditions can of themselves produce the disease of pernicious anæmia with all its characteristic destructive blood changes. In the first place, I would point out the confusion which exists as to the importance of these so-called "causes." The same conditions—e.g., diarrhœa or vomiting—are arbitrarily regarded as causes or as effects, according to their prominence or to the judgment of the observer. Sometimes they are regarded as both cause and effect. This is well illustrated, I consider, in the grouping adopted by Eichhorst and since generally accepted. Eichhorst grouped his cases (91 in number) etiologically under two headings: 1. "Secondary" pernicious anæmia (67 in number) caused by (1) pregnancy and childbirth, 29; (2) vomiting and diarrhœa, 24; (3) loss of blood and discharges, 7; and (4) unhealthy surroundings, 7. 2. "Primary" pernicious anæmia (24 in number) where no cause was discoverable. The impression which this grouping naturally conveys is that in only 24 out of 91 cases were diarrhœa and vomiting of such a prominence as to excite attention or be regarded as causes. Nevertheless, on examination of the records of the remaining 43 cases of Group 1 assigned to other "causes," I find that either vomiting or diarrhœa, or both, sometimes uncontrollable in degree or other gastro-intestinal disturbances, were prominent features in no fewer than 34 cases—just as prominent, indeed, as the special condition selected to be the "cause." In other words, a total of 58 cases out of 67 (86 per cent.) might have been as reasonably assigned to gastro-intestinal disturbance as to other "causes." And even with regard to the 24 cases of Group 2 which he regarded as "primary," I find digestive troubles, diarrhœa, and vomiting, sometimes very marked in degree, in no fewer than 16 cases (67 per cent.). These facts appear to me to be interesting—not that in my judgment they point to gastro-intestinal disturbance any more than to pregnancy or the other stated conditions as the "cause" of the disease, but that they denote the unsatisfactory character of our present knowledge of the real "etiology" of the disease. When it comes to be a mere question of degree, whether a condition is considered to be a cause or a mere symptom of one and the same disease, it is obvious that knowledge is unsatisfactory. My own conclusion I have already stated—viz., that in all cases these gastro-intestinal disturbances, however slight or however prominent, are of the same character as the blood changes—viz., effects of the disease underlying the anæmia. The whole question of the etiology of the disease, in my judgment, is thus, so far as these above factors are concerned, a completely open one.

The infective nature of the disease: the source of infection.—The facts above recorded appear to me to denote the *infective*, as distinguished from the *general*, nature of the disease. Moreover, they denote the infection to be a *local*, not a *generalised*, one. It is confined to the alimentary tract, its chief seat being the stomach; no part of the alimentary tract from the mouth to the anus, however, being safe from it.

---

[1] A Study of 50 Cases of Pernicious Anæmia. Boston Medical and Surgical Journal, 1896, pp. 104-107.

Further, in certain of the foregoing cases the first site, or one of the first sites of infection has apparently been the mouth, general discomfort or soreness or tenderness of the mouth having been complained of either before the anæmia declared itself, or "at the same time" as the anæmia. There remains, then, the question whence the infection has sprung in the first instance—from without, or from within the mouth? In this relation the cases divide themselves into two groups—two cases in which there was a most definite history of exposure to sewer gas or drain influences (Cases 1 and 8); five cases in which no such history could on very careful inquiry on the point be traced. This failure to trace any source of outside infection need not necessarily denote that no such infection had occurred; for such failure is common at times with regard to nearly all infective diseases So clear is the history of exposure in the two cases mentioned, that in the absence of any other facts I should be disposed to regard the others as having possibly arisen in some similar although unrecognised way. But both in these two cases, and in the other five, there was the condition observed of either antecedent or coexisting marked dental cario necrosis—in most of the cases to such a degree as to amount to "neglect," the teeth being very carious in whole or in part. In the light of what I have described with regard to the infective nature of such dental conditions, and the possible effects on the stomach which may ensue, the question thus raised is whether the "mixed" infection underlying the disease may not have taken origin itself within the mouth in connexion with the teeth Or, at least, whether the infection may not have found its first footing, so to speak, amidst the infective septic conditions prevailing around the diseased teeth. Either alternative is possible. The subsequent course of the infection is then determined by the relative amount of resistance offered by the mucosa of the mouth and stomach respectively. In the great majority of cases the mucosa of the latter is the first to be affected—in certain cases possibly the only part to be affected. But in certain cases direct infection of the mucosa of the tongue and of the mouth also takes place—if one may judge from the foregoing data (which, however, as I have said, are probably too low) in at least 10 per cent. of cases.

It will remain for future observations on a larger series of cases to determine more precisely the points I have raised—viz, (1) whether dental decay is only important in creating the catarrhal conditions of the mouth and the stomach favourable for the later special infection; or (2) whether the special infection may not, so to speak, be created around them in the first instance; or (3) whether direct infection of the stomach can occur from simple exposure to infection (drain smells) independent of any oral or dental trouble Whichever may prove to be true, the fact of importance clear to me is, that dental and oral conditions in this disease deserve more attention than any hitherto bestowed upon them. This persistent overlooking of dental conditions I can perhaps best illustrate by my own experience—viz, that while actually interested in conditions of glossitis and stomatitis in cases of pernicious anæmia, it was eight years before I began to note especially the condition of the teeth.

Nature of the infection —I have throughout spoken of the infection as a "special" one, most probably of a "mixed" character—i e., brought about by the joint action of two or more organisms That it is no ordinary one—due, for example, to the ordinary organisms of the mouth or of dental decay—is clear from (1) the rarity of the disease, (2) the remarkably hæmolytic action of its poisons, and (3) the occurrence of an ordinary infective gastritis without any of the blood changes of pernicious anæmia (Case 7). That it is of a "mixed" character appears to me probable from two classes of facts. 1. The abundant presence (as in Case 8) of organisms of coccal and short streptococcal nature, forming zooglœa-like masses amidst the catarrhal and inflammatory exudation contained in the vomit These organisms were obviously related to the anæmia, the salivation, and the vomiting, since by administration of salicylic acid the first was greatly ameliorated and the two latter were abolished; and yet they are not such as are peculiar to this disease, but resemble cocci present in the stomach in other diseases. Unfortunately to the first (and as it turned out the only) specimen of vomit which I obtained I added formalin to preserve it, so that no bacteriological examination was possible. 2. The disease, though very rare in incidence, is nevertheless common to all classes irrespectively of station, mode of life, food, previous health, or general surroundings. It must remain for future observations to determine the nature of the organisms concerned and their relative rôle.

As it happened, a few days before this paper was sent in I learnt from Professor Adami of Montreal of some interesting and suggestive observations recently made by himself and his fellow-workers, Dr. D. Anderson and Dr. Ford, and while this is passing through the press I have received (Jan. 31st) his paper[2] Their observations may prove of importance in this relation, suggesting as they do that possibly the colon bacillus may be concerned as a secondary factor in the gastric change They have examined bacteriologically the contents of the stomach in four cases of pernicious anæmia They found (1) a complete absence of hydrochloric acid, with the presence, however, of considerable quantities of lactic and some butyric acid; (2) an abundant presence of the colon bacillus; (3) in one case a modified form—diplococcoid form—of the colon bacillus within the walls of the stomach; and (4) the presence of the same forms in the liver cells—the bodies giving the iron reaction and constituting, indeed, according to Professor Adami, the granules hitherto regarded as pigment granules With this last-mentioned conclusion (one, I think, of a debateable character) we are not here specially concerned. The matter, however, is otherwise with the second observation as to the presence of the colon bacillus in the stomach and its possible relation to the disease. On this point Professor Adami is "very careful not to state that the colon bacillus is the primary or the essential cause of (either cirrhosis of the liver or) pernicious anæmia." Indeed, he says that it is "probably not. In either case there is some primary or underlying factor favouring its entrance into the economy." The relation, indeed, is one he describes by the term "sub infection"—"a condition in which as a consequence of chronic inflammatory disturbance in connexion with the gastro-intestinal tract there may for long periods pass in through the walls of the stomach or of the intestine a greater number of the ordinary bacteria inhabiting the tract, and while the bacteria undergo the normal and inevitable destruction by the cells of the lymph glands, the liver, the kidneys, and other organs, nevertheless the excessive action of these cells and the effect on them of the bacterial toxins liberated in the process of destruction may eventually lead to grave changes in these cells and in the organs of which they are part—changes of a chronic nature" For the action of the bacillus Professor Adami, it will be seen, predicates the existence, "in the first place of some chronic inflammatory condition of the mucous membrane of the upper gastro-intestinal tract, leading often to atrophy"—the very condition, in fact, which according to my observations is found, but which I regard as one of the concomitant effects of the special infection underlying the anæmia. It will remain for future observations to determine what are the relative rôles respectively of the colon bacillus infection described by Professor Adami and the coccal and streptococcal infection found by myself in producing the gastritis

IX.—DEFINITION OF THE DISEASE.

For reasons above indicated I consider the terms "secondary" and "primary" used in connexion with the disease to be no longer fitly applicable To say that the disease is secondary to diarrhœa is just as correct, in my judgment, as to say that typhoid fever is secondary to the diarrhœa which attends it; for in both diseases the relation of the diarrhœa is the same. Hitherto the feature of the disease to arrest chief attention has naturally been the *anæmia*, the progressive blood change; and all other symptoms have been studied in relation to this The disease has been regarded as an anæmia complicated from time to time by other disturbances, digestive, nervous, circulatory, &c. The result has been to obscure some of the chief characters of the disease, and certainly to hide much of their proper relation to each other For the future it will conduce more to throw light on the disease if it be studied as an *infective disease characterised by anæmia* with *definite local and general* effects, than if viewed as an anæmia occasionally complicated with such effects.

---

[2] On Latent Infection and Sub-infection and on the Etiology of Hæmochromatosis and Pernicious Anæmia. The annual address before the Society of Internal Medicine, Chicago, Nov 29th, 1899. Journal of the American Medical Association, Dec. 23rd, 1899

Definition of the disease.—The definition I formulate for the disease is, then, the following. Pernicious anæmia, a chronic infective disease localised to the alimentary tract; *caused by* a definite infection of certain parts of the mucosa of the alimentary tract, chiefly of the stomach, occasionally also of the mouth and of the intestine. It is characterised by (1) intermittent destruction of blood and increasing anæmia (and all the other pathological and clinical changes consecutive to these—e g., anæmia, lemon colour, urobilinuria, hæmorrhages, dyspnœa, palpitation, œdema), as the result of the absorption of poisons into the blood; (2) periodic disturbance of the alimentary tract, chiefly of the stomach and the intestine, as local effects of the infection on the alimentary canal; and (3) occasional "toxæmic" attacks characterised by fever, sweatings, general nervous symptoms; not infrequently by effects—e g., numbness, tingling, ataxia, absence of reflexes—denoting deeper nervous changes, such as peripheral neuritis, sclerosis of the cord.

X.—TREATMENT.

The foregoing conclusions suggest certain additional considerations with regard to treatment. In my former paper the indications for treatment I considered to be two—(1) to remove the cause, with the attendant gastro-intestinal conditions favouring its operation; and (2) to combat the individual symptoms. With regard to the first indication it appears to me possible, with additional knowledge gained from the preceding observations, to fulfil this indication much more fully than has hitherto been the case, and that in two directions—first, with regard to the prevention and the removal of the cause, and, secondly, with regard to the conditions favouring its operation.

The prevention and removal of the cause.—The result of the foregoing observations has been to locate this infection underlying the disease definitely to the stomach, and to trace its source either to infection from without, or to the mouth itself.

1. *The hygiene of the teeth and mouth.*—I consider it, then, all-important in all cases of commencing anæmia that special attention should be directed to the condition of the teeth; and that even more than ordinary care should be taken with regard to their health, by removal not only of old stumps, but also of all black teeth and of teeth showing commencing cario-necrosis. Moreover, I consider these precautionary measures necessary, irrespectively of any statements made by the patient as to the degree of discomfort which his teeth are causing. As a matter of fact, in no single case above recorded, however bad I found the teeth to be, was my attention drawn to the teeth by the patient, or was any complaint made of them by him. Discomfort and pain in the teeth are the results of local inflammatory reaction—periostitis and gingivitis; and to a certain extent they denote relatively healthy conditions, inasmuch as they denote that the local tissues still have the power to react more or less actively to irritation. There is a stage, however, in pyogenic conditions, as, indeed, in other forms of infections, when local reaction is absent, or at most insignificant, at the very time when the general septic effects are most marked. The hygiene of the mouth deserves, therefore, in this disease the most scrupulous attention, irrespectively of the statements or opinions of the patient. Absence of local pain and discomfort in the teeth are no criterion, then, in my judgment, of absence of general septic effects (if their condition be recognisably bad).

2. *Local treatment of the stomach.*—As I have shown, whatever may be the source of the infection, its chief seat is invariably the stomach; and the first effect of the infection is an infective catarrh, followed later by deeper-seated changes of the nature of glandular atrophy and gastritis. The indications here are to remove or to combat this catarrh. This may be done either by *washing out the stomach*, as suggested by Sandoz, on the view that many of the symptoms of the disease are due to abnormal fermentation of food products within the stomach; or, still better as I conceive, by *administering local antiseptics* to diminish or to destroy the infection underlying the catarrh. In my former paper I suggested the use of intestinal antiseptics to combat the intestinal condition. The gastric conditions appeared then to be of a too deep-seated character to be affected by such local measures as washing out the stomach; nevertheless, it was one which I conceived might be adopted with advantage in the earlier stages of the disease at least. In the light of the present observations showing the active infective nature of the catarrh, I am more than ever of this view; but the advantages to be got are necessarily limited. We are not likely to remove an infection of the gastric mucosa by washing out the stomach, any more than we can hope to cure a stomatitis or glossitis by rinsing the mouth. In the case (Case 8) in which there was such salivation and gastrorrhœa I had it in mind to try washing out the stomach; but before doing so I determined to try the effect of the other line of treatment—the use of local antiseptics. The result to me was surprising. The antiseptic I used was the one that had proved so successful in Case 7 against ordinary infective gastritis—viz., salicylic acid. I selected this drug on general grounds as the antiseptic which appeared to me at once the most powerful and the least harmful, and the result was eminently satisfactory. Improvement was noticeable on the first day; salivation and sickness ceased from about the fourth or fifth day; and there was a remarkable improvement in the blood condition in two weeks' time as I have described. There are many other antiseptics of the same character which may prove to be equally beneficial. The one which I have been in the habit of using constantly is salicylate of bismuth, and with it also I have hardly ever failed to get some improvement, although never so marked as with salicylic acid.

3. *Local treatment of the intestine.*—In the cases where the symptoms point to intestinal rather than to gastric irritation a similar treatment should be adopted—use of intestinal antiseptics, as I before recommended—e g., salol, naphthol, calomel, or mercuric chloride (Case 2). In cases where the symptoms point to the colon or the rectum this may be supplemented, as I now recommend, by enemata containing salicylic acid.

4 *Medicinal treatment.*—These measures should not replace but should supplement the use of arsenic as heretofore, the great value of this drug, first used by Dr. Byrom Bramwell, being now fully established.

5. *Serum treatment.*—It is obvious, however, that if once the infection gets firmly rooted in the mucosa, mere local antiseptic treatment—however much it may benefit by diminishing or removing catarrh and thus arresting the disease temporarily—may fail to arrest it permanently, even when aided, as when possible it ought to be, by the use of arsenic. The only indication for treatment, then, is to combat the action of the poison on the blood after its absorption. To this end I propose in future to give a sustained and systematic trial to a serum treatment based on the results above stated. There are few diseases, if, indeed, any disease, in which we have such evidence of a local action on the blood as that which we possess in the case of pernicious anæmia. The chief ill effects of the disease are due to the progressive blood destruction, and its consequent anæmia. If we could eliminate this local action on the blood, or counteract it, the disease as a disease would lose its characters. Its infection would be interesting as a cause of stomatitis, of gastritis, of possibly some form of enteritis, with their attendant symptoms, but it would not cause the anæmia which it now does. I propose, then, to try the effect of systematic serum treatment. The nature of the serum I shall reserve for later investigations accurately to determine. For the present I propose to try the effect of antistreptococcic serum, inasmuch as my observations point to pyogenic organisms as always at least part agents in the infection. In suggesting this treatment I desire to emphasise that its trial is based, not on any hypothetical considerations as to the nature of the anæmia, but on a series of observations, extending now over 15 years, which slowly, step by step, have served to trace the anæmia back to an infection arising in connexion with the alimentary canal. I have purposely refrained from suggesting such treatment, or from trying it, till I was in possession of facts which appeared to me conclusive as to the infective nature of the disease, and till I had definitely formulated, as I have now done, the grounds of my conclusions.

APPENDIX.—CASES.

CASE 1.—In this case of pernicious anæmia there was a history of "gastritis" six years before. The origin of the illness was referred to an exposure to insanitary conditions, accompanied at the time by irritable sores under the tongue. The teeth were loose and the gums were spongy. Retching and vomiting, which at first prevailed, were subsequently absent. There were well-marked febrile attacks, with perspirations and urobilinuria. The duration of illness was three years. Post mortem there was well-marked chronic and subacute gastritis[8] The patient was a man, aged 59 years, who was seen in June, 1888 The health of the patient had previously been good except that in 1883 he was under treatment for a short time for some gastric affection termed "gastritis" (The patient was seen by Sir George Paget) The present illness dated from 1886 During a holiday he had been exposed for a time to unhealthy sanitary conditions and had suffered at the time from sore throat and diarrhœa From that time onward he never regained his former health, but continued to suffer at times from an inflammatory condition of the throat and tongue and gradual failure of strength Late in 1887 he sought medical advice In January, 1888, the anæmia was already very marked (red corpuscles 870,000), and at times there were retching and vomiting, especially in the morning; congestion of the throat and certain pale red spots on the tongue were also present (The patient was seen by Sir T Lauder Brunton) He was first seen by me in June, 1888 Considerable recovery had taken place There was great weakness but no emaciation, profound pallor but no trace of lemon tint or of jaundice The condition of the tongue troubled him much There was great tenderness especially when hot or stimulating food or drinks of any kind were taken The organ was extremely raw and flabby, deeply indented by the teeth, red and fiery in appearance, with here and there scattered inflamed patches Its mucosa was smooth as if devoid of papillæ There was inflammatory redness over the anterior pillars of the fauces There was no uneasiness or tenderness or other symptoms connected with the stomach itself The red corpuscles of the blood numbered 3,200,000, hæmoglobin, 56 per cent The improvement was maintained till August, 1888 Then there was increasing weakness till the patient was confined to bed in December On March 9th, 1889, he was again seen by me There was extreme pallor with slight lemon colour but no fever The pulse was 108, soft and regular The weakness was very great, the patient being unable even to sit up for any time The appetite was very poor, there was no desire for food and much discomfort in taking it, especially if the food was hot or stimulating The gums were very spongy and some of the teeth were loose The tongue was much the same as before but not quite so raw looking It presented a more atrophied appearance, the mucous membrane was smooth and free from papillæ At the parts over the dorsum and along the edges were patches of more fiery redness, some under the tip of the tongue showing small inflamed vesicles full of serum. The whole tongue was tender and mastication was difficult In connexion with the stomach there was no acidity or uneasiness after food The bowels were irregular, at times there was looseness, especially at nights, alternating with constipation While the former condition weakened him the latter occasioned even more discomfort He always felt very uneasy when the bowels were not moved daily Of red corpuscles in the blood there were 1,730 000 (34 per cent), hæmoglobin 30 per cent As regards the nervous system there were sleeplessness at night and occasional and somewhat profuse perspirations, especially in the early morning; the latter were usually connected with the looseness of the bowels at such times The subsequent history of the case was as follows On March 10th astringent lotions for the mouth were used and a diet of milk and farinaceous food was ordered Two minim doses of liquor arsenicalis were ordered in addition to the iron which the patient was already taking On March 20th there was improvement The tongue had lost its angry red appearance, it was much paler, the inflamed patches were less marked, and the vesicles had disappeared From this time onward till the death of the patient on May 22nd the tongue gave him no further trouble, its condition being better than at any time during the previous one and a half years It always presented a smooth, flabby appearance, but the tenderness on eating had been entirely lost, instead of it being a painful effort to take even bland food he could take all kinds of food and even condiments without the slightest discomfort The periodic "toxæmic" attacks were without any recognisable exciting cause, and were always marked by certain features Thus, two days previously to the seizure of March 22nd more lemon tint than usual was noticed and the urine was more highly coloured On the night of the 21st the patient had been disturbed by perspiration, but feeling better on the morning of the 22nd he took his breakfast as usual Shortly afterwards he was seized with a feeling of intense weakness and with drowsiness so marked that at the time of my visit he lay as if partially narcotised, answering questions slowly and languidly (his natural disposition was lively and excitable); there was a ghastly lemon hue, the pulse was rapid, the temperature was 99 4° F, and the pupils were contracted The drowsiness continued till late in the afternoon, gradually passing off During the night there were several free motions of very dark colour and the urine on the next day was of a remarkably high colour There occurred similar attacks from time to time—April 13th, 17th, and 24th. On the day following such an attack the patient always expressed himself as relieved, although it always left him much weaker No ground was regained after the attack on April 24th Death took place on May 22nd. Post mortem there were characteristic pigment changes in the liver and the kidneys The walls of the stomach were very thin and wasted, but there was no trace of malignant disease The lymph glands in the smaller curvature were enlarged, soft, and pinkish, the largest of them being five centimetres in diameter The stomach was empty, its mucosa was covered with a thin layer of mucus, and it was bile-stained near the pylorus The mucous membrane was very thin, presenting no obvious morbid change Microscopically there were well marked changes in the mucous and submucous coats of the cardiac end, atrophy of the gastric glands, and an increase of fibrous tissue At others the glands were still seen to be surrounded by foci of granulation tissue Around these inflammatory foci bloodvessels dilated extending in from the submucosa. The submucous coat was greatly thickened as the result of chronic inflammation, its thickened vessels in parts showing subacute inflammatory changes There were no inflammatory changes at the pyloric end In the intestine there was nothing abnormal

CASE 2 —The origin of illness in this case of pernicious anæmia was referred to the use of a new tooth plate Sickness, looseness of the bowels, toxæmic attacks, and nervous symptoms were the presenting conditions The illness lasted for four and a half years The patient, a man, aged 42 years, was sent to me by Dr R Honeyburne of Idle, Bradford, with the following graphic history of the case "He began to look paler nearly four years ago and consulted me then He dates his illness himself from a new set of upper teeth fixed in a gold plate which tarnished and tasted 'like pennies' from the first day he wore them, until by my advice they were removed and a vulcanite plate substituted In addition to a general feeling of ill health one of the first symptoms he complained of was a sensation of numbness and tingling in his hands and feet He became progressively more and more anæmic, lost his knee jerk, developed hæmic murmurs, vomited his food, and certain of his muscles (deltoids and extensors of the thigh) wasted markedly There was no wrist drop By this time his pallor was most marked, his skin having a yellowish tinge, his pulse got quicker and weaker till he lay in bed œdematous nearly all over (on the chest, back, legs, backs of hands, face, &c), he was delirious, vomiting nearly everything, his blood being pale and on examination containing very few perfectly formed cells and a mass of granular débris—in short, he got so bad that I did not think he could live another week All this time he had been taking large quantities of iron and latterly arsenic An addition of one twenty fourth of a grain of corrosive sublimate was now added to his medicine (five minims of liquor arsenicalis every four hours) and his improvement under it (or at any rate after it) was marvellous The vomiting stopped, the œdema subsided, and he began to gain colour In about three months he was quite well again with the exception of the wasted muscles which still remained stiff and made his gait somewhat awkward They in about six months more had also recovered except the knee jerk At this time looking back on the case I thought it one of lead poisoning though Dr J E Eddison of Leeds then leaned to the view that it was a cured case of pernicious anæmia The patient remained well for two years, then he had an attack of melancholia, which soon passed off, leaving him again quite well (better in health than he had ever felt before, so he says) There was no anæmia This state of well being lasted for about six months when small pox being prevalent I vaccinated him This occurred last October (1893), and from that date he gradually declined in health until about Christmas, when his anæmia was well marked and he began to take his former chloride and arsenic He immediately so until he had an attack which looked like influenza, but may have been one of the febrile attacks common to the disease, since which time he has remained nearly stationary in spite of the medicine he has been taking regularly, with the exception of a short time when we were obliged to remit it because of an attack of arsenic poisoning—scaly eczema on the backs of the wrists and elbows, with marked bronzing of the skin in other parts. I think that is about all I have to tell you concerning his history. If there is anything else you want to know he will be able to give you an intelligent account of it himself. With regard to my theory of lead-poisoning I must say that I was never able to find any possible means of lead ingestion except the doubtful one of the tooth-plate; also, about the vaccination origin of the relapse, it occurred exactly in point of time, but I never heard of such an origin of pernicious anæmia. Still, it is a disease of which we have much to learn." The family history of the patient was good and his own previous health had been good. The present illness dated from four years previously to my seeing him (May, 1894) He had changed his tooth-plate in May and had suffered from acidity and a pricking feeling in the hands; in December he began to get weak. In January, 1891, he had to take to his bed for six weeks, with great weakness, swelling of the hands, sickness, and constipation. He was "unconscious for a week." He woke up suddenly conscious and asked for a glass of beer. He could eat anything and he got well and in June was going about; there was, however, stiffness in the legs and the muscles were wasted. He remained well till early in 1893, when he had business worry, not a great one, but it seemed to "knock all the nerve" out of him. He went away for three weeks and came back better. During that summer (1893) he had never had such good health. His usual weight was 13 st. 6 lb.; it then rose to 13 st. 12 lb., now in May, 1894, it was 11 st. 6 lb. In December, 1893, came the small-pox scare. He got frightened and was vaccinated. Two weeks later he had sickness and he suffered from biliousness. After being three weeks under treatment he again got well, or seemed to do so. In January, 1894, he had a sudden fit of chilliness—a rigor. The temperature was 102° F. The patient, who was ill for two days, got well from this, but he "hung fire" ever since. In May, 1894, he was sallow, lemon-coloured, very weak, and breathless. He complained of numbness and tingling of the legs, and there was marked bronzing of the skin over the back and in patches on the legs. The knee-jerks were absent. He suffered a good deal from sickness, which came on irregularly morning, afternoon, and evening, and was sometimes bilious in character. The bowels had been very free, acting two or three times daily up to a week previously to the time of my seeing him. There was no pain or loss of blood. The red corpuscles in the blood numbered 1,800,000 (36 per cent.) with poikilocytosis; hæmoglobin, 38 per cent. The patient died in December, 1894, after an illness of four and a half years' duration.

---

[8] rit Med Jour, vol i., 1891

CASE 3—This was a case of pernicious anæmia of indefinite origin. There were febrile attacks, sickness, and biliousness, and the tongue was raw and tender, "like raw beef." The duration of the illness was two years. The patient, who was seen on Oct. 10th, 1895, was sent to me by Mr. Corner of Poplar His previous health had been good. Two years before (1893) he had suffered from "influenza." A year later (1894) he had had another attack. He did not suffer from indigestion before his first influenzal attack in 1893. After that he constantly complained of a faint and weak-feeling stomach. Since then there had been loss of appetite for both food and drink. From Christmas (1894) to May (1895) there was improvement, when he went back to work, at which he continued till the middle of August. He was still, however, very weak, as he noted as a mark of improvement that he could walk a mile or so. His appetite at this time was fair. On Sept. 7th he was seized with a chill and with shiverings. The temperature was 104° F. On the next day the temperature was normal. He picked up a little and went to business, but grew feebler day by day. He felt sick and fainted at times. On Oct. 10th, 1895, his condition was extremely anæmic, the lemon hue was noticeable, and there was slight conjunctival jaundice. He had lost 1½ st. in weight in the last 12 months. There was sickness occasionally, usually after eating. The stomach was slightly dilated; there was no tenderness but some flatulence. The bowels during the past year had been regular; formerly they were constipated. There was no pain or discomfort in, or loss of blood from, them. The rectum was normal. Between October, 1894, and May, 1895, the tongue was raw and tender "like raw liver," causing him great pain. He had bad teeth, but they caused him very little pain. He was scarcely ever known to have toothache, but now and again he suffered from neuralgia. Latterly he would discover that a tooth was loose and could be drawn out without the slightest force or trouble. He never wore false teeth or a tooth-plate of any kind. The red blood corpuscles numbered 1,860,000 (37 per cent.), with slight poikilocytosis; hæmoglobin, 54 per cent. There were no retinal hæmorrhages. There was a sensation of numbness and tingling in the fingers. The patient died in January, 1896. Mr. Corner reported that "he had acute relapses of fever, with disturbances of liver, &c., and increased failure of heart." From when I saw him up to the time of his death he suffered from sickness and vomiting. During the last month or two of his illness the faint and weak feeling in his stomach he described as agony.

CASE 4.—In this case of pernicious anæmia there were nervous symptoms, the teeth were all decayed and black, and there was diarrhœa but no sickness. The illness lasted for two and a half years. The patient was a man, aged 56 years, whom I saw with Dr. Aldren Turner on Jan. 24th, 1896. There was a history of increasing weakness with intermittent periods of betterment for the previous two and a half years, the weakness specially marked during the last three months. The patient had come under Dr. Turner's care on account of nervous symptoms, ataxia, numbness and paræsthesia, and loss of knee-jerks, but there was no loss of flesh. He had formerly been a very active, athletic man. When seen he was slightly built and appeared to be very anæmic and slightly lemon-coloured. The tongue was soft, clean, moist, and not indented. The teeth were very bad, all decayed; they formed a lot of black decayed fangs and crowns. The stomach was dilated and there were splashing sounds; the abdomen generally was flatulently distended and full. Flatulence was present but there was no sickness. The bowels were loose, acting five or six times daily, and the stools were very offensive. There was no malignant disease in the rectum. The blood was exceedingly pale; the red corpuscles, which numbered 760,000 (15 per cent.), were small and misshapen and there was much granular débris; hæmoglobin, 18 per cent. Systolic bruits were heard in the heart. There was some œdema of the ankles. The pulse was 84, of fair strength, and regular (the patient had been taking digitalis). He was extremely excitable, talking almost incessantly, and was very difficult to manage. The colour of the urine was normal; there was no albumin. The spleen was not enlarged. By way of treatment as much milk as possible was given, five grains of salicylate of bismuth with five grains of salol were administered every four hours, five minims of liquor arsenicalis thrice daily, and calomel at night for three nights. On Feb. 3rd (ten days later) I learnt that he had been better since my former visit, but had been very weak for the last two days, with weak, intermittent, and irregular pulse. He had been very excitable, seeing visitors, altering his will, and constantly talking. He had become hoarse. His colour was better and his fingers were warmer. The abdomen was much less distended and was soft; there was no splashing. In that respect the patient had felt much better. The tongue was clean and moist. The bowels were still loose and had acted three times during the night; the stools were no longer offensive and they were not so coloured (they were black before but now they were of the colour of the yolk of an egg) The pulse was 84, soft, and regular. The blood showed notable difference in colour. Red corpuscles, 1,250,000 (25 per cent.); hæmoglobin 40 per cent.; there was no granular débris. The hoarseness formed the prelude to an attack of bronchitis from which the patient died a week later.

CASE 5—This was a case of pernicious anæmia of ill-defined origin. There was hæmorrhoidal loss of blood but there were no gastric symptoms. The teeth were necrosed. The duration of the illness was two years and eight months. In company with Dr Rowland Coombs of Bedford I saw the patient, a man, aged 51 years, on Feb. 8th, 1896. He was a healthy man who had never suffered from any severe illness till the present one. There had been increasing weakness for the last 12 months, especially for the last four months, and for the last week he had been confined to bed. He was very pale, with slight lemon colour of the skin and slight conjunctival jaundice. He had never suffered from indigestion, sickness, or vomiting, and was free from them now. At most there was only a slight degree of flatulence. The tongue was clean, but not especially smooth, and there was nothing abnormal. There were two or three exceedingly bad, black, rotten stumps of teeth in the lower jaw. The bowels were regular and there was no diarrhœa. The weakness was greatest, almost to faintness, when the bowels were moved. He had suffered a little from piles, which used to bleed, two or three years previously but not at this time. There was no trace of malignant diseases in the rectum. The abdomen appeared somewhat full and there was considerable distension of the colon, especially of the transverse colon, but nothing abnormal was felt. In the liver and spleen the dulness was normal. In the heart loud bruits were heard. The urine was dark; an urobilin band could be detected. In the blood the hæmocytes numbered 1,230,000 (24 per cent.), with poikilocytosis; leucocytes, 4000 (1·307); hæmoglobin, 40 per cent. On May 8th, 1896, the following note was made by Dr. Coombs: "I think him much better. Looks better. His anæmia and breathlessness on exertion much improved. He still complains of rectal trouble, due wholly, I think, to hæmorrhoids. After a time I intend to propose to excise them, as the little loss of blood he suffers may be ill afforded in his case." A later note stated: "He has taken on a part of his work again and apparently without hurt." The patient died in December, 1897.

CASE 6.—This was a case of pernicious anæmia in which there was a history of chronic indigestion, very bad teeth, and diarrhœa. The illness lasted for nine months. The patient, a man, aged 52 years, was seen by Dr. A. H. W. Clemow of South Kensington and myself on Jan. 31st, 1898. He had suffered from anæmia six months previously and after getting better had experienced a relapse three weeks before we saw him. He had always been healthy but had suffered from indigestion, poor appetite, and a "bad cook." He was thin, spare, very anæmic, and of a light lemon tint. The tongue was clean but flabby. The teeth were very bad, all covered with tartar and sordes. Of three of the upper molars only the roots were left and one of these was loose and could be pulled out with the finger. Digestion was very feeble. The bowels were loose irregularly, and the breath was bad. The abdomen was sunken; there were no pains or tumour in the epigastrium. In the liver and spleen the dulness was normal. The urine was dark in colour with urates but no albumin. The red corpuscles in the blood numbered 1,390,000 (27 per cent.); hæmoglobin, 34 per cent.; there was poikilocytosis; there was no increase of leucocytes but an increase of granular material. The patient died on Feb. 12th, 1898. The following note was made by Dr. Clemow: "In the earlier attack of anæmia I find he had no sickness, but there was irregularity of the bowels with diarrhœa at times. When I first saw him his temperature was raised about a degree and pulse rapid, 112. Under iron these symptoms gradually subsided, but I had made a diagnosis of probable pernicious anæmia. During the last week of his illness everything he took into the stomach caused considerable pain."

CASE 8.—This was a case of pernicious anæmia in which the origin of the illness was referred to exposure to sewer-gas. The teeth were decayed and there were sores in the mouth. Intense gastrorrhœa was present with sickness and vomiting. Microscopical examination of the vomit pointed to intense mycotic catarrh. Dr Aldren Turner and I saw the patient, a man aged 53 years, on April 21st, 1899. He had been well till June, 1898, when for several weeks he was much exposed to sewer-gas during his occupation as a builder. It appeared that close to the window of an office where he worked there was a cesspool the smell from which was so bad that it often made him sick. He had lost flesh, but not much. By October he was too ill to work and was noticed to be very pale; he suffered from retching, vomiting, and pain after food. This continued. His complaint was thought to be cancer. He saw a physician, who put him upon a milk diet for a week or ten days and then on ordinary diet, but there was no improvement. When the patient was seen by Dr. Turner on April 11th, 1899, the chief symptoms were constant retching with salivation and flow of watery mucus from the mouth and periodical daily vomiting of still large quantities. The red corpuscles in the blood numbered 1,600,000 (32 per cent.); hæmoglobin, 28 per cent. No malignant disease was discoverable in the stomach or in the rectum. On April 21st the patient was very anæmic and he presented the lemon-coloured appearance. The pulse was 90 and the temperature remained steadily between 99° and 100°. There were hæmic murmurs. The red corpuscles numbered 1,290,000 (25 per cent.) with marked poikilocytosis; hæmoglobin 24 per cent. There were constant salivation and the bringing up of large quantities of watery mucus (pints daily), and during the periodical sickness of the patient still larger quantities were vomited. The stomach was dilated, but there was no splashing. The patient suffered from no pain, but from time to time he experienced a feeling of great discomfort with nausea which was relieved by vomiting large quantities of mucus, after which he felt easier and was usually hungry. Meats disagreed with him and gave him pain. The upper teeth were absent, except one in front which was dark, decayed, and loose in the socket. Several molars and bicuspids were absent in the lower jaw. The patient had worn tooth-plates for the last two years; previously the teeth had been in a bad condition. When the illness began in June, 1898, he had some sort of painful sores in the mouth under the tongue which were not connected with the teeth. His own description was that his illness seemed somehow or other connected with this—"it seemed to spread right down into the stomach and right through him." The liver and spleen dulness was normal. The specimen of the vomit which was obtained for microscopical examination was fluid with rusty flakes. There was alkaline reaction. The flakes were found to consist of mucus with catarrhal cells in great number, the whole being loaded with cocci, both within the catarrhal cells and in zooglœa-like masses. No yeast fungi were found to exist. A diagnosis of pernicious anæmia with subacute infective catarrh of the stomach ("mycotic catarrh") was made. The treatment consisted of the administration of from three to four pints of peptonised milk daily, liq. bismuthi sedativa (Schacht) with salicylic acid (three grains) thrice daily, mustard leaves over the stomach at night, and two grains of calomel at night. On April 28th Dr. Turner reported: "Under new treatment (commenced on Friday) improvement noticeable on Monday; since then steady and marked. Amount of fluid brought up much diminished; no vomiting since Tuesday; patient has lost sense of discomfort about stomach he has had for months; likes the milk. Improvement in colour very marked. Blood: red corpuscles, 1,600,000 (32 per cent.); hæmoglobin 40 per cent." On May 5th the patient was again seen by me. There was very marked improvement All of the stomach symptoms had gone and there was no further expectoration or vomiting, but I was unable to get any stomach material for another examination. In the blood the red corpuscles numbered 2,200,000 (44 per cent.); hæmoglobin, 46 per cent. The patient left for home three days later. The subsequent history of the case, for which I am indebted to the medical attendant (Mr. R. O. Kirkby), was as follows: "The vomiting and constipation improved steadily after he returned home, but the blood condition fluctuated, the highest count being about 3,000,000 red corpuscles. He developed acute epididymitis and orchitis in September while I was away for my holiday. This was followed by cystitis and albuminuria, the albumin being in excess of the amount attributable to pus. Œdema of the feet and legs followed and congestion of the bases of the lungs The urine became clearer during the administration of urotropine, but the patient had some attacks of syncope and gradually faded out on Dec. 3rd, 1899. The vomiting recurred three or four times after he returned home, but the intervals between the attacks increased and the matter vomited latterly was merely bile-stained milk. Salivation occurred when he had stomatitis. The latter was always a bother. The mouth was always clammy and uncomfortable. Diarrhœa occurred several times during the illness, the bowels being opened four or five times in the 24 hours, but usually the motions were formed, sometimes scybalous and coated with mucus; occasionally there were streaks of blood."

Harley-street, W.

BRISTOL DRAINAGE SCHEME.—Last week a poll was taken of the owners and ratepayers of Bristol on the proposal to promote a Main Drainage Bill, and by a majority of over 10,000 the proposal was rejected.

BARNSTAPLE AND NORTH DEVON DISPENSARY.—The sixty-eighth annual meeting of this institution was held on Feb. 1st. The report showed an increase in the number of patients treated. The financial statement showed that the funded stock was now £5768.

PROGNOSIS IN APPENDICITIS, WITH AN ILLUSTRATIVE SERIES OF 200 CASES.[1]

BY H. A. CALEY, M.D., M.R.C.P. LOND.,
PHYSICIAN IN CHARGE OF OUT-PATIENTS AND LECTURER ON MATERIA MEDICA AND THERAPEUTICS AT ST. MARY'S HOSPITAL.

DURING the last few years so much has been written and spoken about disease of the appendix that one hesitates to contribute another paper on such a well-worn theme. The subject of prognosis, more particularly the basis of prognosis in individual cases, is, however, by no means threshed out, and my object will be attained if the points now raised induce discussion as to the relative value of the available data. The discussion of questions of treatment is intentionally avoided, but a consideration of prognostic indications will serve indirectly to emphasise the essential importance of regarding "appendicitis" not as a defined entity, but as a group of conditions ranging from acute perforative appendicitis at one extreme to a mild perityphlitis at the other; and of recognising that careful differentiation is the only sure foundation of rational treatment—treatment based on the actual conditions present and not on routine lines—surgical or medical.

Any acute attack of appendicitis involves more or less immediate risk to life during the attack, and there is the well-known liability to recurrence at a subsequent period, so that the subject of prognosis may be considered in two sections: (1) prognosis as to recovery from the attack, and (2) prognosis as to subsequent recurrence.

I.—PROGNOSIS AS TO RECOVERY.

General statistics are in the case of affections of the appendix more than usually untrustworthy and are entirely valueless unless the survey is sufficiently wide to include all the forms of appendicitis, and unless care is taken to distinguish clearly between case-mortality and attack-mortality. The importance of including every type of case, mild or severe, is brought out in the series of 200 consecutive cases treated in the medical and surgical wards of St. Mary's Hospital which are here adduced to illustrate certain points. I desire to express my indebtedness to my colleagues, Dr. W. B. Cheadle, Dr D B. Lees, Dr. S Phillips, Mr. E. Owen, Mr. H W. Page, Mr. A. J. Pepper, Mr. A. Q. Silcock, Mr. J. E. Lane, and Mr. H. S. Collier for permission to include in the series cases under their care, many of which I have had opportunities of examining from this point of view. It must be clearly understood that any statistics here given are intended solely to illustrate certain points and are not to be regarded as in themselves a basis for deduction.

Ninety-eight cases were treated throughout in the medical wards with three deaths, and 102 were treated in the surgical wards with 22 deaths, a certain proportion of the surgical cases having been transferred from the medical side. The low mortality of the medical series is attributable to the large proportion of cases of simple perityphlitis (appendicitis with local non-suppurative peritonitis), just as the higher mortality of the surgical series is due to the large proportion of cases with general peritonitis which was present in 20 out of 25 fatal cases. When the two sets are grouped together we have a more representative series showing an aggregate mortality of 25 in 200 cases, or 12½ per cent—a figure which bears a general correspondence with the 14 per cent given by Mr. F. Treves as an approximate average for hospital cases. It is certain that hospital statistics give an exaggerated idea of the tendency to a fatal termination for the reason that many of the milder cases are not sent to hospitals, while the more severe forms with general peritonitis gravitate there, as the hospital surgeon who is called upon to operate on practically hopeless "too late" cases knows so well. Mr. Treves considers that if a large series, including both hospital and private cases, were taken together the mortality would be nearer 5 per cent. than 10 per cent.

Of much greater importance, however, than percentage mortality in the aggregate is the rate of mortality in the several types—a point emphasised by Dr H. P. Hawkins in his instructive series of 264 cases from the records of St. Thomas's Hospital. The necessity for careful differentiation lies at the very root of accurate diagnosis and therefore of prognosis; and any classification, if it is to illustrate these points, must be based upon the relationship between the lesion of the appendix and any resulting peritoneal or other infection, and not upon the pathological features of the lesion of the appendix by itself. In the following table the cases are grouped into five classes.

Class		Recovered	Died.
1	Simple appendicitis and perityphlitis	99	
2	Appendicitis with localised suppuration (operation in 27 cases)	29	
3	Appendicitis with diffuse peritonitis (operation in 17 cases)	3	20
4	Chronic and relapsing appendicitis (operation in 37 cases)	42	—
5	Appendicitis with special complications	2	3
		175	25
		200	

Class 1, simple appendicitis and perityphlitis, comprises a minority of cases in which the inflammation is almost or entirely limited to the walls of the appendix and a larger number of cases in which, as the result of the appendicitis, there is simple perityphlitis—i e., localised non-suppurative peritonitis of an adhesive type.

Class 2 consists of cases in which the appendicitis has resulted in localised suppuration, usually intra-peritoneal, sometimes retro peritoneal.

Class 3 comprises all cases of appendicitis resulting in diffuse as distinct from localised peritoneal infection. The term "diffuse peritonitis" is employed rather than "general peritonitis," because not rarely the peritonitis is limited, or nearly limited, to the lower half of the abdominal cavity.

Class 4 is made up of chronic and relapsing forms. Any case in which three or more attacks occurred is included in this class The individual attacks of relapsing cases resemble those of Class 1, but from the pathological and prognostic standpoints they have definite differential features.

Class 5 is a small and diminishing group consisting of cases in which the chief danger arises from complications other than those directly connected with peritonitis or local abscess—e.g., intestinal obstruction, fæcal fistula, suppurative pylephlebitis with portal or general pyæmia, hepatic or subphrenic abscess, thrombosis of the iliac vein, pleurisy and pneumonia, parotitis, or secondary hæmorrhage.

In the 200 cases of my series there were two of acute intestinal obstruction, three of fæcal fistula (all of which did well), two of hepatic abscess, one of subphrenic abscess, one of parotitis, one of acute pulmonary œdema after operation, and one of pneumonia; but only those in which the special complications influenced their course are included in Class 5.

With these general observations we may now pass on to the consideration of the principles of prognosis in an individual case. Prognosis must ultimately depend upon the precise nature of the lesion, which, in fact, constitutes the pathological basis of prognosis. Corresponding with the morbid processes we have various clinical manifestations, and the latter, in so far as they afford indications of what is actually taking place, constitute the clinical basis of prognosis.

THE PATHOLOGICAL BASIS OF PROGNOSIS

There are two essential factors in the pathological basis of prognosis: 1. The nature and course of the lesion of the appendix regarded from the point of view of relative infectivity. 2 The extent and nature of any resulting peritoneal infection which depends for the most part on the actual condition of the appendix and in part also upon its position and relations and upon any special modifying conditions such as the presence of old adhesions. The most important direct prognostic factor is the peritoneal, and it may therefore be considered first.

1. *The extent and nature of the peritoneal infection*—It is well known that, given a case of appendicitis, the danger to life in a very large measure hinges upon the extent and nature of the peritoneal involvement or liability to involvement In the large majority of instances when the disease is fatal the cause of death is diffuse infection of the

---

[1] A paper read before a meeting of the Medical Society of London on Nov. 27th, 1899.

peritoneum resulting in septic peritonitis. Thus, in 20 out of 25 fatal cases in my series there was diffuse peritonitis, frequently associated with local collections of pus in the vicinity of the appendix. It will be noticed that in the present series of cases the mortality in those with diffuse peritonitis was approximately 87 per cent. Many of these patients were in a practically hopeless condition when they were admitted. Some no doubt might have been saved by early operation. It will not be appreciably beside the mark if we conclude that where there is diffuse peritonitis the mortality will range between 80 per cent. and 90 per cent.—a conclusion which forces into prominence the necessity for attempting to anticipate by early operation such widespread infection.

Next to diffuse septic peritonitis, and putting aside such rare and fatal complications as suppurative pylephlebitis or hepatic abscess, the most formidable condition is local suppuration. It is, however, in connexion with this group of cases that the modern treatment of appendicitis has produced the most conspicuous benefit. For example, in my series, out of 31 cases with strictly localised suppuration 29 recovered, and it so happened both of the fatal cases were obscure cases with secondary abscess of the liver, and in one with general pyæmia also. In two out of the 31 cases the abscess ruptured into the bowel and was thus evacuated. Turning to Class 1 we see that when the lesion is of a strictly localised and non-infective type the prognosis, so far as immediate risk to life is concerned, is highly favourable—in this series and in Dr. Hawkins's series uniformly so. Whilst, however, the immediate risk to life from a localised adhesive peritonitis is very slight there are dangers of a more remote kind. Adhesions may persist leading to intestinal obstruction, which was the cause of death in two of the cases in Class 5, or permanent structural changes may be started in the appendix which sooner or later give rise to recurrent attacks—usually, it is true, only slight attacks, but occasionally, owing to the supervention of intense infective inflammation, of a grave type. Of Class 4, composed of chronic and relapsing cases, it is only necessary to point out that the individual attacks were for the most part of a mild type and that of 38 cases in which the appendix was removed all the patients recovered except one, who was an elderly man suffering from chronic appendicitis. He died three days after the operation from acute pulmonary œdema. This case is included in Class 5 Such facts as these are sufficient to illustrate that so far as immediate risk to life is concerned one chief factor is the extent and nature of the peritoneal infection, whether localised or diffuse, suppurative or non-suppurative, of mild or severe degree of virulence.

2. *The nature and course of the appendix lesion*.—From the point of view of prognosis we may divide appendix lesions into severe forms and mild forms on the basis of relative infectivity. Some forms of appendicitis may be regarded as mildly infective, others as severely infective, the distinction depending in part upon gross anatomical changes and in part upon the virulence of the infective organisms contained therein. As to the latter we have no certain data available for purposes of prognosis; on the other hand, it is comparatively easy to gauge the relative severity of the anatomical lesions of the appendix. Severe lesions of the appendix are: (1) perforation, whether from concretion, ulceration or gangrene; (2) gangrene (whether from interference with blood supply or from intense infective inflammation); and (3) ulceration, due to specific infections—e.g., tuberculosis, typhoid fever, dysentery, or actinomycosis, the presence of concretions, or the result of intense inflammation. Perforation, gangrene, and ulceration are those which possess in the greatest degree the property of infectivity, but to these we must add two others; (4) concretion; and (5) suppuration within the appendix itself, which, though they may exist for a long time without causing trouble, are potentially severe lesions. These severe lesions produce a relatively intense infection so that the outcome is in the most grave cases diffuse septic peritonitis, and in the less grave but still severe cases local suppuration. For example, of 18 cases of diffuse peritonitis 12 cases were associated with perforation and six cases with gangrene, both perforation and gangrene being in many instances secondary to concretion, and 10 out of 31 cases of local abscess were proved to be due to perforation or gangrene; in many of the remainder there was strong reason to suspect perforation. Mild lesions of the appendix are: (1) "simple" inflammation (catarrhal, or more correctly "parietal," appendicitis), acute or chronic; (2) stenosis or obliteration of the lumen, which is frequently associated with (3) cystic dilatation of distal portion; (4) concretion without ulceration; (5) superficial ulceration; and (6) kinking, adhesion, volvulus, or hypertrophy of mucosa, any of which may occlude the lumen. This group, while it consists of lesions which are comparatively mild from the point of view of acute peritoneal infection, comprises most of those which are responsible for chronic and relapsing cases. Of 24 cases of my series in which the appendix was excised in the interval between the attacks and its condition carefully noted, in nine cases the walls were greatly thickened, in seven cases there was stenosis or obliteration of the lumen with cystic dilatation of the distal end in five out of the seven, in six cases extensive adhesion with or without kinking, and two cases only was a concretion present. It is noteworthy that in most of these cases the lesion was such as, directly or indirectly to encroach upon the normal lumen of the appendix.

THE CLINICAL BASIS OF PROGNOSIS.

The uncertain and often treacherous course of appendicitis, with the insidious development of grave complications, is a matter of common knowledge. Much stress has been laid on the impossibility of ascertaining early in an attack whether resolution or suppuration will be the outcome, but on pathological grounds it is clear that from the prognostic standpoint this is not the most important point. The important questions in the first instance are, will the peritoneal infection be localised or diffuse? Is it a mild attack, or is it one of the grave forms of appendicitis with which we have to do? To determine prognostic indications we must proceed on the same lines as we do in order to ascertain diagnostic indications, and in their characters and relative significance taken as a whole we have the basis of prognosis. There is no single indication which may not mislead, but the sum of all the indications will not usually do so. These may be conveniently grouped under four headings: (1) local symptoms, (2) general symptoms, (3) local signs, and (4) the progress of the case.

1. *Local symptoms*.—(*a*) Pain is one of the most constant of symptoms, and though we may have intense pain in what develops into a mild case, and only slight pain in a case of gangrenous appendicitis which proves rapidly fatal, it is none the less true that the distribution, severity, and character of the pain are of much significance. It is, of course, common for the initial pain to be referred to the umbilical region or elsewhere rather than to the region of the appendix, but in mild cases it tends to become localised in the right iliac fossa, whereas in perforative cases the pain is usually more sudden, more severe, and more generalised. It is when pain is associated with definite collapse that it assumes its maximum importance and suggests perforation, rupture of adhesions, or rapidly spreading peritoneal infection, and we must not be misled by an interval of apparent quiescence following the onset of the acute pain. In some cases we have two distinct phases of pain—a preliminary dull aching pain or slight collicky paroxysms for a day or two and then a sudden increase in severity, the more acute pain being usually accompanied by vomiting and general disturbance. Such preliminary pain may coincide with the development of local inflammation of the appendix itself (the pre-peritoneal stage), the more severe pain with the onset of acute inflammation around the appendix (the stage of appendicular peritonitis), or again an increase of pain may be the result of spreading peritonitis, or may be attributable to the rupture of an encysted abscess. In any case a sudden increase of pain should attract anxious consideration and may be an urgent indication for immediate operation. The duration of severe pain is also of much significance, since in the majority of mild cases it soon tends to become more localised and less intense. Persistent severe pain, e.g., pain so severe as to render necessary the continuous administration of morphia or opium, generally means a severe lesion; and if the pain in addition to being persistent and severe radiates to the left iliac region or upwards, it is suggestive of spreading peritonitis. Persistent severe pain which is strictly limited to the region of the appendix is, I think, especially apt to accompany concretion. Pain which is materially increased by deep respiration is suggestive of considerable local peritonitis, and the same may be said of marked pain or difficulty on micturition. No one who has carefully compared the duration, character, and course of pain in the mild attacks of relapsing appendicitis with what

occurs in the acute perforative cases can question its significance, though it must be clearly understood that the converse of this is not necessarily true since there may be a very severe lesion without much pain, particularly with gangrene of the appendix. (*b*) Vomiting, if present, usually accompanies or follows the pain, sometimes it precedes it. It is not uncommonly absent in the mildest forms and in the majority of average cases it is an initial symptom only and ceases when the patient is kept absolutely at rest in bed and carefully dieted. If vomiting is frequent and severe, and especially if it is persistent, it is a valuable indication of a severe lesion and the same holds good of vomiting which recurs after a period of comparative repose. Of 93 cases of y series in which this symptom was carefully inquired into; 64 cases it was present at or soon after the onset and then eased, and of these 59 recurred and five died; in seven ases vomiting was persistent and severe, and of these seven ive died; and in 29 vomiting was not noted and all of them recovered. Occasionally the character of the vomit may be significant—e.g., stercoraceous or coffee-grounds vomit, both of serious import. Although as a positive indication the presence of vomiting is important its absence proves nothing—e.g., in gangrenous cases with general peritonitis it may not be present at all, but such exceptional occurrences do not detract from its general significance—a significance which I think is rather under-estimated. Constipation, not uncommonly preceded by diarrhœa, is so usual in all types that in itself it is not of any differential import, but other things being equal a natural action of the bowels and ability to expel flatus are favourable. Hiccough, especially if persistent, is unfavourable.

2. *General symptoms.*—To help us in determining how far the local lesion is affecting the organism as a whole we have two reliable guides (*a*) the temperature, pulse, and respiration, considered conjointly not separately—a point upon which I would lay very great stress; and (*b*) the aspect and general condition of the patient with especial reference to collapse, or anything approaching it, restlessness, or general distress. (*a*) Temperature. It is generally recognised that taken by itself the temperature chart in appendicitis is apt to be a fallacious guide; if, however, it be considered in conjunction with the frequency and characters of the pulse and the frequency and type of respiration we are not likely to be seriously misled. Appendicitis is typically a febrile affection, but there are at least four conditions in which the temperature may be normal or subnormal: (1) the initial collapse of acute perforative or gangrenous appendicitis; (2) fully developed septic peritonitis; (3) local suppuration, the abscess being strictly circumscribed; and (4) mild appendicitis without appreciable local peritonitis. Subject to such exceptions as these the range, type, and duration of the pyrexia have special significance. High fever of a continued type during the first two or three days generally means a severely infective lesion, but it does not tell us whether the infective process will be local or diffuse, and at times fever of this kind accompanies cases which undergo rapid resolution. A fall of temperature, if accompanied by a fall in the pulse frequency and by improvement in the general condition, is usually reassuring, but not otherwise. A secondary rise of temperature after the first few days has a very definite meaning—spreading peritonitis, suppuration, or some intercurrent complication—whilst fever persisting after eight or 10 days generally means local abscess, in which case, if allowed to continue, it will usually assume a more intermittent or remittent type. The pulse is, on the whole, of more prognostic value than the temperature provided that its characters as well as its frequency, are carefully noted, that relative rather than absolute frequency is relied on, and that a careful distinction is drawn between a persistent and a merely temporary alteration. A high pulse-rate suggests a severe lesion and in particular diffuse peritoneal infection, the more emphatically so if the pulse frequency is disproportionate to the temperature. I find that in the large majority of the less severe cases included in this series the pulse-rate was between 80 and 100; in every one in which it was persistently above 120 the attack was a severe one, and in most of them terminated in local suppuration or general peritonitis. It is true that in two or three cases when *in extremis* from general peritonitis the pulse-rate was not above 100 and in one it was below that point, but this is only what may occur in the later stages of any infective disease and does not detract from the general significance of a high pulse rate. The suggestion, which by some recent writers is treated as almost axiomatic, that a pulse-rate of 120 is an indication for operation, has much evidence to support it, but we must not forget that to wait for any such development may be to let slip the best time for operating in an acute case. Frequency and type of respiration are chiefly of importance in correcting an erroneous inference from a low temperature and pulse-rate in what may actually be a desperate condition, frequent shallow respirations of the costal type constituting under such circumstances a warning of grave peritoneal implication. (*b*) Aspect and general condition.—The importance of the pinched and anxious aspect, of restlessness, obvious distress, or collapse, are too well known to require detailed reference. Speaking generally in appendicitis such symptoms mean acute peritoneal shock or general peritonitis. The initial collapse which at times marks the onset of perforative appendicitis may be so transient that shortly afterwards the patient's general state gives no idea of the gravity of the case, but the fact of its having occurred is none the less significant. Occasionally in the most rapidly fatal cases there may be more or less persistent collapse, and the development of any such symptoms in the course of a case is naturally of the worst possible omen. Of the third group of prognostic indications it is only possible to speak very briefly.

3. *Local signs.*—The condition of the abdomen as ascertained by careful physical examination. (*a*) Impaired mobility during respiration, local or general, and distension, local or general, may go together, but in appendix cases the former is more reliable that the latter. It is quite exceptional for there to be no impairment of movement during respiration, whereas obvious distension is frequently absent throughout. Local immobility, with or without slight fulness, is the rule in cases of appendicitis with localised peritonitis. General immobility, with one important exception, points to the onset of diffuse peritonitis. The exception is diaphragmatic immobility, which appears to be due to simple reflex inhibition. This may be met with in any case in which the initial pain is very severe; it is usually transient and passes away when the pain is relieved by sedatives. With this exception we may regard the extent and degree of impairment of movement as one of the most reliable data in estimating the amount of peritoneal implication, and therefore one of our most valuable prognostic indications. (*b*) Local tenderness.—The area of local tenderness affords some guidance as to the extent of the local inflammation, provided always that the patient's sensibility is not dulled by opium or by collapse. When there is little or no circumjacent peritonitis the tenderness may be strictly limited to the region of the appendix, e.g., in chronic appendicitis and in the early stages of acute appendicitis. In most cases of perityphlitis with considerable local peritonitis there is a considerable area of tenderness in the right iliac region with its maximum intensity over the appendix, whilst in the more severe forms with widespread peritonitis we find marked tenderness in the left iliac fossa and possibly over the whole abdomen, and in some of the gravest cases there is some general abdominal tenderness but no special local tenderness in the appendix region. As one other instance, persistent or increasing local tenderness may be almost the only sign of localised suppuration within or near the appendix—a condition the prognostic significance of which is obvious. (*c*) Muscular rigidity corresponds more or less closely with cutaneous hyperæsthesia and tenderness, so that in relation to prognosis the two would be noted together. (*d*) Local tumour or deep-seated resistance is very common, but as it is frequently absent in severe cases with diffuse peritonitis and often not discernible at first its prognostic value is very limited. It is important to bear in mind, contrary to what was believed in the old days when perityphlitis was held to be due to fæcal accumulation, that the absence of any tumour or swelling in the right iliac fossa not only does not contraindicate the existence of perityphlitis, but may be of serious prognostic significance in relation to it as being suggestive of the absence of the local peritonitic barrier, which so often shuts off the infected area from the general peritoneum. On the whole we are justified in saying that given appendicitis a definite local tumour is reassuring. What has been said as to the significance of local tumour would, with slight modification, apply to dulness on percussion.

4. *Progress of the case.*—In many instances when first seen the condition has so far developed as to provide definite data for prognosis; if, however, the case is seen early this

may not be so. Under such circumstances the development of events in the ensuing 24 hours, 36 hours, or 48 hours may furnish the needed indications for prognosis and treatment. In the milder cases symptoms will tend to recede or at least to become more localised. On the other hand, if the affection be of a severe type the symptoms will persist or become intensified, though sometimes only after a treacherous remission which may very readily mislead.

II.—PROGNOSIS AS TO RECURRENCE.

Statistics vary as to the frequency of recurrence: some authorities place it as high as 47 per cent., others at below 30 per cent.; in my series it was 31 per cent. It may, then, be expected in about one third of the cases. We also know that the tendency to recurrence usually manifests itself within two years, and most commonly within one year, of the first attack. Besides such general facts to guide us the following clinical features will aid in forming an opinion as to the likelihood of recurrence in any particular case. 1. The nature of the first attack.—If there were local suppuration the probability of recurrence is relatively slight; on the other hand, a mild first attack is frequently followed by recurrence. 2. Convalescence from the first attack.—If the condition clear up but slowly and local pain, local tenderness, or slight swelling persist for some time the probability of relapse sooner or later is very great. 3. Condition in the interval between attacks.—If there is occasional pain or discomfort with irregularity of the bowels and definite local tenderness or resistance a chronic appendicitis probably exists. The palpation of the enlarged and thickened appendix will render the latter diagnosis certain, which means a chronic tendency to relapse so long as the appendix is allowed to remain there.

Upper Berkeley street, W.

A NEW AND MORE PERMANENT METHOD OF MOUNTING AMYLOID SECTIONS, STAINED WITH IODINE.

BY ALAN B. GREEN, M.A., M.B., B.C. CANTAB.

THE following process of mounting amyloid sections stained with iodine gives more permanent results than any other method which I have met with. Some sections stained and mounted in this way have, after seven weeks, apparently not deteriorated in the least; no change can be distinguished. Whether the method is permanent in its results time alone can show, but I hope that this will prove to be the case. The following solutions are required:—(*a*) Weigert's iodine. (*b*) Pure liquid paraffin (30 cubic centimetres) and iodine crystals (one gramme). The purest liquid paraffin used for lamps is the best for this purpose. (*c*) Xylol (30 cubic centimetres) and iodine crystals (one gramme).

First place on a coverslip a small quantity of pure white vaseline ready for immediate use for mounting the stained section. Float the section from water on to a glass slide and drain and blot away as much water as possible.

From a drop-bottle pour a few drops of solution (*a*) on the section until it is sufficiently deeply stained. Then drain away excess of solution and from a second drop-bottle pour a fine stream of solution (*b*) over the section. This dehydrates the section without removing any iodine from it. Now drain away excess of solution (*b*) and remove the last traces of it by pouring over the section from a third drop-bottle a stream of solution (*c*). Finally, drain away excess and blot quickly to remove the remaining solution (*c*). Then at once place the coverslip with the vaseline on it in position over the section. The coverslip may afterwards be ringed.

Pathological Laboratory, Cambridge.

SHEPTON MALLET DISTRICT HOSPITAL.—The annual meeting of this institution was held on Jan. 27th under the presidency of Sir R. H. Paget. The medical report showed that 132 in-patients had been treated, against 124 in 1898. There were also 116 out-patients and 55 casualties treated, both being in excess of the preceding year. The financial statement showed an increase under all heads and the balance was satisfactory.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A SUCCESSFUL CASE OF ENTERECTOMY FOR GANGRENOUS HERNIA.

BY ARTHUR H. BURGESS, M.B., M.Sc. VICT., F.R.C.S. ENG.,

RESIDENT SURGICAL OFFICER, MANCHESTER ROYAL INFIRMARY.

A BOY, aged 15 years, was admitted to the Manchester Royal Infirmary on Dec. 13th, 1899, with a strangulated inguinal hernia on the right side, the symptoms of strangulation having existed for four days. Taxis had been attempted by a medical man but had failed. On admission his general condition was found to be extremely grave, all the chief signs of acute intestinal obstruction being present. There was a small tense swelling in the right inguinal region without any impulse on coughing, the skin over which presented a dusky red appearance and pitted slightly on pressure. Under chloroform the sac was opened and about one ounce of a feculent fluid escaped. A knuckle of small intestine about two and a half inches in length was found tightly strangulated and in a gangrenous condition, a perforation of the size of a threepenny-piece at the summit of the loop having allowed the intestinal contents to escape into the sac. On dividing the constriction at the neck of the sac and drawing down the coil a second but smaller perforation was found in the entering limb of the loop opposite the constriction. The wound was enlarged upwards, the coil was drawn out of the abdomen as far as possible, clamps were applied on either side, and about four inches of intestine, including the gangrenous piece, were incised along with a V shaped portion of the mesentery. The divided ends of the gut were then united by direct suture, the mucous membrane being first joined by a continuous suture of the finest silk, then the sero-muscular coats by a continuous Lembert's suture, lastly the divided mesentery also by a continuous suture. The gut was reduced, the sac was isolated and ligatured near its neck and cut away, a radical cure being afterwards rapidly performed by Mr. Joseph Collier's method. The wound was closed except at the lower angle in which a gauze drain was inserted. The patient made an uninterrupted recovery without an unfavourable symptom, the temperature of 99° F. on the second night being the highest recorded. The bowels acted slightly two hours after operation, again six hours later, and again 13 hours later. Only warm water was allowed for 36 hours, then warm tea, and milk and soda-water. Benger's food was given on the twelfth day and then a gradual return to ordinary diet was permitted. The wound healed without suppuration and all the sutures were removed on the fourteenth day. The patient was allowed up at the end of three weeks, and was sent to a convalescent home at the end of five weeks. For permission to report the foregoing case I am indebted to Mr. F. A. Southam for whom I was acting at the time.

Bowdon, Cheshire.

A CASE OF COMPLETE INVERTIO AND PROLAPSUS UTERI.

BY F. L. POCHIN, M.B., C.M. EDIN.

ON the evening of Dec. 27th, 1899, I was called to a primipara, aged 20 years. The midwife who sent for me stated that one child was born but that there was another child, dead, which she was unable to deliver. On examining the patient I found a firm fleshy pyriform mass of a dark claret colour and of about the size of the fœtal head projecting from the vulva. To the exact apex of this mass about one-fifth of the maternal surface of the placenta was still adherent. On digital examination per vaginam the finger passed at once into a cul-de-sac formed by the stretched and inverted vaginal walls. No uterus could be felt through the abdominal wall. The tumour did not harden on taxis. Despite the fact that hæmorrhage had not been excessive the patient was very much collapsed. The face was cadaverous, the lips were bloodless, the pulse was rapid and hardly perceptible, the breathing was quick and shallow, and the extremities were cold. Having detached the placenta and bathed the uterus well with hot boiled water I returned the mass without any difficulty by squeezing it well with both hands and at the same time exerting steady upward pressure in the pelvic axis, following up the uterus with my closed fist until its normal position was reached and the inversion was quite rectified. I then administered sterilised ergot and brandy subcutaneously and slowly injected a quart of hot saline solution per rectum. The patient was also surrounded with hot bottles. Under this treatment her condition quickly improved, the pulse became markedly stronger, perspiration broke out on the skin, and the extremities became warm, while the patient expressed her relief. The puerperium was comparatively uneventful. The lochia became slightly offensive and the temperature rose to 101° F. on the second day, but an intra-uterine injection of one-half per cent. of lysol solution put all right again.

This accident is an extremely rare one. It only occurred once in 190,800 deliveries at the Rotunda Hospital, Dublin (Playfair). In the clinic of Braun and Spaeth no complete case was observed in 250,000 births (Lusk). The case mortality is about 42 per cent. (Crosse). The condition has been ascribed to traction on the cord either by the midwife or as a result of the funis being twisted round the child's neck. Insertion of the placenta exactly at the fundus is considered to predispose to the accident. In this case the patient had been intensely anæmic for a long time before delivery, there had been "some trouble with the afterbirth," and the midwife had "pulled the cord a little." The cord was not twisted round the child's neck.

Fakenham, Norfolk.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Prœmium.

ST. MARY'S HOSPITAL FOR SICK CHILDREN, PLAISTOW, E.

A CASE OF DIPHTHERIA OF THE VULVA.

(Under the care of Dr. E. E. WARE.)

THE diagnosis of diphtheria is always much facilitated by the identification of the bacillus and when also paralysis supervenes the diagnosis is certain. It is a little remarkable in this case that although the diphtheritic patch was situated on the vulva the muscles first paralysed were those of the palate, but the same combination has been noticed before. The explanation is probably to be found in the fact that even slight paresis of the palate muscles would be noticeable long before the same amount of weakness in the leg muscles would become evident. For a similar reason strabismus is often a very early sign of diphtheria. The local antiseptic treatment of diphtheritic patches on external parts of the body is always advisable, though when the palate is affected the harm which the child suffers from fear and struggling probably outweighs the benefit which might result from the antiseptics. The antiseptic employed, however, should not be very strong, otherwise the damage to the tissues may weaken their power of resistance. For the notes of the case we are indebted to Mr. W. W. Farnfield, late resident medical officer.

A girl, aged four years, was admitted into St. Mary's Hospital for Sick Children, Plaistow, E., on Jan. 26th, 1899, with the following symptoms. During the five days preceding admission the patient had suffered great pain on passing urine, the act sometimes taking a quarter of an hour owing to frequent involuntary stoppages. She had not seemed to be as well as usual, she had lost her appetite and had been listless. She had had no previous illness. The patient was a well-nourished child. The temperature on admission was 100° F., the pulse was 120, and the respirations were 28. On examination of the vulva there was seen to be undue redness of the parts which were evidently very tender. The urine was acid; its specific gravity was 1015 and it contained no albumin, pus, or blood. The act of micturition was very painful, the patient screaming while passing urine, but the pain did not continue after the act.

On Jan. 29th the A.C.E. mixture was administered and the bladder was examined both with the sound and bimanually, the forefinger of the right hand in the rectum and the left hand on the abdomen, but the result was negative. It was then noticed that two circular white patches were present on the vulva, one on the vestibule and the other on the right nympha, each being about one-eighth of an inch in diameter; they were considered to resemble diphtheritic membrane, and accordingly a blood-serum tube was inoculated. There was no affection of the throat or eyes. As typical Klebs-Löffler bacilli in pure culture were present on the blood-serum the patient on Jan. 30th was injected with 2000 units of anti-diphtheritic serum. On Feb. 1st the membrane had disappeared and the redness of the vulva was less marked; there was very little pain on micturition. The temperature was 98° and the pulse was 120. On the 8th micturition was quite painless and the vulva was perfectly normal in appearance, but the patient was still very listless. On the 19th the temperature rose to 102·8° and the pulse was 150, and the child vomited. A hypodermic injection of three minims of liquor strychninæ hydrochloridi was given. Nasal regurgitation of fluids on drinking was noticed. By the 21st her general condition had improved. The temperature was 99° and the pulse was 120. The nasal regurgitation occurred only occasionally. From this time recovery was uninterrupted and on Feb. 25th fluid no longer regurgitated through the nose. On March 11th the patient was sent to the convalescent home at Southend.

Remarks by MR. FARNFIELD.—There is no doubt that this was a case of true diphtheria of the vulva, for even had there been no bacteriological examination the onset of paralysis of the soft palate may be taken as sufficient proof. The symptoms were misleading and pointed to the probability of stone in the bladder, this being the commonest cause of severe pain on micturition in a child, and it was thought that the local redness was due to handling in consequence of reflex irritation. I am indebted to Dr. Ware for permission to publish this case.

SUSSEX COUNTY HOSPITAL.

A CASE OF INTERSCAPULO-THORACIC AMPUTATION.

(Under the care of Mr. T. J. VERRALL.)

AMPUTATION of the whole upper extremity with removal of the scapula and part of the clavicle (or as it is often called "interscapulo-thoracic amputation") has been specially described by Paul Berger.[1] The chief dangers of the operation are hæmorrhage and shock.[2] Hæmorrhage is in great part controlled by the preliminary ligature of the subclavian artery and vein, but this does not affect the hæmorrhage from the supra-scapular and posterior scapular vessels. This is the most thorough operation which can be performed for malignant disease of the upper part of the humerus and recurrence does not occur in a very fair proportion of the
cases. Of 43 cases in which interscapulo-thoracic amputa
tion was performed 34 patients recovered from the opera
tion; in 10 of these the ultimate result was uncertain. I
14 of the remainder recurrence occurred; in 11 of the 1
the recurrence appeared within 12 months of the operation

A married woman, aged 39 years, was admitted into t
Sussex County Hospital on March 21st, 1898. Five mon
previously she noticed that the upper part of the left a
would show swelling which persisted for a day or two
then disappeared. There was always some pain in the s
especially on movement, which was not so free as was nat
For two months work had been impossible, but it was
three weeks since the swelling took a definite shape

---

[1] L Amputation du membre supérieur dans la contiguïté du tron

[2] Jacobson's Operations of Surgery, second edition, p. 157

became persistent. Though she ate well she had grown much thinner of late. There was a fusiform swelling of the upper third of the humerus spreading into the axilla and back on to the scapula. All the shoulder muscles were wasted and she could only move the arm about three inches from her side. The pain was severe, especially at night. The skin over the humerus was moveable, but there were several large veins. There were no enlarged glands to be felt. Before the time of the operation it became evident that the bone had snapped high up near the joint.

On April 1st the upper extremity was removed according to the plan of Paul Berger. Previously to commencing the real operation an incision was made into the tumour. This, which showed an extensive malignant growth, was unnecessary for diagnosis, but the patient had been promised that the arm should not be sacrificed till the examination of the tumour had been made. As much blood was lost from this incision as from the rest of the operation. It was also to be deprecated on account of the risk of infecting sound parts. After removing the middle third of the clavicle and cutting through the subclavius no difficulty was found in securing first the subclavian artery and then the vein, each between two ligatures. Skin flaps, pectoro-axillary and cervico-scapular, were made, the arteries were caught as they were divided, and there was no bleeding of consequence till the division of muscles attached to the posterior border of the scapula. The wound was drained with one tube. The operation was very well borne. The long wound healed by primary union, with the exception of one and a half inches at the centre, where there was a superficial slough of the flap edge. This part was not quite healed when the patient left the hospital on the seventeenth day. She, however, was walking about and feeling well. Examination of the limb showed that the whole upper part of the humerus was affected and apparently the shoulder joint, although the scapula was healthy so far as naked-eye evidence went. The growth under the microscope was seen to be sarcoma containing abundant small round cells and some spindle cells. No large myeloid cells were discovered.

The patient has been under observation up to the present time (Feb. 1st). There is as yet no sign of recurrence. She complained, especially at first, of pain in the site of the cut ends of the brachial plexus; exalgine and quinine have controlled this. Her general health is good and she has recovered weight.

Remarks by Mr. VERRALL.—In a contribution to the *Annals of Surgery* this month Russell Fowler insists that this operation should be done in all cases of malignant disease of the humerus, however located, whether in the upper extremity, shaft, or lower extremity of the bone. In my case I selected it partly from the grave suspicion that the scapula was diseased, also for the fear lest with a less operation it would be impossible to get sufficient flaps wide of the tumour. Doubtless the control of hæmorrhage is the first point to consider. If the tumour actually encroach on the subclavian region I can imagine great difficulty in securing the main vessels; but here there would be but little prospect of permanent cure, even if the immediate result was good. In my case the vessels were found and ligatured without delay and no large amount of blood was lost, although the cut into the tumour oozed until the limb was removed. The extreme rapidity of recovery in this case was very striking, so also was the immediate improvement in the general condition of the patient. With regard to the question of recurrence I have delayed reporting till a considerable time had elapsed and I could fairly hope the cure was permanent. Although I cannot feel sure, even after 22 months, that this is effected, I may fairly hope it is. Of the 72 cases tabulated by Fowler in the paper above alluded to eight died from the operation, others recurred at various dates, in others no further report was given, and only 14 were well at the time when reported, as much as one year or more after the operation.

ROCHDALE INFIRMARY.

A CASE OF INTESTINAL OBSTRUCTION ARISING FROM MECKEL'S DIVERTICULUM.

(Under the care of Mr. R. B. SELLERS.)

THE extremity of a Meckel's diverticulum may remain adherent to the umbilicus or it may form a fresh adhesion elsewhere, especially to the mesentery. In either case it may give rise to intestinal obstruction, and the same result may also be due to the diverticulum even when it is unattached. Considering that this vestige is found in 2 per cent. of all the bodies examined[1] it is somewhat strange that it does not give rise to symptoms more frequently. The symptoms of obstruction are usually rather acute, and the diagnosis can only be made after a laparotomy. For the notes of the case we are indebted to Dr. T. Hillhouse Livingstone, house surgeon.

A man, aged 32 years, was admitted into the Rochdale Infirmary in a more or less collapsed condition. There was a history of five days' duration of abdominal pain chiefly referred to the epigastric region, together with nausea, vomiting, and intense thirst. The bowels were obstinately constipated and glycerine enemata were ineffectual and had been for two days before admission, and at the same time no flatus had been passed. The patient had not been feeling well for some weeks beforehand and apparently the more acute symptoms which supervened were an exacerbation of the old complaint. The pulse was wiry in character and 120 to the minute; the temperature shortly after admission was 101·4° F. On account of the collapsed condition very few subjective symptoms could be elicited, but it appears that colic was the first symptom, followed shortly afterwards by vomiting and later by distension of the abdomen. Shortly after admission the vomiting became fæcal in character and the man was covered with a cold clammy sweat. His tongue was very dirty with a white fur at its edges and a dirty brown strip down its centre. No intestinal peristalsis was visible. The intense thirst was relieved by giving the patient ice to suck. No fluid could be made out in the peritoneal cavity and the rectal examination revealed nothing; neither was there any evidence of external hernia. In case of intussusception being present a long rubber tube was passed up the rectum and warm boric lotion was injected, but no improvement resulted. Everything pointed to operative treatment to relieve the obstruction.

The abdomen was accordingly opened in the linea alba by an incision reaching from the umbilicus to three inches above the pubes, the bladder having previously been emptied by a catheter. The peritoneum was opened and a band was found adherent to the umbilicus. On closer examination it was found to have a lumen with a closed extremity at the umbilicus; the other end was attached to the small intestine and a coil of small intestine was tied down and strangled by the diverticulum, the serous coat being ulcerated. It was impossible to separate the apex of the diverticulum from the umbilicus, and therefore it was divided after a ligature had been applied to the distal end. The proximal end was secured by forceps and was afterwards excised near to the mother gut by raising a cuff of peritoneal and muscular coats and ligaturing the mucous coat, after which the two outer layers were inverted by means of a Lembert's suture of fine catgut. The abdomen was stitched up and the patient was put to bed with the foot of the bed raised and plenty of hot bottles. Unfortunately, the patient had not been admitted soon enough; fæcal vomiting came on again and he became delirious and in spite of stimulants he died 12 hours after the operation.

Necropsy.—Permission to make a post-mortem examination was obtained and on opening the abdominal cavity peritonitis was seen to be almost universal. There was no perforation and the Lembert's sutures were efficient. The diverticulum branched off from the small intestine about three feet above the ileo-cæcal valve and must have been about four or five inches long. The appendix was found to be abnormally long, so long that it reached across to the left iliac fossa and was at first mistaken for a second diverticulum.

Remarks by Dr. LIVINGSTONE.—In this case the malformation caused by the non-obliteration of the omphalo-mesenteric duct running between the blastodermic vesicle and the intestine in fœtal life coincided in its position with the position recorded in other cases, for it was a short distance above the ileo-cæcal valve at right angles to the ileum. Its situation in this case—opposite the mesenteric attachment—is, I think, also fairly constant. From the evidence at the post-mortem examination death was attributed to peritonitis which had existed before admission.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

e Part played by Insects in the Spread of Malaria.—Experimental Production of Amyloid Disease in Animals.—Neutralisation of Cobra Venom by its Antitoxin.—Cortical Changes in Acute Chorea.—Nervous Disturbances of Respiration, Mastication, and Deglutition and the Movements of the Larynx.

A MEETING of this society was held on Feb. 6th, in the Pathological Laboratory of University College, Mr. A. PEARCE GOULD, Vice-President, being in the chair.

Mr. A. PEARCE GOULD referred in suitable terms to the recent death of Dr. Charlewood Turner. He also announced that the council had appointed himself, as the senior surgical vice-president, to act as president during the absence of Mr. Watson Cheyne in South Africa.

Dr. GEORGE H. T. NUTTALL demonstrated a number of Microscopic Lantern-projections which had been lent him by Dr. Ross and other observers illustrating recent investigations into the Part played by Insects in the Spread of Infective Diseases, especially Malaria. The specimens illustrated in a very graphic manner the gradual growth of the parasite within the body of the mosquito, how the capsulated organism burst, and the sporozoites became liberated into the body-cavity of the mosquito. These then became deposited in the salivary glands of the insect, by which means they became imported into a fresh host, there o undergo a development like their parents. These specimens referred to the proteosoma, which was the malarial parasite of birds. Specimens of the filaria perstans were also exhibited. By means of his observations on this insect Dr. P. Manson had been lead to conclude that the mosquito was the chief agent in the spread of malaria. Specimens showing the parasite of quartan ague and the tertian parasite in the stomach of the anopheles were also exhibited.

Mr. STRANGEWAYS PIGG (for Dr. Alan B. Green) communicated the results of an inquiry into the Experimental Production of Amyloid Disease in Animals. The animals used were rabbits and chickens. Healthy rabbits and chickens were used, and the micro-organism employed was staphylococcus pyogenes aureus. One cubic centimetre of a broth culture (24 hours' incubation) was injected either subcutaneously, intravenously, or peritoneally in rabbits and into the pectoral muscle of the fowls. The dose was gradually increased as toleration was established. Only two out of the 20 rabbits experimented on ultimately survived. Of the two fowls one succumbed on the fifteenth day after the first injection. Some of the rabbits lived for three, four, and five months. The tissues were hardened with a 5 per cent. formalin solution, as alcohol and other hardening reagents undoubtedly affected the reaction for amyloid materials. In the rabbits no definite amylaceous changes could be identified, though in some of the tissues a pinkish colouration was obtained. Sections of the organs of the fowl were stained distinctly pink with methyl violet and gave the characteristic mahogany brown stain with iodine. Sections of the organs of the rabbits showed what Dr. Green believed to be probably a hyaline degenerative change. They gave a pink colour with methyl violet, but this faded when mounted in Farrant's medium, glycerine, or salt solution and the whole section became blue. The rabbit, sections of which were under the microscope, had lived several months under the injections, during which time it lost weight. The hen, sections of which were shown, succumbed on the fifteenth day after the first injection. During this time it had seven injections and went down slightly in weight. Post mortem Dr. Green discovered no signs of amyloid disease macroscopically in any animal. Fragments of the spleen of the hen kept for six weeks in 5 per cent. formalin showed rather less vivid pink colouration when stained with methyl violet than those fragments hardened for only 24 hours. Frozen sections were cut to avoid passing the tissues through a series of alcohols for the same reason. He was preparing, however, some paraffin sections. In every case sections of the rabbits' organs showed only what he thought to be most probably hyaline degeneration changes. Generally the hyaline material stained bright pink with methyl violet, but when mounted in Farrant's solution, glycerine, or salt solution the pink faded entirely in a few days or hours, leaving the whole of the section blue. The pink also faded the section was placed in a 1 per cent. hydrochloric acid bath. The only way he had been able to keep the colour permanently in the sections was after dehydrating sections with pure liquid paraffin such as used for lamps, washing in xylol, and mounting in vaseline. When stained with iodine these sections showed the degenerated parts only slightly darker than the normal parts. In the sections of organs of the hen he had obtained entirely different results from those obtained in the rabbit. The appearance in the case of the hen was that of true amyloid degeneration. Stained with methyl violet the red colour did not fade in Farrant's solution; or glycerine sections might be stained deeply with methyl violet, or excess of stain removed in a 1 per cent. HCl bath without causing the pink colour to fade. Stained with iodine the degenerated parts took a deep mahogany brown stain. The specimens, which were exhibited in an adjacent room, he need not describe.

Dr. W. MYERS gave an account of his investigations into the Neutralisation of Cobra Venom by its Antitoxin, made with a view of throwing some light on the nature and composition of the venom of the cobra. The venom contained two distinct kinds of toxin, one a hæmolytic and the other a nerve toxin. If the venom of the cobra were gradually heated the hæmolytic toxin was destroyed before the nerve toxin. In a concentrated form the cobra venom was constant and retained its strength, but in a dilute form (say, 1 per cent.) its toxic power diminished by keeping. Dr. Myers's investigations had been made with Calmette's antitoxin and to explain the results obtained it was necessary to assume the existence of a "toxoid" substance, and in general terms hypotheses similar to those enunciated by Ehrlich explained the results obtained.

Dr. BERTRAM ABRAHAMS read a paper on the Cortical Changes in Acute Chorea. He showed a series of lantern slides and microscopic specimens illustrating the changes in the parietal cortex of a woman, aged 28 years, who died on the thirty-seventh day from an attack of chorea gravidarum. The choreic movements were at first confined to the left side, the right being unaffected till shortly before death. There was fairly constant but moderate pyrexia throughout the illness. The cortex of the left hemisphere was very little altered, there being only a moderate exudation of leucocytes and a slight increase in size of the peri-neuronal lymph spaces. The condition was evidently a very early stage of that seen on the right side. Here Meynert's columns were obliterated by a profuse exudation of small cells, which appropriate staining proved to be uninuclear leucocytes. These were shown in the act of exuding from the smaller blood-vessels. The peri-vascular and peri-neuronal lymph-spaces were much dilated and the cortex generally was distinctly œdematous. The pyramidal cells were seen to be considerably altered in appearance. They were frequently bulged laterally and many of them had their processes broken off. The nuclei were often swollen and pale but the nucleoli stained with unusual distinctness. The Nissl bodies, on the other hand, were seldom well-marked and the pigment was much diminished in amount. In the enlarged spaces around the cells a large number of uninuclear leucocytes were shown to have accumulated. Th changes were on the whole similar, though in less degree, to those described by Dr. F. W. Mott in cases of status epilepticus and, as in them, the alterations in the cells appeared to depend upon modifications in the chemical condition of their lymph environment. It was obvious, moreover, that their nature and extent were perfectly compatible with complete recovery. With regard to the general question of the pathology o chorea the appearances tended to support the view that th inflammatory changes in the cortex were not due to loca causes but arose secondarily to toxic alterations in th blood.

Mr. W. G. SPENCER and Dr. RISIEN RUSSELL demonstrat some experiments bearing on the Nervous Disturbances Respiration, Mastication, and Deglutition and the Mo ments of the Larynx.

HARVEIAN SOCIETY OF LONDON.

Exhibition of Cases and Specimens.

A MEETING of this society was held on Feb. 1 President, Dr. W. H. LAMB, being in the chair.

Mr. D'ARCY POWER showed a case of Inward Displ of the Lower Epiphysis of the Humerus and illustrated it with skiagrams. The patient was a girl, aged six years, who fell upon her left arm in September, 1899. It was impossible to obtain details of the accident, which happened in Cornwall, but the arm had been kept in splints for six weeks. She was admitted to the Victoria Hospital for Children on Jan. 1st, 1900, on account of a deformity of the elbow. The arm was in a state of cubitus varus—that is to say, the long axis was directed inwards at the elbow, but there was neither shortening nor wasting. The movements of flexion, extension, pronation, and supination were unaffected, and the patient only complained of a little pain over the projecting external condyle. Mr. D'Arcy Power had hesitated, therefore, to perform any operation, thinking that if he did so the last state of the arm might possibly be much worse than the first. The skiagram showed that it would be quite easy to chisel away the projecting angle of the shaft of the humerus. He thought, however, that it would be better to do this when the developmental processes at the elbow were completed. Mr. D'Arcy Power pointed out that the case belonged to a very obscure class of injuries to the elbow the exact nature of which is only now becoming known by the application of the Roentgen rays. The skiagram showed that the separation of the lower epiphysis of the humerus had been subperiosteal and had resulted in a shifting of the whole epiphysis towards the inner side. The displacement had led to the external condyle of the humerus losing its cartilaginous covering, whilst the cavity of the olecranon had its long axis oblique instead of vertical. The epiphysis appeared to be fixed in its new position by ossification of the periosteum which had probably been injured at the time of the accident and by an increased width of the internal condyle which served to support the epiphysis in its new position.

Mr. **Jackson Clarke** demonstrated the method which he employed for supporting the spine in caries of the cervical and upper dorsal regions, as applied to a patient, aged eight years, in whom the disease was situated about the fifth and sixth dorsal vertebræ. The patient had been treated as an out-patient for over a year and she had gained in general health and the local spinal trouble had improved greatly in that time. The support used was a form of Chance's splint furnished with an occipital horseshoe-shaped piece to which was added a chin-strap. The principle of antero-posterior support in spinal cases was approved by the late Sir John Erichsen in the shape of Taylor's splint introduced in 1870. Mr. Clarke found that Chance's splint, which was introduced in 1850, was simpler and in some ways better than the other. After a long and careful comparison with the various forms of corsets he had no hesitation in deciding in favour of the method of antero-posterior support.—In answer to Mr. **Douglas Drew** Mr. **Clarke** said that he based his judgment upon extensive clinical experience.

Dr. **A. Whitfield** showed a boy, aged 16 years, suffering from Acne Vulgaris combined with marked Seborrhœic Eczema. The patient was in the grocery trade and worked very late hours in hot rooms, but he stated that his general health had never suffered in any way. For about three years he had suffered from acne of the face, and for about a year he had noticed that his head had become very scurfy and that red spots occasionally came out on his chest. During the last month the condition of the head and chest had become much more marked and red spots had come out on his back and face. On examination Dr. Whitfield was struck by the presence of enormous numbers of comedones on the face, especially on the forehead and cheeks. Most of these were large and prominent, but few only were much inflamed, pustulation being present only in slight degree The skin of the face was noticeably greasy, a condition which might partly be accounted for by insufficient washing, but was undoubtedly more than a mere accumulation. The whole of the scalp was covered with a very thick greasy scale, which extended downwards in a gyrate manner on to the left side of the forehead. Where the rash reached the forehead it was seen to be of a florid red colour with very defined outline and covered with a yellowish scale On the chest and back a considerable number of comedones could be seen without any inflammatory areola around them, and in addition to these there was a number of discoid patches varying in size from that of a small lentil to that of a sixpenny-piece. These patches could be traced from single follicular papules, and when they had extended centrifugally they became bright red hyperæmic spots without infiltration, but covered with an adherent and rather greasy scale. The condition thus strongly simulated psoriasis at the edge of the hairy margin of the scalp, and on the chest and back. There were, however, no other lesions on the elbows or knees, and the facts that the disease was associated with a general, seborrhœic condition of the skin and that these psoriasis-like spots took origin from small follicular papules would seem to justify the diagnosis of seborrhœic eczema. Dr. Whitfield alluded to the fact that some observers were inclined to identify seborrhœic eczema with psoriasis, as the same disease, and said that he himself believed them to be distinct, and that, while admitting that the differential diagnosis was occasionally very difficult he saw no reason for therefore believing them to be identical. He had ordered an ointment containing 2 per cent. of salicylic acid and 3 per cent. of sulphur to be used and if the disease did not yield to this he should add some oil of cade to the ointment.

Dr. **Herbert Tilley** showed two cases of Chronic Frontal Sinus Empyema in which the radical external operation had been performed. In both cases the disease was bilateral. In the case of the female patient he had operated on both sides; in that of the male patient he had as yet only operated on one side. The results were extremely gratifying. In both cases relief was sought for nasal obstruction and profuse purulent nasal discharge. In neither case had headache been a prominent symptom. In each instance the maxillary antra contained pus. Dr. Tilley laid great stress on the importance of removing intra-nasal pathological conditions before proceeding to the external operation. His usual line of treatment was to remove the nasal polypi or chronic inflammatory products from the region of the middle meatus and also in all cases the anterior half of the middle turbinate bone, which was nearly always diseased in chronic cases and formed an obstruction to free discharge from the frontal sinus. If the antrum contained pus it was drained by the alveolar method. When the nose, and more especially the region of the middle meatus and anterior ethmoidal cells, was healthy then the external operation might be undertaken with every prospect of success. This consisted in making an incision in the inner third of the line of the eyebrow, terminating just above the internal palpebral ligament. The anterior wall of the sinus was removed entirely if the sinus was only of a moderate size, otherwise only a portion of it. The diseased mucous membrane was then thoroughly curetted and a large opening made into the nose (an enlargement of the normal fronto-nasal canal); this should be sufficient to admit the tip of the little finger passed up from the nose. A drainage-tube was inserted in cases where the sinus had not been obliterated. The wound was closed at the end of the operation by one or two stitches and the resulting scar was hardly noticeable. In the patients exhibited there was complete relief from all symptoms.—In reply to Mr. **D'Arcy Power**, Dr. **Tilley** said that the danger of operative interference in this region was much minimised by a careful preliminary study of and acquaintance with the anatomy of parts involved, and as the frontal sinus did not develop till the seventh year of age and remained small till after puberty, such treatment would be very rarely called for in young people.

Dr. **William Ewart** showed a case of Tachypnœa in association with Upward Dilatation of the Stomach. The patient, a female, aged 18 years, had suffered from infantile bronchitis and from habitual cough and for four years from shortness of breath on exertion. She had recently been laid up in bed for three weeks with rapid breathing, orthopnœa, oppression across the sternum, and discomfort at the left thoracic base. On admission the suspicion that the case might be one of hysterical tachypnœa was not confirmed by the aspect or history. Scattered wheezes were heard in the chest and the dyspnœa was genuine. The tachypnœa, which was not complicated with any increase of the pulse-rate or of the depth of the respirations, suggested the likelihood of upward dilatation of the stomach as a cause. This was also rendered probable by the distension and oppression at the lower sternum and the regurgitation of bitter-tasting food after meals. On examination the stomach was found to be dilated upwards as far as the level of the fourth costal cartilage, rising above the level of the cardiac which was in the normal situation. The tympanitic note encroached upon part of the cardiac dulness and replaced the dulness of the left lobe of the liver. The chest did not present the usual signs of emphysema and subsequently gave ample respiratory movements as the patient recovered under appropriate gastric treatment. The tachypnœa was never extreme (53 per minute). On the day when the tachypnœa and respiratory distress were relieved a further examination showed that the upper boundary of the gastric resonance had returned to the normal level. Additional features of interest in the case were the liability to pseudo-rheumatic pains in the joints, the decayed condition of several of the teeth, and the presence of a tape-worm which had been allowed to remain without treatment for the last four years —In discussing this case Mr. SEFTON SEWILL said that a point of interest was raised by Dr. Ewart's paper inasmuch as Professor Arkövy had some time ago described a bacillus which was constantly found in the pus of abscesses of dental origin, especially in those of a chronic nature. This was named "bacillus gangrenæ pulpæ" and Dr. William Hunter in a paper read before the Odontological Society of Great Britain had ascribed to its presence in the stomach several troublesome affections of that organ. The point was the importance of bringing the mouth into a thoroughly healthy state in all cases of disease of the stomach.

Dr. ALFRED EDDOWES showed: 1. A rapidly recovering case of Alopecia Areata The patient, a male, aged 16 years, had been treated by several medical men but the disease had become nearly general and had been looked upon as almost hopeless. Thyroid extract was administered and lysol solution was applied locally with the result that the hair was rapidly returning to its normal colour and the patient was growing fast and improving in every way. Dr. Eddowes believed that the case was essentially leucodermia of hairy parts. He said that too many cases of alopecia occurred with leucodermia for the association to be merely accidental. He looked upon alopecia as a condition produced by several causes and not as a distinct disease. He had known leucodermia to be recovered from. He now had much greater success in treating alopecia than formerly. 2. Coccogenic Sycosis, which had commenced on the upper lip, apparently from infection due to discharge from the nose. The patient had had sore eyes for many years. Dr. Eddowes thought that the discharge from the eyes had infected the nose and thence the lip, and that it would be almost useless to treat the sycosis without treating the eyes. He had seen three cases of the kind in one afternoon at the hospital. He applied yellow oxide of mercury ointment to the eyes, with a dressing and bandage at night. To smear ointment on the lids in such a case was almost useless, as grease ran off wet eyelids like water off a duck's back. 3. Lupus Vulgaris in a condition like Scrofulodermia 4. A woman suffering from Xerodermia of the Hands and Ichthyosis of the Legs, improving in health and condition of skin under thyroid extract.

Mr. DOUGLAS DREW showed a case of Large Fibro-Adenoma of the Breast.

The various cases were discussed by Mr. D'ARCY POWER, Mr. J. JACKSON CLARKE, Mr. DOUGLAS DREW, Mr. EDMUND ROUGHTON, Mr. SEFTON SEWILL, Dr. ARTHUR WHITFIELD, Dr. EDDOWES, Dr. HERBERT TILLEY, and the PRESIDENT.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

The Notification of Phthisis —The Treatment of Gonorrhœal Arthritis —Cases and Specimens

A MEETING of this society was held on Feb 2nd, Dr. GORDON BLACK, Vice-President, being in the chair.

Dr. SPOTTISWOODE CAMERON, in his remarks on the Notification of Phthisis, passed rapidly over the familiar ground of the importance of preventive measures in combating tuberculosis. He thought that the objections that would probably be raised against the notification of phthisis were of three kinds. 1. There was the important one of breach of confidence. The statutory obligation to report certain cases had in regard to such diseases done away with this difficulty; but in regard to phthisis, which was not at it not, ho mission of the patien the notification was valueless. This, In answer to this it was contended: (a) that kno cases enabled the sanitary authority to disinfect at intervals rooms occupied by phthisical patients; (b) it enabled them to suggest in some cases a certain amount of isolation and would indirectly lead to the strengthening of the hands of those who wished to see proper hospital accommodation provided for patients of this class; (c) again, the visit of the sanitary officer would often lead to dealing with such sanitary shortcomings as the overcrowding of dwellings; (d) notification would have the effect of educating the public as to the communicability of the disease and by the distribution of handbills and by friendly explanation do something to overcome the crass ignorance on this subject, especially of the poorer classes; (e) not the least important, perhaps, of the advantages which might be expected from notification would be the greater opportunity it would give the health officer of getting at the causes of the disease. Inquiring back from recent cases he would visit workplaces where the patients had been employed, ascertain perhaps that other sources of infection existed there, and remove conditions favourable to the spread of the disease. 3. The third objection might be that the system was impracticable. The best reply to this was that it was already in action. Dr. Cameron then referred to what has been done in some other large centres, and especially in Manchester. They were fortunate in having amongst them that evening Dr. J. Niven of Manchester who would no doubt explain to them the steps which had been taken in that city in this direction.—In response to the invitation of the Chairman, Dr. NIVEN described how the 500 cases which had been notified from public institutions in Manchester since September last had been dealt with Every one of these cases had been visited by a medical man appointed for that purpose. The patient and his friends were personally instructed how to deal with the sputum to prevent its becoming dry and pulverised. He advised as to the disinfection of the rooms, reported on the source of infection and conditions of overcrowding, and investigated as to the source of the disease. The case then was placed on the list of the lady visitors, of whom the corporation had several. One of these ladies visited the house at intervals and saw that the measures advised were carried out, giving such assistance and advice as might be required. Up to the present the cases reported were chiefly well-marked ones, so that it had not been necessary to make arrangements for an examination of the sputum. This might b required when notification became more general. Ther were many advantages in having begun in Manchester wit the modified notification of institution cases. They ha learnt much and had got their machinery into worki order. In regard to disinfection their most usual plan w to wash the walls down with a weak solution of chloride lime, as recommended by Professor Delépine. They regar the "clean down" as one of the essentials with dirty ho holds. Speaking of the infectivity of phthisis, Dr. N mentioned that an investigation into the causation a large number of fatal cases of phthisis had sh that in half of them there had been opportunities o infection from other cases of the disease.—Mr. H. J. ROPER thought that general practitioners were capable of diagnosing their own cases of phthisis and said that in his experience instructions such as those mentioned by Dr. NIVEN—viz., the using of spittoons containing carbolic acid or some other disinfectant to receive the expectoration, and the avoidance of the use of handkerchiefs, together with free ventilation of the apartments—were usually given by medical men to their phthisical patients in the ordinary routine of practice.—Dr. E. F. TREVELYAN thought that if the sanitary authorities were responsible for the public health it was only reasonable that facilities should be afforded them of satisfactorily coping with the infective diseases, and notification was one such facility. The notification of phthisis would undoubtedly enable them to lessen the mortality from phthisis, which i Leeds itself was over 600 per annum. With this notifica tion the all-important question of educating the patien in regard to the spread of the disease to those abo him became easier Even now every phthisical hospital o patient should receive simple printed instructions to ena him to avoid communicating the disease to others. T notification of phthisis and its diagnosis were closely related subjects. In some early cases it was impossible to make a certain diagnosis from the physical examination even when taken in conjunction with the symptoms; in a proportion of such cases an examination of the sputum would be of assistance. Therefore he was in favour of the sanitary authority making provision for the examination of sputum of suspected cases free of charge, in the same way as was done for diphtheria and some other diseases. Dr. Trevelyan did not think that the notification of phthisis, judiciously carried out, should give rise to any friction between the medical profession and the sanitary authority.—Mr. J. HOLMES cordially agreed with what Dr. Cameron had said. He thought that not only should notification be adopted but that institutions should be provided for the treatment of the phthisical.—Dr. T. JOHNSTONE, medical officer of health of Ilkley, thought that phthisis, like all other infectious and contagious diseases, should be notified.—Dr. SANDERSON LONG and Dr. BRONNER also took part in the discussion and after some remarks from the CHAIRMAN Dr. CAMERON and Dr. NIVEN replied.

Dr. T. CHURTON read notes of cases of Severe Gonorrhœal Arthritis, a few simple, others complicated with rheumatism or with syphilis or both, in which the duration of the disease was apparently very much lessened by the frequent administration of sandal-wood and other oils, salicylates, and mercury.—Mr. T. R. JESSOP, Mr. E. SOLLY, Mr. B. G. A. MOYNIHAN, and Mr. J. W. DRAPER took part in the discussion and Dr. CHURTON replied.

Mr. H. LITTLEWOOD showed. 1. A patient on whom he had performed a month ago Pyloroplasty for Pyloric Stenosis due to Ulcer. The patient was a woman, 36 years of age, who had lost four stones in weight during the last 18 months and had vomited almost daily during that time. She had only vomited once since the operation and is now taking ordinary diet. 2. An Ovarian Cyst with a Twisted Pedicle and a specimen of Osteitis Deformans of the Tibia and Fibula.

The following cases, pathological specimens, &c., were exhibited:—

Mr. PRIDGIN TEALE: Tumour of the Breast.

Dr. E. O. CROFT: (1) The Uterine Appendages removed by Laparotomy, showing Tubo-ovarian Abscess; (2) a Calculus (weight 232 grains) removed from the Female Bladder by Vaginal Cystotomy; (3) a Calculus (weight five grains) passed spontaneously from the Female Bladder.

Dr. T. WARDROP GRIFFITH: (1) Two specimens of Stricture of the Œsophagus; (2) specimens of Rheumatoid Arthritis; (3) Rheumatoid Arthritis in a child following on Measles.

Mr. SECKER WALKER: A Diagrammatic Model of the Eye, designed for the teaching of refraction and accommodation.

Dr. CHURTON: (1) A Child with Anasarca without Albuminuria, but with Excessive Indicanuria; (2) a specimen of Cystin in the Urine.

Mr. MAYO ROBSON: Enlarged Axillary Glands (small round celled sarcoma) of a few months' growth, secondary to a tumour of the breast (primarily an adenoma) of 16 years' duration.

Dr. TREVELYAN: (1) A case of Laryngeal Disease in a Child, probably due to Congenital Syphilis; (2) specimens of the Diphtheria Bacillus from a case of Primary Diphtheritic Stomatitis.

Dr. BRONNER (Bradford): Large Cholesteatoma removed from the Upper Part of the Middle Ear (attic); no subjective symptoms.

Mr. B. G. A. MOYNIHAN: (1) Two cases of Traumatic Birth Palsy; (2) Congenital Deformity of the Hands; (3) a case of Charcot's Disease of both Knee joints.

Dr. J. B. HELLIER: The Uterus from a case of Eclampsia, showing Placental Site.

Mr. E. WARD: An Epithelioma of the Forearm.

Mr. P. J. CAMMIDGE: A Ruptured Liver.

Mr. LAWFORD KNAGGS: (1) Primary Resection of the Bowel for extensive Ulceration and Perforation in a Hernia (specimen and patient). (2) Gangrene of the Bowel and Hernial Sac, Primary Resection.

Mr. A. L. WHITEHEAD: (1) Case of Bilateral Paralysis of the Third Nerve; (2) skiagram of Steel Chipping in the Eyeball.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held at Hanover-square on Jan. 26th, the President, Dr. Ivor Murray (Scarborough), being in the chair.—Dr. Harry Campbell opened a discussion on the Treatment of Diseases of the Nervous System and Nervous Affections by Baths and Climate. He remarked upon the beneficial influence of mere change of air, which he connected with the wandering habits of primitive man. The open-air treatment was, he contended, beneficial in other diseases than phthisis, notably in nervous diseases. He referred to the large part which toxins played in neuropathology and to the potent influence of climate and baths on metabolism, and therefore on the toxicity of the blood. It was often advisable to put nervous patients through a preliminary treatment before sending them away, otherwise they might not benefit by the change. Dr. Campbell held that British health resorts were not so well equipped for the treatment of neurasthenia as some of the continental ones. He referred to the advantage of reducing high arterial tension in some nervous affections, and concluded by inviting discussion regarding the climatic and balneological treatment of sleeplessness, neuralgia, Graves's disease, epilepsy, chronic alcoholism, and morphomania.—Dr. Symes Thompson having testified to the importance of change of environment in functional and organic nervous diseases, Dr. Risien Russell instanced in illustration of the good to be obtained from baths in the treatment of chronic organic affections of the nervous system their ameliorating effect on certain troublesome symptoms in some diseases of the spinal cord. Peripheral neuritis was chosen to exemplify the beneficial effects of this mode of treatment in certain acute affections of the nervous system, but he insisted on *the deleterious consequences to be expected from the* indiscriminate use of baths in many other acute organic diseases. On turning to the consideration of functional affections neurasthenia was selected as an example of an affection the different varieties of which call for very different forms of bath treatment. The neurasthenic subject who required stimulating might derive much good from the cold bath properly given, while another class of neurasthenic patients might be injuriously affected by this measure and might nevertheless obtain benefit from the indifferent bath.—Dr. Bezly Thorne agreed with Dr. Harry Campbell in the opinion that auto-intoxication exercised a dominant influence in the causation of the greater part of nerve diseases. He believed that the influence of climate and of baths in relation to insomnia depended on whether they raised or lowered intra-arterial pressure. He had observed that in certain cases in which baths increased high tension insomnia was aggravated and *vice versâ*.—Dr. Karl Grube of Neuenahr said that he had often been struck by the small attention that had been paid in England to the balneological treatment of nervous diseases. Neither in the handbooks on nervous diseases nor in the books of balneo-therapeutics was sufficient mention made of this valuable form of treatment. This to him seemed all the more remarkable as some forms of nervous disease which were particularly benefited by bath treatment seemed to be very frequent in this country, as, for instance, neuritis. He had always found baths very effective in the treatment of neuritis, especially of those forms of neuritis with a great deal of pain. With regard to the various methods of bath treatment in nervous diseases Dr. Grube had found one rule of the greatest importance, and which might be expressed in the words, "Avoid extreme temperatures." Neither very hot nor cold baths seemed to do much good; on the contrary, they very often did harm by increasing the symptoms by their irritating influence. Indifferent baths—i.e., baths of a temperature of about blood-heat—were most beneficial. The nature of the water used—i.e., its chemical constituents—was only of very secondary influence.—Dr. Fletcher Beach said that in two cases, one of lateral sclerosis and one of tabes, which had been under his care the patients had been much benefited by residence at the seaside. The first patient had considerably improved and the lightning pains of the second patient had much diminished. Open-air treatment was especially desirable for mental as well as for nervous diseases and in all asylums patients were given as much open air as possible. Thus all asylums had large airing courts, and those patients who were fit for it were employed in the garden or on the farm. The nervous system was thereby strengthened and recovery was assisted. In some cases of neurasthenia rest was desirable, and travelling or touring round the world did more harm than good. The effect of altitude on nervous disease varied; some patients improved, while others, especially those in whom sleeplessness was produced, deteriorated and had to live at a lower level. The absence of a complete system of baths attached to hospitals was a defect.—Dr. Fortescue Fox (Strathpeffer Spa) remarked that baths were of advantage, not in advanced disease (sclerosis), but in the early stages of such disease, and in many nervous disorders, especially those manifested by irritability and exhaustion.—Dr. Leon (Sidmouth) said that high altitudes and a dry bracing air had a vaso-constrictor influence, while the opposite applied to a low-lying humid situation, where the arterioles were dilated and the blood-pressure was low. Sleeplessness was common at high altitudes, and in this relation an article recently published showed the valuable effects of vaso-dilator drugs on the sleeplessness and restlessness of old age.

Sheffield Medico Chirurgical Society.—A meeting of this society was held on Jan. 18th, Dr. D. Burgess, the President, being in the chair.—Dr. Arthur Hall introduced a case showing the remains of Vaccination Pustules on the "Chapped Hands" of a girl, aged 15 years, who had not previously been vaccinated, and who about a month previously had nursed a recently vaccinated baby.—Dr. R. W. Gilmour showed a specimen of Adenoma of the Kidney from a patient who had died from apoplexy.—Dr. S. Riseley read the notes of a case of Abscess of the Brain following injury to the eyelid. The patient was a boy, aged one year, who was admitted to the Royal Hospital, Sheffield, on Oct. 20th, 1899, suffering from an abscess in the left upper eyelid; the lid was very prominent, dull-red, and glazed looking, and there was a small wound with sloughy edges and distinct fluctuation. Three weeks previously the child had run a rusty sharp-pointed file-maker's tool into the eyelid for about an inch. The wound did well for a time and then began to swell up. The wound was incised transversely and an excessive amount of pus escaped and on introducing the finger bare bone was felt. The wound was plugged with iodoform gauze. The temperature remained subnormal and the child apparently did well until the second night when meningitis set in; the temperature rose to 100° F., and the child died. Towards the last the eyeball could be seen apparently quite normal. There was escape of cerebral spinal fluid from the wound. The post-mortem examination showed a fracture of the orbital surface of the frontal bone. Lymph covered the brain on the upper and under surfaces, and on the under surface of the frontal lobe there was an abscess of the size of a large walnut, communicating through the fracture with the wound of the eyelid. The abscess cavity contained a little pus and some iodoform crystals and was lined with pyogenic membrane.—Dr. N. D. Bardswell read a report on eight months' trial of the Sanatorium Treatment of Phthisis at the Sheffield Royal Infirmary.[1] Accommodation had been made for 20 patients, but the conditions under which the trial had been made were disadvantageous. In the grounds hammock chairs protected by screens, &c., were provided for the patients, and a revolving shelter had been erected for accommodation in bad weather. Routine treatment had been for the most part modelled on that followed at Nordrach. Apyrexial patients spent the whole day in the grounds; those with pyrexia lay by open windows, the wards being well-aired throughout the night. Three chief meals were given—viz., at 6 A.M., 12.30 P.M., and 7 P.M. Extra butter, milk, and eggs were added to the infirmary "full diet," the diet being modified for individual cases when necessary. Carefully regulated walking exercise was allowed in cases where the temperature was never above 100 2° F. Pulmonary gymnastics were also employed in convalescing cases, systematic massage replacing exercise in bad cases. Practically no medicines were given except bitter tonics, cod-liver oil, and malt. Four-hourly temperatures were taken in the axilla, the pulse and temperature rates were recorded night and morning, the sputum was measured and recorded daily in drachms, and the weight was recorded weekly. In all 30 patients had been treated, 18 of them being still in the infirmary. The cases were unselected. By far the best results had been obtained in patients with a small amount of active disease and good general condition. Out of 17 such cases five had been nearly cured and had returned to suitable work and the rest were very much improved in every respect. Patients with extensive active disease and severe constitutional disturbance and those with phthisis laryngea had done badly, half of them dying and the rest improving in the summer to remain stationary or to relapse in the winter. As far as Sheffield Infirmary was concerned nearly all patients improved considerably under treatment from April to September, but during the winter months all except those with small lesions or those who were well advanced towards convalescence either ceased to improve or became worse.

Newcastle-on-Tyne Clinical Society.—A meeting of this society was held on Jan. 18th, the President, Mr. H. B. Angus, being in the chair.—Dr. W. P. Richardson showed a male child, aged 20 months, with Symmetrical Gangrene of the Feet of one week's duration, the result of Raynaud's Disease.—The President showed a man, aged 44 years, a miner, who was admitted to the Royal Infirmary with a swelling on the right side of the neck of two months' duration.—The members present were mostly of opinion that it was a dermoid cyst and this diagnosis was verified on removal of the tumour on the following day.—The President also showed a man, aged 66 years, with a large, irregular swelling of the neck of four years' duration, which had increased more rapidly during the last two years and was stated to frequently diminish in size towards night. It chiefly involved the right lateral lobe of the thyroid, reaching down to the clavicle and sternum. The diagnosis rested between malignant disease of the thyroid or a simple adenoma. The former was considered the more likely and surgical interference was not thought advisable.—Dr. W. E. Alderson showed a man aged 55 years with Dupuytren's Contraction present in both Hands. His occupation was that of an iron-turner which necessitated incessant pressure on the palms of both hands alike. 12 months ago stiffness unaccompanied by pain appeared in the right hand and the middle finger became gradually flexed. Six months later a similar condition appeared in the left hand, the ring finger being affected. Three months ago the patient sustained a severe lacerated wound of this affected finger which necessitated amputation on account of the tardy nature of the healing process. There was no hereditary influence, and no history of gout or syphilis, but the patient suffered considerably from muscular rheumatism. In the right hand a tense band could be felt running from the centre of the palm to the head of the third metacarpal bone where it crossed the interdigital cleft between the middle and index fingers to reach the outer side of the first phalanx of the former. Another band could be felt passing in the line of the transverse ligament to the index finger and a similar one between the index finger and thumb. The ring finger was affected to a slighter extent. The skin over the bands was adherent and puckered. The first and second phalanges of the affected digits were acutely flexed, whilst the third phalanx was extended. Adams's subcutaneous operation was advised and would be performed soon.—The President showed a man, aged 46 years, who had suffered from Dupuytren's Contraction of both Hands for four years. Both began to be affected about the same time and in each case the condition commenced in the ring finger and then affected the little finger. The man was a labourer and used tools which exerted pressure in the palms of the hands. During the last two years Adams's subcutaneous operation had been performed on three occasions and the hands had been splinted at night. In spite of this the contraction reappeared and last year an open operation was performed on one hand and the dense cicatricial band was dissected out. The result was excellent, although pressure on the scar caused pain. There seemed to be a predisposition to this condition in persons whose tissues were prone to undergo fibroid changes, whether from alcohol, syphilis, rheumatism, or gout.—Dr. A. H. Hobbs showed a curious case of Hysteria. The patient was a well-developed girl, aged 16 years, from whose left breast he had removed three sewing-needles which she had herself inserted. On examination several more were to be felt both subcutaneously and buried deep in the gland. No suppuration or enlargement of the axillary lymphatics had occurred; some pain and tenderness were present. The case was of interest as showing how much pain such patients would voluntarily inflict on themselves.—Mr. J. Clay read a paper on Cæsarean Section, touching chiefly upon the most satisfactory procedures for performing the operation.

---

[1] See The Lancet, Nov. 11th, 1899, p. 1291.

SOCIETY OF ANÆSTHETISTS.—A meeting of this society was held on Feb. 2nd, the President, Dr. J. F. W. Silk, being in the chair.—A discussion on the After-effects of Ether Inhalation upon the Respiratory System was opened by Mr. Sydney Rumboll (Leeds) who, in 1500 cases of the administration of ether preceded by gas, had only met with one case of bronchitis, one of pneumonia, and four of slight bronchial irritation; but in 60 per cent. of his earlier cases and in 30 per cent. of the last 400 the salivary and bronchial secretions were considerably increased, though quickly relieved after the first or second act of vomiting. These 1500 cases included every variety of surgical operation and were in no way specially selected; some had albumin in the urine, four had small quantities of sugar, and several had cardiac disease. Mr. Rumboll always used his own inhaler which was carefully disinfected before each administration, and in the earlier cases "anæsthetic ether," specific gravity 1017, was employed, but latterly "ether purissimus" of specific gravity 1020. He considered that in every sense the less ether used the better. The operating theatre was always kept at a temperature of 70° F., and every care was taken to prevent undue exposure of the patient. The time of year did not seem to make any appreciable difference to the amount of bronchial irritation; but catarrhal conditions were allowed to subside before any operation was undertaken. Of the six cases quoted Mr. Rumboll believed that the case of bronchitis was due to the cold operating room; the pneumonia was attributed partly to septic infection.—The President thanked Mr. Rumboll for his paper and read a letter from Dr. Macnaughton-Jones in which he stated that in his experience of ether of 30 years he had not noticed a single case of serious respiratory trouble following its use.—Mrs Stanley Boyd read notes of six cases of respiratory trouble which had occurred in her experience during the four years 1895-98. Of these one was a case of lobar pneumonia, one of broncho-pneumonia, and four of more or less severe bronchitis. Five of these cases were abdominal sections.—Dr. Edwin Starling drew attention to the fact that of the cases referred to the majority occurred after abdominal operation, and he related a case of ovariotomy in which a fatal result followed in 36 hours from bronchitis and pulmonary œdema.—Miss Aldrich-Blake stated that at the Royal Free Hospital from 1895 to 1898 1250 ether administrations were recorded, and of these only three developed any serious pulmonary trouble. One of these was a case of operation for injury to the chest wall, which was followed in three days by pneumonia; in another the pre-existing physical signs of phthisis were considerably increased; and in the third, a case of radical cure of hernia, rusty sputum was noticed three days after the administration.—On the motion of Dr Dudley Buxton, seconded by Mr. Noble, the discussion was adjourned, and the President expressed the hope that at the next meeting of the society on March 2nd further facts in elucidation of this very important and interesting subject would be brought forward.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Royal Kent Dispensary on Feb. 2nd, the President, Mr. C. J. Parke, being in the chair. Three new members having been elected the house surgeon of the Miller Hospital (for Mr. Poland) exhibited a case of Tumour of the Scrotum. Dr Septimus Sunderland then read a paper on Some Cases of Pelvic Pain in which the Diagnosis was Difficult. The paper was discussed by the President, Dr. F. S. Toogood, Mr A. E. Joscelyne, Dr. Leonard Williams, Mr. G. C. Williams, Dr. F. J. L. Hart, and Dr. J H. Keay. The meeting then adjourned until March 2nd when there will be a clinical evening.

CHARD WATER-SUPPLY.—At the meeting of the Chard Town Council held on Jan. 30th it was stated that the solicitors of Earl Poulett had reported that Mr Justice Kekewich had granted a period of six months for the council to carry into effect their proposed new scheme of drainage, consequently the threatened proceedings of Earl Poulett against the town council for the alleged pollution of the Chard reservoir by the discharge of sewage would be rescinded.

Reviews and Notices of Books.

Progressive Medicine: A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica to the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital, &c. Vol. I., pp. 490, Vol. II., pp. 468. Vol. III., pp. 440. 1899. London: Henry Kimpton. Price 12*s.* 6*d.* each volume.

UNDER the somewhat cryptic title of "Progressive Medicine" appears a new periodical publication the intention of which is to provide medical men with the latest information as to the progress which is being made in the various departments of medicine and surgery. Many attempts have been made from time to time to record in a comparatively small space all new facts that have been published during the year, but in most cases the result is likely to be almost useless, as the valuable observations and records of the year have not been separated from those which are unworthy of being permanently recorded. This work is a quarterly publication which contains articles on all the branches of medical science, each one written by a recognised authority on that particular subject; in each article the additions to our knowledge, which are of value from their own intrinsic merit, are arranged in a readable and well-digested form. The whole of medicine and surgery are divided up among the four volumes which appear in one year, and that there may be a real uniformity in the work the general editor, Dr. H A. Hare, has exercised a careful supervision over the individual articles. The first article of the first volume deals with the surgery of the head, neck, and chest, and is written by Dr. J. C. Da Costa. It commences with an account of the modern surgical treatment of exophthalmic goitre; the operative procedures which are most strongly recommended are described and discussed and then the author sums up our present knowledge in a few sentences. Not every subject is dealt with, only those being noticed in which some valuable addition to our knowledge has recently been made. For example, we may refer to an article of this same section in which Dr. Da Costa describes the treatment of wounds of the lung; here we find an interesting account of wounds of the lungs by bullets and we are told that Dr. Senn in the late Spanish-American war found that many patients who had been shot through the lung with a Mauser bullet recovered under the treatment of rendering the surface aseptic and sealing the wound hermetically. Few cases of hæmothorax require operation, but the author gives a brief account of a case under his own care in which severe secondary hæmorrhage from a wounded lung occurred into the pleural cavity; the chest wall was laid open and more than a gallon of blood was removed. The bleeding lung was surrounded by packing which arrested the hæmorrhage and the man ultimately recovered. During the operation two quarts of saline fluid were introduced into the median basilic vein.

It is obviously impossible to describe fully the contents of these very interesting volumes but we will mention the names of the writers who have contributed the several articles.

Dr. Alexander D. Blackader of the McGill University, Montreal, is responsible for the article on the Diseases of Children. Dr. Ludvig Hekboen, Professor of Pathology in the Rush Medical College, Chicago, has written on Pathology. Dr. W. S. Thayer has contributed the article on the Infectious Diseases, including Croupous Pneumonia. This contains a long and valuable account of the present state of our knowledge of malaria and the malarial parasite. In the section on Typhoid Fever the author gives a summary of

Bushnyco's method of treating the disease by a liberal diet, consisting of bread, boiled meat, a cutlet, soup, milk, and an egg. So far as can be judged from statistics founded on 154 cases, in 80 of which the diet was adopted while the remaining 74 were fed on milk only, the cases treated by the fuller diet have a slightly higher percentage of recoveries and a shorter stay in hospital. Dr. Thayer in commenting on this diet asks, "Is it not more than likely that many cases of typhoid fever suffer from too restricted a diet?"

Dr. A. Logan Turner of Edinburgh has written the article on Laryngology and Rhinology, and Dr. Robert L. Randolph of the Johns Hopkins University, Baltimore, has supplied the section on Otology.

The second volume commences with an account of the Surgery of the Abdomen, by Dr. William B. Coley, who occupies 140 pages with an excellent *résumé* of all that is new in this department of surgery. Perhaps the most interesting, and certainly the fullest, description is given of the operative treatment of hernia and many useful illustrations accompany it. Dr. W. S. Halstead is quoted as saying that "the licence to practise general surgery should be withheld from those who have not practised on animals the operation for circular suture of the intestine and intestinal anastomosis." There is a great fallacy in this recommendation, for the intestinal wall in dogs is decidedly thicker and therefore more easily sewn than is the wall of the human bowel.

Dr. J. G. Clark of the Johns Hopkins University, Baltimore, deals with the subject of Gynæcology, and amongst other things he discusses fully a valuable paper by Abel on the methods of abdominal suture and their relationship to the production of post-operative hernia, with very careful statistics which show clearly that this form of hernia is least common when the fascial layers have been carefully brought together.[1]

Dr. Alfred Stengel of the University of Pennsylvania writes on the Diseases of the Blood, Diathetic and Metabolic Diseases, and Diseases of the Spleen, Thyroid Gland, and the Lymphatic System, giving an especially interesting account of diabetes mellitus. The concluding article in the second volume, on Ophthalmology, is from the pen of Dr. Edward Jackson of Philadelphia and occupies 90 pages; it is carefully and concisely written.

The third volume commences with an account of the Diseases of the Heart and Lungs by Dr. William Ewart of St. George's Hospital. It ranges over an extensive area and is judiciously moderate in its estimation of the value of the many recently advocated therapeutic measures for the treatment of diseases of these organs. Dr. Stelwagon of Philadelphia writes on the Diseases of the Skin. The case of chromidrosis which is described was in all probability due to malingering, although it is stated that it was found that the manifestation was not artificial. The article represents very adequately all that has recently been done in this department.

Dr. W. G. Spiller of Philadelphia has contributed the account of the Diseases of the Nervous System and Dr. R. C. Norris that of Obstetrics. They are both very satisfactory and we may especially mention in Dr. Norris's article the section on the Surgery of Obstetrics.

These volumes are well printed on good paper in clear type; they should prove of value to every medical man.

The Races of Man: an Outline of Anthropology and Ethnography. By J. DENIKER, Sc.D. Paris, Chief Librarian of the Museum of Natural History, Paris. The Contemporary Science Series. London: Walter Scott, Limited.

THIS handy volume is designed for the use of those who wish to obtain rapidly, from a trustworthy source, some general notion of the ethnographic and anthropological sciences, and to understand the foundations on which they are based. Some knowledge of these subjects of scientific inquiry is desirable as prefatory to, and concomitant with, the study of men and diseases among the many nationalities of the British Empire which includes races so essentially different as negroes, Arabs, Bushmen, and many cultivated Eastern races. The medical officer who is called upon to introduce hygienic measures for the removal and prevention of disease will find it important to acquire some knowledge of the people with whom he has to deal; the means to be employed for eradicating ophthalmia or malarial fever should be based upon some knowledge of the physical characters of the people to be dealt with as well as of the nature of disease; while an appreciation of their laws, habits, and customs may have a distinct bearing on a decision as to the wisest methods of carrying into practice the necessary sanitary arrangements.

Local customs as well as endemic diseases are well worthy of study; it may be found that particular ethnical groups in a locality show recognisable forms of proneness to, or exemption from, special diseases. Every country has its own varieties of physical type, language, manners, and customs—matters of as much importance to the physician as their psychical peculiarities and religion are to the governor and the teacher. The simplest and best established methods of anthropological observation may be usefully adapted to clinical study as indicating noteworthy points and showing what to look at, and what to look for, in the individual case.

The volume before us fully maintains the reputation of the Contemporary Scientific Series. The author speaks with a full knowledge of his subject and experience gained as librarian of the Museum of Natural History, Paris. He writes with the intention of imparting to the reader as much well-arranged information as is possible within the compass of his book as a stimulus to the student rather than as a complete account of anthropology as a science. The book is the more readable as Dr. Deniker, while enthusiastic in his work, does not attempt to impress any predominant theory of his own. The purpose of the author is to place before the reader in simple form the essential facts of the twin sciences of anthropology and ethnology, and while at times expressing his personal opinions on many questions of anthropology in general, such as "the classification of states of civilisation," he refrains from reiterating any predominant views of importance to the special student of anthropology only, or otherwise diverting attention from the main object of interesting and informing the reader upon the subjects dealt with.

Looking at the races of man the definite facts before us are the groups of mankind presented as Arabs, Swiss, Australians, Bushmen, Siouan Indians, &c. These do not represent unions of individuals which, in spite of some slight dissimilarities, are capable of forming what zoologists call "species" or "varieties" in the case of wild animals, or "races" in the case of domestic animals. They are *ethnic groups* formed by virtue of community of language, religion, social institutions, &c., which have the power of uniting human beings of one or several species, races, and varieties. The social groups are formed by the union of individuals belonging usually to two, three, or a greater number of "somatological units" known by aggregations of physical characteristics such as physiognomy, stature, or anthropometrical and physiological peculiarities combined in a certain way. A distinction is then to be drawn clearly between the ethnical and somatic groups; in other words these two important modes of classification must be clearly understood and distinguished.

There are certain somatic characters distinctive of man and apes; the erect attitude, curvature of the spine, the size and structure of the brain, and the morphology of the skull and the teeth; these differences being less accentuated in the fœtus and in the young than at the stage of adult development. Distinctive characters of man are found in (1) morphological development as studied anatomically, and (2) in physiological and psychological peculiarities; these differ much in their variations according to sex, age, and race. It is interesting and instructive to note the points which scientific research has shown as the most distinctive somatic characters of the human races, for these are also worthy of record in the description of individuals in clinical study, especially when recording the personal equation of the individual or the signs of degeneration, whether a reversion in type or an example of decadence following inheritance of an adverse environment. Among morphological characters cranial measurements stand first, but the author acknowledges that "peoples or ethnic groups being formed of various elements, it is in most cases impossible to determine, after the examination of an isolated skull, to which population it belongs; all that can be said is that the skull is brachy- or dolicho-cephalic, orthognathous or prognathous, &c." Stature varies in each race with sex, age, and external agencies, but at the same time it is true that these variations are also produced in a similar way in all races and cannot exceed certain limits imposed by race.

This interesting work is mainly descriptive of the ethnical characters of the human races, including their linguistic and sociological characters as well as an account of the European, Asiatic, African, Oceanic, and American peoples. The illustrations, to the number of 175, are well executed, mostly from original photographs, and indices of bibliography and of the subjects treated add value to the volume.

Experiments on Animals. By STEPHEN PAGET, F.R.C.S. Eng. With an introduction by Lord LISTER. London: Baillière, Tindall, and Cox. 1900. Pp. 274. Price 6*s.*

IN this work Mr. Stephen Paget has placed before those of the public who care to read it the evidence that has led the vast majority of the profession to approve of vivisection when performed, not carelessly or thoughtlessly as boys harry a toad or hunt a cat, but with some distinct object in view, or for the resolution of some problem which cannot otherwise be settled, or for the direct advantage of man or animal. Commencing with Galen, who showed that the brain was hot and not cold as was then generally believed and that the arteries contained blood, he passes in review the experiments of Realdus Columbus and the far more important ones of Hales and Harvey, and shows how important a bearing they had on the advance of physiological knowledge, and especially on the physiology of the circulation, and how this again assisted the progress of surgery. The knowledge of the certainty and constancy of the establishment of the collateral circulation after the ligature of an artery, which could only be learnt by experiment on the living animal, enabled Hunter to anticipate recovery after ligature of a large artery in cases of aneurysm and to replace by that operation the far more fatal one of amputation which was then generally adopted. In the next chapter the value of the experimental method is insisted on in regard to digestion by comparing the knowledge of that process possessed by the ancients with that which followed the experiments on the living animal performed by Réaumur, Spallanzani, Dr. Beaumont, and Claude Bernard. The discoveries made by the last-named experimenter on the glycogenic function of the liver are shown by Mr. Paget to have had great influence on our theory and treatment of diabetes. He then points out the value of experiments performed by Du Hamel, Bichat, Stanley, and others on living bone in demonstrating the function of the periosteum and in promoting the surgery of the osseous system. Still more important has been the practice of vivisection in determining the function of the nervous system and consequently the proper practice of medicine; and Mr. Paget rightly observes, "If a better understanding of the nervous system could have been got without experiments on animals why had men to wait so long for it? The Italian anatomists had long ago given them all the anatomy that could help them. The hospitals and practice had given them clinical facts for many hundred years; nervous diseases and head injuries were common enough in the middle ages, and by the time of Ambroise Paré, if not before, post mortem examinations were allowed. The one thing wanted was the experimental method and for want of it the physiology of the nervous system stood still." That method was adopted with the best results by Bell, Magendie, Marshall Hall, Flourens, Bernard, and the numerous experimenters of the present day. We have not space to comment on the chapters which Mr. Paget devotes to inflammation, suppuration and blood-poisoning, anthrax, tubercle, diphtheria, rabies, cholera, plague, malaria, and poisoning by snake venom, but in each and all of these conditions he dwells on the immense value of the researches that have been undertaken upon living animals in following out the nature and course of disease and the benefits that have been derived from this mode of investigation. The only omission which we have noticed is that of skin grafting. The questions discussed by Mr. Paget have been carefully considered by him in his capacity of secretary to the Association for the Advancement of Medicine by Research and the perusal of his work will satisfy all but fanatics that experiments on living animals when undertaken with a due regard to the objects in view have proved of the greatest importance in the progress of medicine; and it may be added that in a large number of instances the risks and dangers which such operations involve would be cheerfully undergone by the operators themselves.

A Manual of Surgery for Students and Practitioners. By WILLIAM ROSE, M.B., B.S. Lond., F.R.C.S. Eng., Professor of Clinical Surgery in King's College, London, and Senior Surgeon to King's College Hospital; and ALBERT CARLESS, M.S. Lond., F.R.C.S. Eng., Surgeon to King's College Hospital and Teacher of Operative Surgery in King's College, London. Second edition. London: Baillière, Tindall, and Cox. 1899. 8vo, pp. 1190. 400 Illustrations. Price 21*s.* net.

WE were able to speak with much approval of this work when it first appeared and we are glad to see that it has been so much appreciated by the professional public that already a second edition has been called for. The whole of the text has been revised and parts have been rewritten; some illustrations have been omitted and others added; much new material has also been added, but there has been an increase of only about 30 pages in the size of the book. It may certainly be looked upon as fully up-to-date and there is little with which we cannot agree, but we may mention that the rhinoplastic flap figured on p. 706 is not of a shape best calculated to form a presentable nose; a better shape is that given in THE LANCET of Feb. 21st, 1891, in a paper by Brigade Surgeon-Lieutenant-Colonel Keegan. We would urge the authors not to allow the book to grow any larger, a morbid tendency frequently displayed by otherwise healthy works. At its present size it still forms, as we mentioned in our review of the first volume, the most suitable book for all except the higher examinations in surgery.

The Use of Lead Compounds in Pottery from the Potter's Point of View. By WILLIAM BURTON, F.C.S. London: Simpkin, Marshall, Limited. 1899. Price 1*s.*

THE views of the potter in regard to innocuous glazes must be listened to with respect. Theory may indicate what might be done but practice only can be decisive. Mr. Burton is a director of a large firm of pottery manufacturers and is perfectly prepared to adopt methods which are calculated to alleviate the suffering arising from the use of lead compounds in pottery manufacture. He is not opposed to reform on this head so long as it does not threaten the vital interests of the industry. The little work before us is devoted mainly to a criticism of the report issued by Professor Thorpe and Professor Oliver on the Use of Lead Compounds in Pottery on behalf of the Home Office. He differs from these authorities in regard to the means which they suggest for minimising the evil effects of lead compounds, and gives his reasons why their conclusions can only be very partially adopted in the English pottery trade. His statements are very temperate, in good taste, and reasonable, and regarding the old adage, *audi alteram partem*, must be seriously considered. Mr. Burton holds that much good would be done if the work-people could be prevailed upon to adopt ordinary reasonable care and common sense in obeying the special rules of the Home Office and in using the appliances. It is satisfactory to note that Mr. Burton believes that the time has come when the use of raw lead in glazes may be prohibited and he only asks that sufficient time should be given to those manufacturers who have had no experience in the use of fritted lead compounds to carry out experiments for their adoption. That is a reasonable enough request which the Home Office, as we recently announced, is inclined to grant.

LIBRARY TABLE.

Our Secret Friends and Foes. By PERCY FARADAY FRANKLAND, Ph.D., B Sc., F.R S. Fourth edition, revised and enlarged. London: The Society for Promoting Christian Knowledge. 1899. Pp. 268. Price 3*s*.—Bacteriology is a subject which is not easy to present in popular terms, but Professor Frankland has succeeded well in this little work, for it is written in a very interesting and intelligible way, such as makes it well adapted for the class of readers—the uninitiated—for whom it is intended. The book belongs to the "Romance of Science Series" and is published under the ægis of the General Literature Committee of the Society for Promoting Christian Knowledge. The chapters are based on a series of lectures delivered before popular audiences. The subject matter is, however, expanded by the opportunity which publication affords. The rôle of organisms in disease and in great natural processes is eloquently described. It would be well for the public to read this excellent little story of the ways of bacteria in order that false and dangerous conceptions which are very generally current may be removed. The average man in the street has a curious idea of the microbe in regard to its nature and size and invariably he thinks it a deadly thing which should at all costs be destroyed. An intelligent perusal of Professor Percy Frankland's book will teach him, however, that amongst the myriads of bacteria around us we may count more friends than foes. We are yet merely on the fringe of the subject with regard to those functions possessed by many bacteria which are of importance to the well-being of the human race.

An Introduction to Analytical Chemistry. By D. G. HENDERSON, D Sc., M A., F.I C., and M. A. PARKER, B.Sc. London: Blackie and Son. 1899. Pp. 224 Price 5*s*.—The plan of this book is progressive, the student being introduced first to exercises on characteristic reactions of the metallic salts and the acids and bases before he proceeds to the analytical classification of the metals. Then follows a section on acidimetry and alkalimetry and afterwards an analytical classification of inorganic acid radicles. Having mastered this important part of the subject the student may proceed to the general scheme for the analysis of inorganic substances. The authors have included a useful section on the analysis of alloys. Finally, the grouping of the organic acids connected with a scheme of detection is given, while the characteristics of organic bodies, such as aniline, urea, and follow as being outside any scheme of grouping. We have carefully examined the directions given and we know from practical experience that they are reliable. The application of the spectroscope to analysis might with advantage have been amplified. The book is an excellent laboratory companion for those entering upon a course of elementary analysis.

The Year-book of Pharmacy, 1899. London: J. & A. Churchill.—The thirty-sixth annual meeting of the British Pharmaceutical Conference was held last year at Plymouth, and the transactions of this conference are reported in this volume. This fact, however, by no means forms the most valuable feature of the Year-book. The committee of publication take some considerable trouble to publish concurrently with the transactions abstracts of papers relating to pharmacy, materia medica, and chemistry which have been published in British and foreign journals for the preceding year. In this way the advances that have been made may be seen at a glance. The introductory chapter is an admirable summary of these advances and is a valuable source of reference, as it affords also very instructive reading to the progressive pharmacist. The papers read this year at Plymouth were of unusual interest and not disappointing in number. The conference will meet this year in London. The Year-book is quite up to its usual standard and is full of matters of importance to the pharmaceutical profession.

Practical Hints on the Analysis of Water and Sewage. By SIDNEY BARWISE, M.D. Lond., D P.H. Cantab. London: Rebman, Limited. 1899. Price 2*s*. 6*d*.—This little book is especially written for the use of medical officers of health who, while desiring to make as complete an analysis of water or sewage effluent as is essential yet possess little time for making an elaborate experimental inquiry. The subject could hardly be put in simpler terms both in regard to details of processes and to the construction which may be put upon the results. In this way the book should be of distinct assistance to those requiring a knowledge of the analysis of water and sewage sufficient to enable them to give a definite judgment one way or the other. Apparatus suitable for the special work is described and illustrated. The chapter on bacterioscopic examination of drinking waters is desirably brief and to the point. Dr. Barwise writes with authority on the subject and as the book is the result of his experience of analytical processes and of the interpretation to be placed thereupon it will be consulted with assurance. Further his style of writing and his descriptions are clear so that the essentials of this department of sanitary work will be readily understood by the student and the medical officer.

Examination of Water for Sanitary and Technic Purposes. By HENRY LEFFMANN, A.M., M.D., Ph.D. Philadelphia: P. Blakiston's Son and Co. 1899. Price $1·25c.—Our estimate of this little volume in the review of the original edition was correct, of which the fact that the book has since undergone revision and enlargement for the third time is confirmatory, the present issue being the fourth edition. We cannot note many important changes, and indeed the author admits as much for "no great advance in analytic methods in this field has taken place since the publication of the third edition." The methods prescribed are in very general use, having been stamped by experience as correct, expeditious, and most convenient. The author, however, notes that some change of opinion as to the value of bacteriological examinations has taken place. While bacteriologists at one time were tempted to discredit the value of chemical analysis they were now disposed to admit that up to the present time the detection of pathogenic bacteria in water is so difficult a task as to be rarely accomplished. In the addendum the filtering apparatus devised by Dibdin is described. The name Dibdin is spelt incorrectly Dibden. The utility of this little work is clearly recognised.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 10, 1900.

As medical journalists we have nothing whatever to do with such political questions as do not happen to affect the interests of the medical profession or the health and well-being of the community at large; but we occupy, perhaps on that very account, a position of advantage in that we can regard questions of national interest and public importance from a perfectly independent and impartial standpoint. We can note the trend of public opinion and listen to the reflections and observations of the more thoughtful people among us with a mind unbiased except where we are participating in patriotic feelings which we share in common with most citizens of the British empire. We are sure that our readers hold with us the belief that it would have been well if much of what has been said and published regarding the conduct of the South African war had never seen the light. Apart from the consideration that a good deal of what has appeared on one day, having no foundation in fact, has disappeared on the morrow, the undignified tone of exaggeration and sensationalism adopted by a certain class of journals has been a frequent cause of additional anxiety and pain to those who have relatives or friends at the war, as well as the origin of much needless misapprehension on the part of the public. These things concern the medical profession deeply, for the health of those whose feelings are thus wrung is our particular care. Critics seem to forget when speaking of the war that it is so easy and at the same time so futile to be wise after the event; every speculator would have made his fortune had he known and realised before investing his money all the facts and their relative proportion and importance to one another beforehand. The political situation in South Africa was altogether exceptional and unprecedented and the actors, especially the military commanders, had to accept the position just as it stood under unfavourable conditions. They have not done so badly as the British public has been led to believe. More than that it is not within our province to say.

Members of the medical profession have used their opportunities for estimating the feeling of the army in South Africa, and the intercourse between the sick and wounded and their medical advisers is close. All the misgivings and adverse criticisms which find expression here have had little or no place among those who are fighting our battles in the field. The troops in South Africa seem to be in excellent health and fettle, and confident of success and of the ultimate result of the war. The dominant feeling among the wounded who have arrived in England is to get well enough to return to duty. Could such be the case if they felt that they were serving under incompetent or bungling commanders? There is no such feeling prevalent among those who surely ought to know best. Officers and soldiers have alike recognised that the preparations and arrangements for the campaign have been on a large and liberal scale; they speak in grateful terms of the medical service; and regard the reverses under which our arms still abide as in the main attributable to the adverse conditions under which the war was undertaken—and under which it has had to be carried on up to the present time. It was our pleasure last week to refer to the way in which the officers and men of the Royal Army Medical Corps are bearing themselves as one of the bright spots of the present war; and it is only proper and fitting, at a time when the nation is moved by a widespread and genuine feeling of patriotic enthusiasm, and when so much is being done for the aid and comfort of our soldiers and their families, *that the requirements of the Royal Army Medical Corps in this respect should not be lost sight of. We are very glad, therefore, to announce that the establishment of a Fund for the benefit of that corps has been taken up in earnest. We have already announced the formation of this Fund, and in another column will be found an account of a meeting held in furtherance of this end on Monday last at Sir* DYCE DUCKWORTH'S *residence in Grafton-street.*

It will give the greatest pleasure to the medical profession to help their colleagues of the Royal Army Medical Corps—and the call is, we are glad to say, being handsomely responded to by the heads of the profession—but we think that what is also wanted is a widespread expression of appreciation, sympathy, and good will on the part of the lay public. The work of the Royal Army Medical Corps has been splendidly done on behalf of the wounded sons of the public and deserves to be widely recognised by all. We trust therefore that our readers will bring to the notice of their friends and patients the institution of this Fund. If they do this they can secure for it at once the large patronage that under the circumstances it certainly merits. As far as the amount of the subscriptions go we think that Surgeon-General MUIR'S suggestion, which follows, is sound. The donations should be small, so as to bring the list within the reach of all who are desirous of joining in it—say, half a crown for members of the medical profession throughout the United Kingdom and more or less than that sum for those outside the profession. The labours of the men who have had the proud privilege of caring for the sick and wounded on the battle-fields and in the war hospitals of South Africa, where timely succour has been so sorely needed, have stood out prominently during the present campaign, and we are sure that the Fund in their behalf only needs to be brought to the attention of the public to secure immediate support. We shall be glad to receive and acknowledge subscriptions, which may also be sent to the Treasurer of the Fund, Mrs. CHARTERIS SYMONDS, at 58, Portland-place, W. Contributions in kind should be directed to Miss MAXWELL-MÜLLER, R.R.C., at 100, Victoria-street, S.W.

THE excellent address of Dr. J. F. GOODHART delivered recently before the Reading Pathological Society and published in our columns[1] raised many interesting points worthy of the consideration of our readers. It is not our intention to review that address here, but rather to dwell upon one or two of its lessons. Dr. GOODHART was dealing primarily with the question of "acidity," of uric acid acidity, and with the stereotyped set of ideas which have gathered about this ailment, almost as defined and unvarying as the crystals of uric acid itself. But the main moral of his address was that each individual case is a separate study to be judged independently by the medical practitioner. "I want you all to go back upon your own experience, to put away all that you have read and seen through other people's spectacles, and to observe again afresh and then to answer the question, 'Is it so?'" There is great need for such teaching nowadays, when every symptom has its special medicine and when our consulting rooms have become the receptacle of remedies the very name of which is not to be found in the latest books of materia medica. The medical man must guard against the risk of becoming a slave to any set of ideas, even to his own. The most open-minded practitioner is apt to close up his experience too soon and too confidently, and to overlook aspects and causes and complications of disease which a little more time and insight would disclose to him and the revelation of which would add tenfold to the interest and value of his work. Much more is this true of the practitioner who cannot be called open-minded—he who has a ready label for every case and a routine medicine for its treatment.

---

[1] THE LANCET, Jan. 6th, p. 1.

Dr. GOODHART indicated a source of information not always sufficiently drawn upon by the medical practitioner—the patient. We all know that he who is his own lawyer has a fool for his client. Medical men are not always good therapeutists in their own cases. Much more obvious is it that the judgment of laymen as to their medical care cannot generally be of much value. Medical practitioners, even those whose work lies among the intellectual and influential classes, must often be struck with the obtuseness of clever people in regard to the nature and processes of disease. Geniuses, even, such patients may be, but they cannot understand the simplest medical procedures, either when set in motion for themselves or for the members of their family, and are often more difficult to guide than a plain unsophisticated working man. But there is a way in which every intelligent practitioner finds assistance from the views and experience of his patients. There is often in patients a quick and keen sense of the suitability of medicines or of diet prescribed, and he little knows his profession who does not heed such impressions and take them into his consideration. Dr. GOODHART says of the phenomena of uric acid excess that they form a problem in *animal* chemistry. We might almost say that they form a problem in *personal* chemistry, for the production of excessive uric acid in any given case depends on different factors from those which produce it in another case. One man will suffer from one wine and another from another; a third man will have a severe attack who takes no wine at all, or beer, though it by no means follows that his attacks have no relation to wine or beer drunk by his forefathers. The children's teeth may be set on edge by sour grapes which they have not eaten. A fourth man may owe his attack to overwork and a fifth to cold. In all these things the experience and narrative of a patient will guide the medical man. But we should scarcely go so far as Dr. GOODHART when he says that a man must decide for himself whether he requires a stimulant, or when he seems to leave the selection of that stimulant and its dosage very much to the patient himself. We should have to extend the same principle to women. Surely all physicians, and not only gynæcologists, would say that the feeling of "requiring a stimulant" in women was a dangerous guide for the exhibition of stimulant apart from medical advice.

Dr. GOODHART lamented that men nowadays drink whisky whereas in his early days they drank beer. He says, with no exaggeration we fear, that quite young men often confess to three or four glasses of whisky a day—"a poisonous drink to them, without the least idea of the harm that is accruing to them." It is obvious that such practices are well-nigh suicidal and that men who indulge in them, if they are to be saved from the results of their weakness, must be advised without reference to their own sensations. Dr. GOODHART thinks that medical men are largely responsible for the degree in which whisky is used to the exclusion of honest wines and beer. He says, "We tell everybody to drink whisky." It is serious that so good and so genial a judge of his fellows as Dr. GOODHART should lay at the door of the medical profession this great responsibility, but we believe that his words convey in a general sense the truth. Medical men are too ready to take the patient's tastes and sensations into consideration when they should assume the entire responsibility of advice, while in the matter of the patient's symptoms they may be too ready to think that the sufferer can tell them nothing which they do not know. The subject of diet—and especially of drink—is the last subject on which patients should be allowed to guide the treatment of their cases. The immediate effects of the favourite ingesta are comfortable; the ill-effects are remote and ulterior and cannot be foreseen by the patient. There are certainly times when the patient may be taken into consultation with advantage, but he must not be allowed to dictate either the occasions or the doses of his stimulant, or disaster may follow.

◆

A CASE which may be somewhat trivial in itself, but which is of curious historic interest to the modern representatives of the barber-surgeons, was lately decided in the Court of Appeal. The appellant was a hairdresser who exercised his worldly labour upon the Lord's Day at Wolverhampton and was fined by the stipendiary magistrate to the amount of half a crown and costs. The statute under which the conviction was made provides that no tradesman, artificer, workman or labourer, or other person whatsoever shall do or exercise any worldly labour, business, or work upon the Lord's Day, or any part thereof, works of necessity and charity only excepted. It was not argued that the work was either one of necessity or of charity, but counsel contended that the Act did not apply to barbers and hairdressers because they were not *ejusdem generis* tradesmen, artificers, workmen, or labourers. It was well known, he said, that at the date at which the Act was passed the profession or business of a barber was of more importance than it is at the present time, and that it was formerly associated with that of surgery. Had the legislature desired to forbid this business on Sunday it would have expressly mentioned barbery amongst the occupations which were prohibited. In the reign of HENRY IV. barbers were incorporated in a craft, and surgeons were enjoined for their protection against blood-letting and the craft of barbery. On behalf of the respondent it was contended that the appellant came within the terms of the Act because he earned his living by the work of his hands, but in contradiction to this the appellant's counsel quoted the speech of the cobbler in JULIUS CÆSAR in which he said, "All that I live by is with my awl, I meddle not in tradesmen's matters." In giving judgment Mr. Justice CHANNELL said that they had not to consider whether the appellant was a tradesman within the meaning of the Act. This was rendered unnecessary by the way in which the summons was framed. The court, however, would not base their judgment on that single point because should they do so it might be assumed that the appellant's business came within some of the remaining words of the Act. The Act related to certain specified persons; the words "or other person whatsoever" were to be read *ejusdem generis* with the preceding words. The word "tradesman" was intended to mean a person who carried on the business of buying and selling, an artificer meant someone who had made something; the words "workman or labourer" would not apply to the appellant. The contention of the counsel for the appellant that a barber's was a well-known business and of more importance formerly than at the present time was an additional argument to show that a barber was not one of the persons to whom the Act was intended to apply. Mr. Justice BUCKNILL concurred.

We do not wish to question a decision which will in future prevent the prosecution of hair-dressers in some places for what their fellows might do with impunity in other districts. It is, however, interesting to recall the fact that THOMAS ARUNDEL (FITZALAN), Archbishop of Canterbury in the reign of HENRY V., enjoined that the barbers of London should close their shops on Sundays. On July 24th, 1413, the Primate of All England addressed certain letters to the Lord Mayor and aldermen of the city of London. After telling them that he knew that they sought for the things which were above and that they would on that account readily incline to carry out things which tended to the observance of the Divine law, he intimated that when he was lately presiding at the Provincial Council in London with the Suffragan Bishops and the clergy of the province of Canterbury it was made known to them with universal reprobation that the barbers of the city of London (being without zeal for the law of GOD and not perceiving how that the Lord had blessed the seventh day and made it holy and commanded that it should be observed by no abusive pursuit or servile occupations but rather by a disuse thereof) in their blindness kept their houses and shops patent and open on the seventh day, the Lord's Day namely; and that they followed their craft on the same just as busily as on any other day in the week customary for such work. With the assent of the Suffragans and clergy the Archbishop determined that there must be made a solemn prohibition of the practice, and in future barbers were to be enjoined not to keep their houses open or to follow their craft on the Lord's Day on pain of the greater excommunication. The Archbishop proceeded to say that as the malice of men had increased, a thing to be deplored, temporal punishment was held more in dread than clerical and that which touched the body or purse more than that which killed the soul; he therefore heartily entreated them for the love of GOD and of His law and, moreover, he required and exhorted them, that they should take counsel on the matter and ordain a competent penalty in money to be levied for the chamber of the City or such other purpose as they should think fit upon the barbers who transgressed in future, conceiving that in this way those who did not fear the anger of GOD would be restrained by a scourge inflicted upon their purse.

It should be added that the ordinances formulated by the barbers themselves in the middle ages forbade in the strictest possible terms the shaving of customers on Sundays, while records of the punishment of transgressors in this respect show that the prohibition was continually being enforced, and this during the reigns of the immediate predecessors of King CHARLES II. It cannot therefore be suggested that barbers were intentionally excluded from the provisions of the Lord's Day Observance Act on account of any unwillingness to impose a novel restriction upon them. Nor apparently can they have been exempted on account of any importance of their calling derived from its former connexion with surgery. In support of this alleged connexion the privilege to let blood was referred to. Unfortunately for this argument, the Act of HENRY VIII. which united barbers and surgeons in one company expressly forbade, in London at all events, that barbers should let blood or do any act of surgery except draw teeth, while at the same time, in compensation, surgeons were precluded from shaving their customers. If this was the law in London in the days of HENRY VIII. we doubt whether even in country districts blood-letting was performed as a rule by barbers in the days of CHARLES II.; at any rate we question whether their functions gave them any kind of status akin to that of surgeons, but we have not found any records bearing directly on this point. It seems to us that, however commendable the decision of the Divisional Court may be on account of its ingenuity or its expediency, and however interesting it may be to recall the once intimate relations between barbery and surgery, the present freedom of the barber to break the fourth commandment can hardly be regarded as the revival of an ancient liberty accorded to science by our forefathers.

Annotations.

"Ne quid nimis."

GARBAGE-MONGERS.

AN unusually hideous instance of the crime of garbage-mongering was brought to light at Marlborough-street Police court on Jan 31st and the offender, a man named Stoppani, received a salutary sentence of three months' imprisonment with hard labour. About two tons of stuff in various stages of putrefaction were seized on his premises which were apparently destined to be sold to keepers of cheap restaurants, a detail which brought from the magistrate a reminiscence of how a cosmopolitan waiter had once told him that in no place in Europe was such cheap living to be obtained as in the neighbourhood of Leicester-square. The two tons chiefly consisted of "blown" tins of preserved food of various kinds, many of which had been pricked and re soldered after the escape of the accumulated gases, but three hundredweight of bacon in an advanced state of putrefaction showed that this enterprising merchant did not confine himself to tinned provisions It was further proved that he had bought for a sovereign from a wholesale firm a quantity of tinned goods which, if sound, would have been worth about £30, but which had been "thrown away to be removed for the purpose of being converted into manure," and were invoiced to the buyer by the seller as defective and not fit for human food. With regard to this we are aware of no process by which tins of preserved asparagus, milk, or sardines, can profitably be converted into any form of agricultural fertiliser, and we must point out that neither the selling of such goods with notice of their condition to the purchaser nor the throwing of them away to be removed by the dust collector protects the poorer sections of the public against the future retailing of them as articles of diet. The wholesale firm seems to have safeguarded their position by informing the miscreant buying the garbage from them that what they were selling was unfit for human consumption, of which he must have been fully aware. They do not seem to have troubled themselves to wonder for what other purpose such filth could possibly be thought worth buying at the price given; but even if as an alternative the stuff had been left where it was it would have been a temptation to many persons who might have been in a position to abstract portions of it, either for consumption in their own families or to be retailed among their humble neighbours. At Clerkenwell upon the same day Ebenezer Durman, a grocer of Whitecross-street, St. Luke's, was summoned by the St. Luke's Vestry for having deposited for the purposes of sale 135 tins of salmon, 211 tins of condensed milk, 235 tins of sardines, 15 tins of corned beef, three jars of pickles, 5 lb. of figs, 78¼ lb. of dates, and 14½ lb. of prunes, which were unsound and unfit for human consumption. Sanitary Inspector Adams proved seizing the goods in the defendant's store cellar. He at first denied having any "blown" tins but afterwards said that they must have been overlooked. The defence was that the stuff was a collection made by the last tenant from whom the defendant had bought the business, and that the milk had been bought from a broker so that the defendant had to run risks of this sort. (It is curious to note how unfortunate persons of the defendant's stamp are in their business relations) The magistrate was most unsympathetic and fined the defendant £50.

LONDON STREETS AND THE VESTRIES.

MANY of the inhabitants of London suffered a considerable amount of personal inconvenience from the slight fall of snow which took place on Friday, Feb. 2nd. Formerly it was the duty of every householder to remove the snow from the pavement in front of his own house, and as a general rule the work was quickly and thoroughly carried out At that time people who were needy and out of work promptly tried to make bargains with the various householders to do the work in return for some small amount of ready money Under the provisions of the Public Health (London) Act of 1891[1] the duty of cleansing the pavements as well as the streets devolved on the vestries. It is extremely discreditable to some of these bodies that they should show so much apathy in carrying out the statutory duties committed to them. In some parts of London the snow was removed from the pavements on Saturday, the morning following the snowstorm, but in some parts—for example, in many streets in Kensington—the snow was still lying thickly on the pavements in the afternoon of Sunday, and the vestries were apparently taking no steps whatever to get rid of the nuisance. It is a matter of common knowledge that it is an unwholesome and frequently a dangerous thing for people to spend a prolonged time with their feet wet, and it is to be feared that not a few of those who attended places of worship on Sunday must have sat for hours not only in discomfort but in peril of the maladies, not all of them trivial, in the causation of which wet feet play a part. It is impossible to suppose that the vestries of London would have any real difficulty in making arrangements for having the snow cleared from all the pavements under their charge in a very short space of time. Such arrangements must, of course, be made in advance, and we commend the question to the important bodies who have resting on their shoulders the care of the health of the people of London. Many local authorities appear to have a great desire to have the sphere of their labours enlarged, but if they will first carry out thoroughly the duties committed to their charge they can ask for greater responsibilities with more confidence.

THE HIGHER STAGES OF SEXUAL EVOLUTION.

DR. CHARLES FÉRÉ of Paris, who has given us much valuable information on the subject of the physiology and pathology of the emotions, has published an article[1] dealing with the sexual instinct in its higher phases which must command attention His paper is an argument for the repression of the brutal instincts in man and an insistence that they should not, even in the relations of marital life, play too naked and unrestrained a part and thereby afford a cause for danger to the sexual life. He points out that this danger is more likely to influence the sexual life of the woman owing to her relative ignorance and passivity. The common and, in Dr. Féré's opinion, widespread teaching that sexual indulgence is a necessity, a *sine quâ non* of healthy life, is not accepted as sound doctrine. Indeed, Dr. Féré goes so far as to assert and to adduce proofs to the effect that such teaching is mischievous; that the sexual instinct is not inborn but is acquired mainly through precept and example; and that the instinct which is at present being perfected and perpetuated by evolution is the parental instinct. A review of facts in the life-history of the lower organisms serves to show that among them the male (or less frequently the female) dies after the accomplishment of the sexual act. This shows the irresistible strength of the sexual impulse and demonstrates the potency of the instinct of propagation. At a higher stage of evolution we meet with those phases of sexual life and conduct in many birds and mammals in which a more restricted and restrained manifestation of sexual acts and needs constitutes a notable feature. In savages there appears what is practically a new phenomenon—viz, the practice of infanticide which is followed in order to avoid the natural consequences of sexual indulgence. A further departure from the normal is seen when sexual gratification is regarded both as a means and an end in itself and abortion is resorted to in order to avoid the responsibilities of marriage. Thi last phenomenon bears within itself a peculiarly pernicio element, a mode of thought and feeling which is fatal to th best instincts of the race. Dr. Féré touches upon th gravity of this aspect of the problem and the profoun weakness which it is likely to entail on nations among wh fœticide is prevalent. He enjoins the wisdom and healthfulness of sexual chastity and temperance in both marital and extra-marital life, and points out the benefits resulting from the begetting of a moderate number of children who will be able to receive the advantages of education and of high ideals, which are denied to those whose parents are handicapped by the excessive cares and anxieties of too large families. Dr. Féré concludes by expressing a strong opinion that this is the aim and ideal to be striven after in the present stage of our sexual evolution.

---

[1] 54 & 55 Vict, Cap 76, Sec. 29

[1] Revue de Médecine, No 10, 1899.

A TESTIMONIAL TO DR. NEALE OF THE "DIGEST."

WE publish in another column an appeal signed by leading members of our profession on behalf of an object which we are sure will meet with the universal approval of our medical brethren. The suggestion is that Dr. Neale, the compiler of the well-known and invaluable "Digest," should be presented with a testimonial "as a recognition by his professional brethren of his long-continued and invaluable labours on their behalf." To ourselves as medical journalists the value of the "Medical Digest" is incalculable, and we take it that every medical man writing upon any professional subject refers to the same work to find out what has been said upon his subject previously. Dr. Neale has spared neither time nor money in the prosecution of his work, and we most earnestly hope that his colleagues in the profession will show their sense of his unselfish toil upon their behalf.

THE BATLEY TYPHOID OUTBREAK.

AT the quarterly meeting of the Batley Town Council on Thursday last serious complaints were made against the Sanitary Committee regarding an outbreak of typhoid fever which has recently occurred in Batley and which some members of the council believe to be connected with a certain milk-supply. The proceedings of the council as reported in the local newspaper are not particularly instructive reading, but they serve to exemplify the inability of the average municipal mind to grasp the true bearing of medical problems. Alderman Nettleton, after reading an extract from the report of the medical officer of health, which, however, contained no reference to the subject, is said to have remarked that recently there had been a "scare" in the town respecting an outbreak of typhoid fever. That the outbreak was discovered before it had become widely diffused appears to have been entirely due to the prompt notification of first cases by medical men in the town, and for this we should have thought the council would have acknowledged their indebtedness to the profession. The worthy alderman, however, thought differently. "All the doctors in the town," Mr. Nettleton is reported by a local newspaper to have said, "were doing their best to detect cases of zymotic disease, but at the same time he was rather afraid that some of them were rather too anxious to notify them. If the doctors would only allow the suspected cases to remain a few days longer at home some would, he thought, turn out to be cases of another character." In the best interests of the people of Batley we sincerely hope that the opinion above expressed is not generally shared by the members of the Sanitary Committee. It should be remembered that the diagnosis of typhoid fever, in its early stages at any rate, is exceptionally difficult, and for this reason every encouragement should be given to medical men to notify promptly, so that suitable measures may be taken to isolate first cases, and thus to check the spread of the disease at the outset. If the first few cases are allowed to remain undetected it is impossible to estimate the mischief that may eventually accrue; and we are appalled to think that an alderman of the council, albeit on the very eve of his appointment as governor to a great educational institution in the town, could be found to advocate a proceeding which, if carried into effect, would be fraught with serious danger to the community. We regret to add that, according to the *Batley Reporter*, Mr. Nettleton in a subsequent speech thought it becoming to remark that "the typhoid epidemic was simply a scare which had been raised by some of the gentlemen in the medical profession." We are sure that on reflection the alderman will recognise with us the injustice of this aspersion, and we trust that he will take an early opportunity of apologising to the medical gentlemen of the neighbourhood, who seem to have acted skilfully and promptly for the preservation of the public health of Batley.

COCKLE-BORNE ENTERIC FEVER.

A LETTER *from the ex-Lord Mayor of Belfast* upon a subject of the deepest interest will be found on p. 421. The diffusion of enteric fever by means of oysters, cockles, and other shell-fish has often been the subject of comment in our columns and in our issue of Oct. 21st, 1899 (p 1109), the matter was discussed with reference to an outbreak of enteric fever at Exeter, the source of which was virtually traced to the consumption of raw cockles. We referred to the difficulties incident upon the attempt to get any Bill dealing sufficiently with this subject through Parliament. While waiting for this desired result we can only reiterate our former advice that people must be careful as to the source from whence they procure cockles, and in case of the slightest suspicion we would strongly advise them not to eat these dainties unless previously boiled. It is important also to point out that the question has been raised as to whether the several processes by which cockles are "boiled" or "cooked" are sufficient to destroy pathogenic bacilli present between the valves of these molluscs, and we have reason to believe that this matter is at the present time engaging the attention of the Medical Department of the Local Government Board.

PRECOCIOUS DEMENTIA.

DR. CHRISTIAN of Charenton has contributed to the *Annales Médico-Psychologiques* for 1699 a series of articles on this subject which are well worth reading. His study comprises the clinical and life histories of 35 cases, and includes a valuable historical account. He points out that both Pinel and Esquirol regarded this affection as a form of idiocy, and that it was reserved for Morel of Belgium to show its precise significance. More recent authors have named this disease hebephrenia or dementia præcox. Dr. Christian states that this affection is much more frequent than is usually supposed, and that he has met with 100 cases of it during 19 years. The characteristic symptoms are as follows: its appearance at the period of puberty, the variable delusions at the onset and in the early stage, the constant and sudden impulses, and the rapid termination of the attack by a condition of mental weakness more or less pronounced. Three periods exist—viz., the period of incubation, the period of delusions and confusion, and the period of mental enfeeblement (terminal period). Prodromal symptoms may be absent or may show themselves in a vague form, such as fatigue or inaptitude for work. Later there appears with more or less suddenness the mental disease in its characteristic form—e g., maniacal excitement, melancholia, mental confusion, or delusions of a hallucinatory or hypochondriacal nature. The patient passes now into the third stage, and it is remarkable how quickly this may attain its culminating point. Certain hebephreniacs remain on the borders of imbecility, others fall almost from the beginning into a condition of profound stupidity. In the lighter forms of hebephrenia the patient may exhibit only a slight mental enfeeblement which does not prevent his fulfilling the duties of ordinary social life. In the graver forms a more profound mental involvement persists and the patient passes into cataleptic and catatonic conditions and is liable to suffer from impulses. The differential diagnosis from acute mental confusion, from stupor, and from epileptic or alcoholic insanity is very difficult at the onset. The disease makes its appearance between the ages of 15 and 25 years. Dr. Christian does not accept or admit the almost exclusive influence of heredity or of degeneration which so many authors invoke as the main causal factor. He accords the position of first importance to debilitating causes, above all to over-exertion (*surmenage*), and contends that though the affection is at present relatively rarer in the female than in the male this disparity is already tending to disappear. He looks upon puberty as a contributory condition which facilitates the production of the disease.

THE BUCKLAND FISH MUSEUM.

IN our issue of Jan. 21st, 1899, we commented upon the fact that a select committee had recommended that this museum should be abolished and that many fishery boards and prominent fishermen had prepared a memorial to the Lord President of the Council and the President of the Board of Trade protesting against such a decision. On Feb. 5th the two Ministers concerned received a deputation who presented the memorial. The memorial called to mind the inception of the museum by the late Frank Buckland and asked for the maintenance and exhibition of the museum as being an institution in the interests of the sea and river fisheries of the United Kingdom. The reply was of the usual stereotyped official order. The Duke of Devonshire said that it appeared to him that the matter was one which more concerned the Board of Trade than the Education Department, and the President of the Board of Trade said that his department could not move in the matter without the assistance of the Treasury. He hoped, however, that the result of the deputation might be a careful inquiry into all matters connected with the museum and that they might be able to come to some conclusions satisfactory to the deputation and to all interested in the culture of fish. So the matter stands for the present, but it is obvious that something should be done to preserve the museum as a step towards using properly the unrivalled resources of the British sea and river fisheries as food for the people.

PHYSICAL TRAINING IN SCHOOLS.

A CIRCULAR has been issued by the Scottish Education Department to school boards and managers of schools upon the importance of physical exercise and military drill being taught in such schools. The circular says:—

> Lord Balfour is convinced that such exercises, apart from any other consideration, would be a most important aid in attaining some substantial objects at which all education must aim. Not only do they tend to improve manual dexterity and to render more alert the faculties of observation, but they are also pre-eminently useful in developing those habits of comradeship, of responsibility, and of individual resource which are of supreme importance, not only to the nation as a whole, but to the individual pupil. Indirectly they bring the individual into contact with the principles which lie at the foundation of national defence, and they bring home to him his duties and responsibilities as a citizen of the Empire, while at the same time giving him an opportunity of strengthening and developing his physical powers and rendering him more fit for his ordinary employment. Whatever form the military service of our country may hereafter assume it is evident that the strength and security of the Empire as a whole as well as that of every individual citizen depend upon the extent to which the moral elements of and readiness of judgment, along with be developed. Success in this can only be achieved by careful consideration of the best methods and by employing these strenuously and zealously during school life. Attention to physical training becomes all the more urgent owing to the tendency of population to gather to the larger towns, where the opportunities for physical exercises are necessarily restricted.

These are weighty words and absolutely true. There is nothing which is so likely to develop habits of honesty, independence in action, and at the same time unselfishness as the usual forms of physical exercise. A man must not play for his own hand if he wishes to win a game at football or cricket, and to be a unit in a corps is an object-lesson for an egotist. This is the training which far more than book learning is the strength of our public-school education, and similarly the want of it is the defect in most elementary schools. The circular goes on to say that enormous good might be done by the formation of cadet corps among those who have just left school, which corps would be arranged for by the school managers in combination with local associations of public spirited inhabitants. In seaboard parishes nautical training should be developed. We wish the movement every success for we are convinced that it proceeds upon the right lines.

INTERNATIONAL CONGRESS OF MEDICINE, PARIS, AUGUST, 1900.

THE Paris executive of the International Medical Congress have issued a notice to the effect that at the request of the French Society of Electrotherapy and Radiology, the Inter national Congress of Medical Electrology and Radiology to be held in connexion with the International Congress 1900. A commission composed of M. Weiss, professor of th University of Paris, President; MM. Apostoli and Oudin, Vi Presidents; M. Doumer, professor at the University of Lil general secretary; M. Meutier, secretary; M. Boisseau du Rocher, treasurer; and M. Bergonie, professor at the University of Bordeaux, M. Bouchacourt, M. Branly, professor of the Catholic Institute of Paris, and other distinguished medica men in Paris have been asked to assure its organisation This Congress will take place in Paris from July 27th August 1st, 1900. All inquiries for further informati should be forwarded to Professor E. Doumer, gene secretary, 57, Rue Nicolas Leblanc, Lille. Notices of int tion to join the Congress are to be sent to Dr. Meuti 11, Rue de Miromesnil, Paris.

TUMOURS OF THE CAUDA EQUINA.

DR. B. SACHS[1] records two cases of tumour pre upon the cauda equina successfully located by diag and removed by operation. Case 1 was that of a aged 56 years, who had suffered for 18 months severe pain in the right thigh and leg and subseq had sudden severe cramps of the muscles of the thig had been previously wounded by a bullet in th War, the missile passing obliquely through the up of both thighs. The pains from which he now were suspected to arise from the old wounds cause bullet and anti-neuralgic treatment was tried but success. The muscles of the limbs were somewha but whether this could be attributed to the prese (of the cauda equina) or to the old bullet injury years previously was not certain. The spinal c sensitive to pressure along its length and deep pr the spinous processes of the second and third lu bræ produced some pain. Light pressure at a s inch to the left of these vertebræ gave rise to p and darting down the lower limb exactly experienced at other times. The left k normal but the right was absent. There ankle-clonus nor tendo Achillis jerk. The cremasteric reflex was greatly increased on the left side, but all other reflexes (superficial and deep) appeared to be normal. The vesical and anal reflexes were present and unimpaired. The diagnosis of a new growth was rendered probable by the assemblage of symptoms and, owing to the absence of rectal and vesical disturbance and by reason of the unilateral character of the symptoms, the lesion was regarded as affecting the cauda equina rather than the lumbar part of the spinal cord itself. Operation (laminectomy) was performed by Dr. Wyeth, and on dissecting away the muscles from the median line from the third lumbar vertebra upwards, a bulging tumour was observed on the left side of the cauda between the levels of the second and third lumbar vertebræ. The growth was adherent to the dura mater and to the bones, but it was separated and removed without injury to the spinal nerves. The patient made an excellent recovery and was free from pain, cramps, and all other distressing symptoms, and was able to walk with comfort. Microscopic examination showed the growth to be an alveolar sarcoma. Case 2 was that of a man, aged 32 years, who had suffered from shooting pains in the back and legs for a year. The pains increased in frequency and severity and muscular power was diminished in both lower extremities, the left leg being the weaker, while locomotion was difficult. The knee-jerks were absent and the right plantar reflex was abolished. The tendo Achillis reflexes were wanting on both sides. Sensation appeared to be normal except for a distinct diminution of sensation on the dorsal aspect of the left thigh and the left half of the perineum, scrotum, and penis. The vesical and rectal reflexes were rather weak. The pupils were equal and reacted normally. At first tabes dorsalis was suspected, but treatment by suspension and by the iodides produced no improvement. The slow progress and localisation of the symptoms pointed to an involvement of the lower portion of the spinal axis of markedly unilateral character. Laminectomy was performed by Dr. Gerster at the second and third lumbar vertebræ. A soft gelatinous elastic tumour, pale and nodular, was found to be compressing the cauda equina between the second and fourth lumbar vertebræ. This was removed and the patient made a good recovery. Microscopic examination showed the growth to be a fibro-sarcoma.

---

[1] New York Medical Record, Jan. 6th, 19

A COUNTY INEBRIATES ACT BOARD.

A CONFERENCE was held recently in the County Hall, Preston, of representatives of the county council, county boroughs, and non-county boroughs of Lancashire for the purpose of promoting a Bill in the present session of Parliament to constitute an Inebriates Act Board for the County Palatine of Lancaster and for other purposes. The Right Hon J. T. Hibbert presided and there was a large attendance. The chairman explained the importance of the subject and expressed the opinion that the movement should be put on a firm and satisfactory basis He regretted that they had lost so much time in dealing with the subject. The town of Oldham had not seen its way to join this combination, and unless Oldham were ready and willing to establish a home of its own the town would be lacking in a very important duty towards its citizens, for no one would believe that a manufacturing town of such a size was without its inebriates who require efficient and judicious treatment. It was announced that Mr. Clare, the newly appointed clerk to the Lancashire County Council and formerly the town clerk of Liverpool, had drafted a Bill to be promoted in the present session of Parliament by the County Council to authorise the formation of a joint board. The conference considered the clauses in detail. The preamble of the Bill, which was adopted, stated that under Section 9 of the Inebriates Act, 1898, the council of any county or borough were empowered to contribute towards, or to undertake themselves, the establishment or maintenance of an inebriate reformatory, and to combine with another council or councils for any such purpose. Any borough or county council might contribute towards the establishment or maintenance of a retreat, and two or more might combine. There is no doubt that this is a wise and important step towards the carrying out of the Inebriates Act of 1898, and it is to be hoped that other public bodies will follow the example of this combination in Lancashire, for it is only by such combinations being formed that efficient and satisfactory reformatories can be established.

STREET NOISES.

ON Feb. 6th the London County Council passed the following by-law: "No person shall for the purpose of hawking, selling or advertising any newspaper call or shout in any street so as to cause annoyance to the inhabitants of the neighbourhood." The penalty provided is a fine of 40*s*. We congratulate the Council most warmly upon having taken this step. The nuisance caused by, for example, newspaper yellers is unendurable. As we have said over and over again, there are hundreds of newspaper sellers who do not shout and who make a living; and Mr. Frank Smith, who is reported as saying that the new by-law would take away the living of hundreds of men and boys, is suffering from perfectly groundless fears. The continual howling of "Winner" is bad enough, but this is as nothing compared to the bellowing of "Awful slaughter" or "Great British victory" to which we have been nightly subjected since the war began. We believe the law will not come into operation for some days, but we hope that when the period of grace has expired the police will see to it that it does not remain a dead letter.

AUGUSTE COMTE: A STUDY IN MENTAL PATHOLOGY.

DR. W. W. IRELAND contributes to the pages of the *Journal of Mental Science* (January, 1900) an interesting study and critique devoted to the mental life and history of Auguste Comte. The mental aberrations of that philosopher were previously made known by his friend and biographer, M. Littré, and more recently by Dr. G. Dumas in three articles filling 87 pages of the *Revue Philosophique* (vol. xlv., 1898). Comte was of delicate health and suffered from a weak digestion in youth. At the age of 27 years he married Caroline Massin, a lady subsequently known to have been a person of loose morals, and their domestic life was far from happy. She ultimately quitted his house to live with a lover. Dumas tells us that Comte's wife deceived him, was unfaithful to him, "and made his home-life hard and jangling." Domestic and wordly troubles conspired to bring about a breakdown in the philosopher's mental health. "I have often conceived thoughts of suicide," he subsequently wrote, "and should have probably yielded to them had the bitterness of my domestic life not been neutralised by the increasing consciousness of my social mission." Twice he made attempts to drown himself but was rescued. He plunged into excessive mental work and signed his register of marriage with the words "Brutus Bonaparte" appended to his name. For two years, while suffering from melancholia with suicidal impulses, he was under the treatment of the famous mental physician Esquirol. He suffered much from sleeplessness, irritability of temper, and repeatedly from "nervous crises," one of which occurred in 1838, another in 1842, and a third in 1845. Two years after his separation from his wife he met and conceived a violent

me Clotilde de Vaux. His affection was
, after a brief courtship the lady died a
mption. In a letter to Madame Comte,
had been separated some time, he recounts
this lady who had become "his eternal
his veritable spouse." "This attachment,"
reland, "had brought out the affective and
de of his character ..... and the influence of
modified in many respects the character of his

His political philosophy showed a great falling
is enemies ridiculed, his more critical admirers
nd scarcely any of his disciples entirely followed."
0 years he abstained from reading the newspapers
cientific periodicals. He only read a few favourite
nus while preparing-schemes for the salvation of
e would not feel the pulse of the world. He
that all scientific pursuits should be treated as
te of time if they could not be proved to have a
bearing upon the welfare of humanity. "All books
be destroyed save about 100, and all animals and
thought useless to man were to be extirpated."
, in his later days, was a victim of hallucinations in
course of which he had visions of Clotilde. His
ghts were saturated with a crude mysticism, at this
; he set up in his imagination three guardian angels,
lame Clotilde de Vaux, his mother, and a young woman
o was his cook. Comte, having suffered from more than
e attack of recurrent insanity, remained for the rest of his
e thereafter a "neuropath," and died in 1857 at the age of
0 years.

THE MEDICAL CHARITIES OF MANCHESTER.

A PAPER recently read before the Manchester Statistical Society by Mr. F. Brocklehurst gives some interesting details as to the charitable institutions dispensing medical aid which exist in Manchester and its suburbs. The paper was written upon details supplied by the report of the local Hospital Saturday and Sunday Funds, and in all 20 medical charities were considered. Mr. Brocklehurst pointed out that the information contained in the various reports is "of an uncertain and perplexing character. Few of them give any idea of the number of beds contained therein and fewer still of the cost per patient treated. Their methods of bookkeeping are as varied as their auditors." Mr. Brocklehurst, however, wished it to be understood that in referring to "irregularities" he did not mean in the least to suggest that the accounts were kept in anything but the most scrupulously honest fashion. The grand total of patients amounted to 217,527, but allowing for double and treble entries Mr. Brocklehurst considered that a total of 150,000 patients was annually dealt with. Only six or possibly seven of the charities give any information as to where the patients come from. Financially many of the institutions carry on their work "while standing on the verge of chronic insolvency." It is satisfactory to find that Mr. Brocklehurst came to the conclusion that instances of hospital abuse were very few and far between. Two evils, however, were very apparent and these were the amount of overlapping and waste of time of the medical men. For the former evil he suggested that the chronic cases might well be transferred to the provident dispensaries. For the latter evil he referred to the scheme put forward by himself some two years ago of a medical clearing house.[1] He asked if it were "not possible to establish in the centre of Manchester a receiving house and an out-patients' department from which, as from a centre, cases of sickness could be transferred to the special hospital provided for them." Such lan, says our special correspondent in Manchester, might be feasible in Manchester and would be well But its execution would entail something of the nature of a central hospital board, and such a board even in an embryo condition would probably be the cause of heart-burning and jealousy among the various tions. Many hospitals, to say nothing of other charitable institutions, live firstly by appeals *ad misericordiam* in which they give details of crushing loads of debt and, secondly, by putting forward lists of the number of persons benefited. The more numerous this first list is the more worthy is the charity in the eyes of the unthinking almsgiver. These two incentives to irresponsible giving would probably be done away with by the carrying out of Mr. Brocklehurst's scheme; and in whatever town it was adopted some of the smaller charities would disappear. Probably in the end this would be a good thing, but the process of extinction would be by no means painless and might do harm.

FURTHER EXPERIMENTAL EVIDENCE REGARDING THE VALUE OF TUBERCULIN AS A TEST FOR TUBERCULOSIS.

THE Technical Instruction Committee of the Cheshire County Council have recently carried out a most important series of experiments with tuberculin, their object being to form a decision for themselves upon the following points: 1. To test the reliability or otherwise of tuberculin as a means of diagnosis for tuberculosis in cattle. 2. To see in what percentage the milk of those reacting contained tubercle bacilli. 3. To estimate the direct loss that would be incurred by a farmer in clearing his herd of all infected animals. 4. To see if the appearance and manipulation of the udder could be relied upon as indicating the presence of tuberculous milk. 5. To observe the effect of regular and systematic injections of tuberculin particularly in regard to the future reactions and as to whether any curative property was shown; also as to whether the injection of tuberculin would propagate the disease in animals not already tuberculous. The testing was done by Mr. Laithwood, F.R.C.V.S., chief veterinary inspector to the county of Cheshire, the post-mortem examinations being made by the same gentleman assisted by Mr. King, chief veterinary inspector to the corporation of Manchester, and Mr. Storrar, veterinary inspector to the city of Chester. Professor Delépine of Owens College undertook the microscopical examination and analyses of the milk of all reacting animals and of portions of the carcase where doubt existed. Two herds, one at the Dair Institute, Worleston, consisting of 52 cows and two pedigree shorthorn bulls, and the other at the Agricultural School, Holmes Chapel, consisting of 16 cows and one pedigree shorthorn bull (two years and nine months old), were tested. The tuberculin was prepared by Professor McFadyean of the Royal Veterinary College. As the result 50 animals were declared free from tuberculosis, 17 were declared infected, and four doubtful. The udders of those that reacted were carefully examined, only one being found indurated; examinations of the milk of these were made by Professor Delépine and tubercle bacilli were detected in one instance only. Two out of the three bulls were found to be tuberculous the oldest one being badly affected. 10 of the animals were slaughtered the result i every case verifying the conclusions drawn from the reac tion. Nine cows were isolated and submitted to repeated injections of tuberculin at certain intervals, the cattle being afterwards slaughtered and examined. With reference to these the conclusion arrived at was "that continuous injections of tuberculin at short periods of time will cause reaction to cease in an animal that has previously been shown to be tub ..." It was pointed out that on this account tuberculin might be put to dishonest uses and that therefore stringent restrictions ought to be placed upon its sale, only duly accredited persons being allowed to purchase it As regards the "curative' property of tuberculin it was considered that none of the experiments gave encouraging evidence Although the experiments traversed ground which is now fairly well trodden they are of great value in confirming what has already been done to prove the diagnostic reliability of tuberculin and in bringing the position of modern knowledge under the eyes of the Cheshire agricultural community

---

[1] LANCET, July 23rd, 1898, p. 220.

THE MEDICAL DIRECTORY THE DISTRIBUTION OF THE MEDICAL PROFESSION

THE *Medical Directory* for the year 1900 has just appeared, the issue of this invaluable work of reference having been delayed on account of a fire which occurred at the printers establishment towards the end of last year The total number of practitioners for 1900 is 35,651, an increase of 657 over the total for 1899, which was 34,994 This, at least, was the total given in the 1899 edition although in the tabulated statement published in the 1900 edition the total for 1899 is given as 35,117, and hence the increase for 1900 is only 534, but the discrepancy probably arises from the taking in of those qualified during 1899 Continuing the comparison of figures for the two years 1899 and 1900 and taking as our authority the tables in the 1899 and 1900 edition it is possible that decentralisation is proceeding This is a movement which has long been prophesied as about to happen, and it may have begun though the figures are not conclusive The figures for London in 1899 were 6117, in 1900 they are 6102 Provincial England for 1899 showed 15,497, in 1900 the figures are 15 794 For Wales the figures in 1899 were 1100, in 1900 they rise to 1127 Scotland in 1899 had 3394 practitioners and in 1900 has 3462 Ireland in 1899 possessed 2551 and in 1900 the figure is 2559 Practitioners living abroad in 1899 numbered 3795 and in 1900 their total is 3675 The services in 1899 mustered 2528 medical members and in 1900 the list rises to 2705 The "too late list for 1899 numbered 12, and in 1900 rises to 27 We are glad to see that an alphabetical arrangement has been adopted for the list of the hospitals

TUMOUR OF THE PITUITARY GLAND

S PECHKRANZ[1] contributes a paper on the above and gives an account of clinical observations made throughout the history of the case from the first onset of symptoms two and a half years before death The patient, a young man, aged 27 years, suffered at first from troubles which were supposed to be of renal origin and of a uræmic nature but the absence of œdema and of urinary indications negatived this view Both syphilis and tuberculosis could also be excluded He suffered from headache, and this was followed by troubles of vision in the course of which one eye became completely blind while the other was simultaneously affected with hemianopsia At a slightly later stage there developed a double optic atrophy The two oculo motor nerves were next attacked and an almost complete ophthalmoplegia (internal and external) followed There was no involvement of any other sense and there was complete freedom from localised paralysis or convulsions A diagnosis of neoplasm at the base of the brain affecting the optic chiasma was made The necropsy revealed the following conditions The pituitary gland was replaced by a large tumour, no part of which was adherent except to a spot at the back of the sella turcica The tumour was composed of three parts, the chief of which occupied the sella Prolongations from this passed forwards into the orbital cavities and its dorsal part projected into the third ventricle between the cerebral peduncles Small nodules of growth were situated around the margins of the tumour and the whole mass was encapsuled in a tough membrane like the dura mater There was no remnant of the pituitary gland The tumour was a sarcoma The cerebral substance in contact with its margins showed a slight degree of local softening and a portion of the neoplasm itself had undergone softening as the result of a hyaline degeneration of its vessels In the course of its growth forwards it involved the optic chiasma slightly, more on one side than the other, hence the amaurosis on the one side, combined with hemianopsia on the other side As the growth continued to increase the involvement of the other optic nerve was complete and hence total blindness resulted It is interesting to record that the patient showed a moderate degree of hypertrophy of the feet and hands and of the face, the augmentation of volume in these organs producing an appearance like that of acromegaly The enlargement was practically limited to the soft parts the bones apparently not suffering enlargement The patient had a feminine type of skeleton and the sexual organs showed insufficient development (hypoplasia) Pechkranz thinks that the patient had a congenital anomaly in the structure of his pituitary body and regards the condition of the skeleton, of the sexual organs, and finally of the hands face and feet as associated with the abnormal condition and eventual destruction of the pituitary body.

THE VALUE OF BACTERIOLOGICAL EXAMINATIONS TO THE COMMUNITY

AT the last meeting of the Lambeth Vestry on Thursday night the medical officer of health, Dr Joseph Priestley, presented a report made to the Sanitary Committee showing the result of the first year s working of the bacteriological laboratory recently established by the vestry Bacteriological outfits were supplied to medical practitioners in the parish and examinations made free of charge A total of 388 examinations were made during the year 214 examinations were made in suspected cases of diphtheria, the true diphtheria germs were found in 99 In 81 cases of suspected typhoid fever, 43 gave the Widal or typhoid reaction That is to say that bacteriology determined the diagnosis in 46 per cent of suspected cases of diphtheria and 53 per cent of suspected cases of typhoid fever Dr Priestley in his report concluded that there was thus a saving in notification fees sufficient to justify the provision of the bacteriological laboratory

SPLENIC ANÆMIA COMPLICATED BY DIABETES MELLITUS

IN the *Journal of the American Medical Association*, Dec 30th, 1899, Dr H A Hare has published a case of splenic anæmia complicated by diabetes mellitus which appears to be the only one on record Splenic anæmia is still a comparatively new disease and only a limited number of cases have been recorded[1] so that it is impossible to say whether this association is common or not Whether in the case in question there was any connexion between the two conditions Dr Hare cannot state The patient was a man, aged 24 years who was admitted to hospital in 1895 He complained that in July he had begun to suffer from severe pain beneath the left clavicle which extended downwards into the left hypochondrium He was exceedingly pale, his conjunctivæ were yellow and his spleen was enormous There were hæmorrhages into both retinæ In the blood there was a great excess of lymphocytes, but the total number of leucocytes was about normal. For a period of two years the leucocytes varied from 8000 to 4000, usually averaging about 6000. In December the lymphocytes were 84 per cent., mononuclear cells 4, polynuclear 8, and eosinophiles 3. The red corpuscles varied from 1,000,000 to 2,800,000. In February, 1898, attacks of epistaxis began; the temperature and urine were normal, the hæmoglobin was 40 per cent., the red corpuscles 1,620,000, and the white corpuscles 7000. At the beginning of November polyuria suddenly began; he passed 10 quarts of urine in the 24 hours, containing 30 grains of sugar to the ounce. Previously to this attack he was gaining weight and working in a barber's shop where he was on his feet from 7 A.M. to 9 P.M. He improved under rest, good food, and large doses of arsenic.

---

[1] Neurologisches Centralblatt No. 18, 1899

[1] THE LANCET Jan. 13th, 1900, p. 118

ON Saturday, Feb. 3rd, the county council of Salop elected Mr. Charles Porter, M.D. R.U.I., Barrister-at-law, to succeed the late Dr. W. N. Thursfield as medical officer of health for the county. Dr. Porter brings to the duties of this important office an experience gained first in East Kent and latterly in the county borough of Stockport where he has initiated and carried through many and varied sanitary improvements. His vigorous action at Stockport, when the lay officials, both central and local, of the St. John Ambulance Association seemed unable to realise how much their Association depended upon the assistance of medical men, won the approval of all members of the profession.

THE death is announced of Mr. William Adams, the well-known orthopædic surgeon. Mr. Adams, who was specially noted for his interest in operation for the cure of deformities arising from ankylosis of the hip-joint, was consulting surgeon to the National Hospital for the Paralysed and Epileptic.

THE anniversary dinner of the Medical Society of London will be held in the Whitehall Rooms of the Hôtel Métropole on Thursday, March 8th, at 7 P.M. Communications should be addressed to the honorary secretaries, Dr. James Calvert and Mr. F. C. Wallis, at 11, Chandos-street, W.

THE annual oration of the Hunterian Society will be delivered by Dr. F. J. Smith in the theatre of the London Institution, Finsbury-circus, on Feb. 14th at 8 30 P.M. The subject will be the Influence of Modern Medicine on Surgery. Members of the profession are invited to attend.

THE death is announced of Francis Charlewood Turner, M.A., M.D. Cantab., F.R.C P. Lond. Dr. Turner was physician to the London Hospital and consulting physician to the North Eastern Hospital for Children and the London Orphan Asylum.

IT is announced that the Prince of Wales has kindly consented to lay the foundation-stone of the new infirmary at Newcastle to be built in commemoration of Her Majesty's Jubilee. The ceremony will take place in June.

Dr. William Pasteur, assistant physician to the Middlesex Hospital, and dean of the Medical School has been elected physician to the hospital.

Mr. Reginald Macleod, C.B., has been appointed Registrar-General in the place of Sir Brydges Henniker, who has retired.

THE WAR IN SOUTH AFRICA.

AT the moment of writing there is little official news to indicate the movements of General Buller's force. The situation may perhaps be best described as one of hope not unmixed with anxiety on the part of the public, reticence on the part of Government, and, we fear, much futile, if not mischievous, action on the side of those who are animated by merely party spirit or are unworthily seeking an ephemeral notoriety by indulging in hostile and indiscriminate criticism. No doubt there have been miscalculations and blunders—an under-estimation of the extent of the rebellion and of the forces at its back, and an over-estimation of our own military power and prowess—some of which were avoidable, but this is not the time to go into all that. *The nation has now to look* to the present and the immediate future and to follow out stubbornly and with set purpose a definite line of action directed to a definite end. The country is, not for the first time in its history, face to face with a crisis of magnitude, and we feel confident that our present difficulties will be met with the same dignity and fortitude that have characterised the nation in the past. It is no new thing, after all, for forces acting on the defensive and occupying entrenched positions to offer a strong and formidable resistance. It was so in the Russo-Turkish war in the case of Plevna, in the Franco-German war, and, to cite examples nearer the present time, we may point to our own experience in the late tribal campaign on the North-Western frontier of India. If Sir Redvers Buller succeeds in the relief of Ladysmith the complexion of the war will change. A concentrated force will then be free to carry out the original strategical plan of the campaign. The news from General French on the Orange river and from General Hector Macdonald on the Kiet river is reassuring in the meantime, and reinforcements from all sides, it must be remembered, are pouring into South Africa, which reinforcements include a strong force of Royal Artillery, mounted infantry, and cavalry.

We are very glad to notice that the successful work done by the Royal Army Medical Corps during the present war was mentioned and duly recognised in the House of Commons during the late debate on the amendment to the Address. While on this subject we may say that we have only met with one discordant note in the praise accorded to the medical service by the press of this country. It had reference to Wynberg, and we have the best authority for stating that it was incorrect. Our readers have had the assurance, moreover, of Sir William MacCormac and subsequently of Lord Roberts that the military hospitals are in a highly satisfactory condition, and from all sides we have heard nothing but commendation of the medical arrangements. Recently we had an opportunity of seeing an extract from the letter of a staff officer at De Aar in which he alluded in terms of high commendation to a hospital train and its fittings. We are a little surprised that contradictions of the rumour to which we refer which have reached headquarters from authoritative sources have not been officially made public.

Netley Hospital is becoming full of patients from South Africa. It was visited the other day by a Royal party from Osborne and it has been intimated that Her Majesty will shortly inspect that institution and visit the wounded there. In the hospital at the present time there are about 800 patients, of whom 686 are from the front. Of these, 357 are sick and 329 wounded, whilst 279 cases have already been treated and discharged either on furlough or to go back to the front. There is still room for 300 patients. Special hospital huts are being erected at the rear of the central buildings which can accommodate 1000 extra patients. Arrangements have been made for the convalescents to leave Netley as soon as they are able, so that the hospital will be available for the wounded as they arrive.

The Royal Army Medical Corps has a grateful recollection of the service Lord Lansdowne rendered them in the past and a keen appreciation of the very liberal hospital arrangements provided for the sick and wounded in this campaign. It goes without saying that he has had an enormous amount of responsibility and labour in connexion with this war. His department has been very generally abused. We trust that none of our readers will be found among his too previous critics.

Sir William MacCormac continues his interesting notes this week.

HOSPITAL ACCOMMODATION FOR THE SICK AND WOUNDED FROM SOUTH AFRICA.

We give below the names of some of the larger hospitals, the governors of which have undertaken to provide accommodation for the sick and wounded from the seat of war. We also give the number of beds which each institution is able to place at the disposal of the War Office. This does not pretend to be a complete list and we shall be glad to hear from other institutions concerning their intentions. It should be pointed out that the omission of the name of any institution does not necessarily show any want of patriotism in that institution, the pressure on many of our large hospitals being so excessive that they are unable to find room for the ordinary applicants for beds. It would be of no national service whatever for such hospitals to make any attempt to help the War Office. Mr. Sydney Holland, the chairman of the London Hospital, explains in the letter which we publish on page 423 exactly the conditions under which the possible assistance of the hospitals has been sought; and while we feel confident that every medical institution in the country would, if it were necessary, be only too willing to provide beds for those who may be wounded or who may fall sick in the cause of their country, we trust that the numbers of our wounded and sick will not be so large as to outstrip the regular accommodation at Netley and the Herbert Hospitals.

	Beds.
St. Bartholomew's Hospital	50
St. George's Hospital	20[1]
Guy's Hospital	20[2]
St. Mary's Hospital	30
Middlesex Hospital	—[3]
St. Thomas's Hospital	25
University College Hospital	20
Westminster Hospital	20
King's College Hospital	15
Woodlands Convalescent Home, Leeds	25 to 40
Royal Infirmary, Edinburgh	100
Liverpool Northern Hospital	8
Royal Infirmary, Sheffield	24
General Infirmary, Leeds	10
General Hospital, Birmingham	20
Sussex County Hospital	—[3]
Royal Infirmary, Liverpool	30[4]
Italian Hospital	2
Royal Orthopædic Hospital	10
London Temperance Hospital	10

The Central Hospital Council for London have been informed by the Director-General of the Army Medical Department that all patients arriving from South Africa will be first sent to Netley or to the Herbert Hospital, Woolwich, for assortment and for the regularisation of their papers, and they will be thence drafted as necessity arises to other hospitals. Any patients sent to the London hospitals will in all probability be drafted from Woolwich and will be, as regards quite nine-tenths of them, men who have come from the seat of war in South Africa. In no case will patients suffering from venereal or infectious diseases be sent. The patients will be under the entire charge of the hospital staff, and subject to the hospital rules, as in the case of ordinary patients, and they will be removed by the Government when required. Probably no beds in London hospitals will be needed for three months, and at least 14 days' notice of the patient's arrival will be given. The patients will embrace privates and non-commissioned and warrant officers. Ample provision has already been made for patients needing treatment in convalescent hospital and homes.

(NOTES FROM SIR WILLIAM MACCORMAC.)

(Continued from p. 336.)

WE arrived at Cape Town from Natal, a journey of 1000 miles, on Jan. 8th. People at home do not realise the immense distances here which occasion the greatest difficulty in prosecuting the war. On the 9th I visited the general hospitals at Wynberg and at Rondebosch, a few miles on this side of Wynberg, and also the Portland Hospital.

No. 1 General Hospital comprises all the hospital buildings at Wynberg and has been already described by me in my first letter.[1] I was consulted concerning many wounded officers, and inspected the wards which I found in excellent working order. 120 wounded officers have passed through the wards since the battles on the Modder river and at Colenso. The wounded are all very cheerful and are doing well. Several of them are to be sent home in a few days in the *Majestic*, these being principally cases unlikely to recover before the end of the war. No. 2 General Hospital consists entirely of tents. These have been pitched in a very suitable position, on dry, sandy soil, on the gentle slope of the hill near No. 1 General Hospital. It is made up of 99 double-fly marquees, each containing six spring beds, besides operating and store tents. All the tents are floored with boards, and there is an ample supply of easy chairs, flowers, and all the minor luxuries of a hospital. The total number of beds is 504, and there are the usual store, office, operating, and men's tents. About 350 cases are at present provided for in this hospital. The staff consists of five medical officers of the Royal Army Medical Corps, 12 civilian surgeons, and eight sisters of the Army Nursing Service. I here assisted at an operation and visited all the serious cases, giving my opinion where it was invited, as was often the case.

On leaving this hospital I proceeded by train a few miles nearer Cape Town to Rondebosch, where No. 3 General Hospital and the Portland Hospital are situated together on elevated ground, led up to by a road running through beautiful pine woods. No. 3 General Hospital is made up as follows:—There are 73 double marquees, each containing from four to seven beds, according to urgency; one marquee as an operating tent, this being preferred by the commanding officer to the ordinary small operating tent of the field hospital pattern; two tents for the use of patients before and after operation; a darkened tent for x-ray purposes; and six store tents. The process of erection of this hospital was begun on Dec. 9th, and it now presents a most neat and orderly appearance and is in full working order. The marquees are floored with wood and provided with first-class beds. Large pots of flowers have been placed between the tents and easy chairs abound in suitable situations beneath the trees for the convalescent patients. The situation is a charming one as regards natural beauty and makes a cheerful and invigorating spot for the healing of mind and body. The soil is a bright white sand and lovely pine trees and oak trees flourish amazingly. This whole hospital was, of course (as were also the other hospitals), erected by the men of the Royal Army Medical Corps. The detachment of this corps at this hospital numbers 96 non commissioned officers and men, who are under the command of Lieutenant-Colonel Wood, R.A.M.C., and Major Keogh, R.A.M.C.

The Portland Hospital, the generous gift of the Duke of Portland, is an admirable installation. It is under the military command of Surgeon-Major Kilkelly, Grenadier Guards, but he and two non-commissioned officers of the Royal Army Medical Corps are the only military elements connected with it. The staff consists of four civil surgeons (Mr. Bowlby and Mr. Wallace being at the head), four nurses, and 33 St. John Ambulance men. Captain J. F. Bagot, M.P., acts as secretary, and Lord Henry Cavendish Bentinck as treasurer. The hospital consists of 12 tortoise tents, each of which is capable of accommodating 10 patients if necessary. Each tent contains at present only six beds. These tortoise tents are very commodious and comfortable, but are not considered by some of the military medical authorities to be so suitable as marquees, on account of their lightness and the fact that they are not double. The

---

[1] This number would be increased should urgent necessity arise.

[2] 12 surgical, eight medical.

[3] As many as room can be found for when application is made.

[4] 18 of these beds are not entirely free of charge.

---

[1] Th

beds are comfortable spring beds of a convenient size and with good mattresses. The instruments and equipment were all bought privately from the best London firms, and there has been erected a special x-ray tent containing all the necessary equipment, including a dynamo. This hospital had only arrived three days before my visit, but, having the assistance of a detachment of the Royal Army Medical Corps from No. 3 General Hospital to erect the tents, the hospital was perfectly ready for the receipt of patients, and in fact a few wounded officers arrived almost at once.

On the 12th, by request of Lord Roberts, I accompanied that general and his staff during an official inspection of the Wynberg hospitals and the convalescent sanatorium situated at Claremont—a suburb about three miles from Wynberg. This sanatorium is built like a large hotel and has been employed for some time as a hydropathic establishment under a civilian medical practitioner. It is beautifully situated among pine trees. Half of the establishment has been hired by Government for the purpose of accommodating convalescent officers. This has been greatly appreciated by these sufferers, as it takes them away from the surroundings of the hospital proper where they have been treated, and from scenes of sickness and suffering, and enables them to enjoy more freedom and to associate with cheerful convalescents. At present there are 30 officers in this establishment for whom the Government is paying 10*s.* per diem per head. Each officer has a separate bedroom and there is a very spacious dining-room, a gymnasium, and, in fact, all the luxuries of a first-class establishment.

I also visited the hospital ship *Princess of Wales* which arrived a few days before from England. A description of this vessel would be superfluous, as that has already appeared before the ship left England. She has not yet received patients on board. Probably she will be sent on to Durban and embark sick and wounded at that port for home. Two German military attachés—Stabsarzt Dr. Schmidt and Stabsarzt Dr. Krumacher—have just returned to Cape Town from Modder river, where they have been working in the field under the medical officers of the brigade of Guards. They were present at the battle of Magersfontein and expressed great satisfaction and admiration of the medical work they witnessed there. It is worthy of note that these attachés from the German army are the only foreign military medical officers who have as yet made their appearance. Foreign Governments have all sent military attachés for tactical purposes, a fact which brings more prominently to notice the absence of the medical element. I do not remember that accredited medical attachés have been sent in any previous campaigns and it would appear to me an excellent example to follow in any subsequent one. A military medical attaché would probably see everything medical, which would not be the case were he attached to a foreign ambulance.

I add some brief notes of a few of the more remarkable cases at present in the base hospitals.

HEAD INJURIES.

CASE 1.—The patient was wounded on Dec. 15th by a Mauser bullet at a range of 600 yards or 700 yards. The entrance wound was immediately below the inner canthus of the left eye. The bullet passed through the spinal column in the upper dorsal region, emerging at the right post-superior iliac spine. The symptoms were a complete paralysis from the umbilicus downwards and a large patch of sloughing over the sacrum, and there was also cystitis. The patient has not improved since the injury although the wounds are healed, and he will die, as in any similar spine-fracture with lesion of the cord.

CASE 2.—The bullet in this case entered one and a half inches vertically above the external angular process of the frontal bone on the left side, emerging at the angle of the lower jaw on the right side. The same bullet then entered about the middle of the right clavicle, turned completely over, and lodged in the tissues above the clavicle. The bullet was removed after being skiagraphed. The bullet did not touch any bone. Loss of smell followed the wound, with œdema of the left lid and partial paralysis of the third nerve. At present the sense of smell has not returned and a central blackness in the field of vision has made its appearance. There is possibly a partial detachment of the retina.

CASE 3.—This patient had received a wound on Dec. 15th at a probable range of 800 yards. The entrance wound was at the junction of the malar bone and the zygoma on the right side. The bullet passed along the floor of the orbit and divided the right rectus muscle. The exit was through the lower lid of the left eye. The wounds at present have perfectly healed and there are no symptoms beyond upward strabismus which is very marked.

CASE 4.—The wound was received on Dec. 15th at a probable range of 500 yards. The entrance wound was through the left malar bone, and the exit wound was about one inch above, and slightly anterior to, the inferior angle of the scapula on the left side. The symptoms were complete paralysis of the left side of the body and the right arm (the right leg was not affected), pain on pressing over the seventh cervical vertebra, and difficulty in swallowing. There was no hæmoptysis. The paralysis is improving and there is no pain. Sensation first appeared, and then power of motion, in the right arm and then in the left arm and left leg. The other symptoms have also disappeared.

CASE 5.—The patient was wounded by a Mauser bullet which entered the left mastoid process near its apex. It passed across the hard palate, which it deeply grooved, and emerged through the right side of the upper lip, knocking away the incisor and premolar teeth on that side. The symptoms were deafness and facial paralysis, which set in at once on the receipt of the injury, but these have almost completely disappeared. There are no other symptoms and the wounds are healing.

In No. 1 General Hospital at Wynberg there have been up to the present time 24 cases of gunshot injury to the skull and three of the sufferers have died. No. 2 General Hospital shows a record of 16 cases, with two deaths.

WOUNDS OF THE THORAX.

CASE 1.—This was the case of a man wounded by a Mauser bullet on Jan. 1st at a range of 600 yards. The entrance wound was immediately below the acromial end of the left clavicle. The bullet passed on the inner side of the coracoid process, and the exit wound was an inch below the right acromion through the posterior fold of the axilla. The wound was received at 5 30 P.M., and after receiving it the man rode 200 yards and was then put into an ambulance. There had been slight hæmoptysis. He did not swallow any solid food until noon the next day, when the action of swallowing produced great pain over the manubrium sterni. This pain on swallowing persisted until the 8th. The pain on swallowing has now disappeared. There have been two severe attacks of dyspnœa with cyanosis since the 8th. The patient has severe pain in the cardiac region on coughing or on deep inspiration. The pulmonary physical signs were at first very obscure, but at present there are well-marked bubbling râles over both pulmonary bases with the addition on the left side of dulness on percussion, diminished respiratory murmur, and absence of vocal fremitus. The temperature is normal. In the supra-clavicular fossa on the left side there is a distinct swelling and a high-pitched systolic bruit can be heard immediately below the left clavicle. This bruit is also discoverable in a diminished degree on the right side. It is not conducted up the left carotid but down the left axillary artery. It is probable that injury has been done to the œsophagus, but probably not a penetrating wound, and there is possibly a traumatic aneurysm of the subclavian artery, but the evidence of this is by no means sufficient. The case is obscure.

CASE 2.—The patient was wounded by a shrapnel bullet on Dec. 12th. The bullet entered about the middle of the sulcus of the biceps muscle on the outer side of the left arm, and emerged at a corresponding point on the inside. It then entered the thorax in the fourth interspace at the posterior axillary border. The bullet was extracted from beneath the eleventh rib in the anterior axillary line and about one inch of the rib was resected. There was hæmothorax on admission. A pint of fluid blood was let out during the operation. There was no wound of the actual lung tissue. At present there is a slight cough, but otherwise no symptoms. The wound of operation is healing, and the other wounds have already healed.

CASE 3.—The patient received a wound from a Lee-Metford bullet at a close range of ten yards. The bullet entered the right sterno clavicular joint, making its exit about the middle of the spine of the left scapula. No symptoms occurred. The wounds healed by first intention, and the patient is now convalescent.

CASE 4.—The patient received a wound from a Mauser bullet on Dec. 15th at a range of 700 yards. The entrance wound was immediately to the right of the spine of the eleventh dorsal vertebra, and the exit wound was in the eighth intercostal space on the right side in the mid-axillary line. There was very severe hæmorrhage from the exit wound on receipt of the injury, and at present the physical signs indicate an effusion into the base of the right lung. Otherwise the patient is none the worse and the wounds have healed. The nature of the pulmonary effusion is unknown.

CASE 5.—This patient received a gunshot wound on Dec. 15th at a probable range of 700 yards. The entrance wound was an inch from the sternum over the second rib on the right side and the exit wound was an inch above the anterior superior iliac spine on the right side. Hæmoptysis, which has now ceased, was present for four days. There are no other symptoms except dyspnœa. The wounds have healed by first intention.

CASE 6.—The patient was wounded at Colenso on Dec. 15th at a range of about 600 yards. The entrance wound was at the posterior border of the sterno-mastoid muscle about its centre. The bullet has been located by the skiagram in the left claviculo-scapular region, the exact spot being as yet undeterminable. On entry there was marked numbness of the left hand, but this has now disappeared. There was also paralysis of the left deltoid muscle which still persists, so that he cannot elevate his arm at the shoulder-joint. There were no other symptoms, and the entrance wound healed at once.

CASE 7.—The patient received a wound from a Mauser bullet at a range of uncertain distance. The entrance wound was about the middle of the infra-spinous fossa of the right scapula, and the exit wound was at the outer edge of the right sterno-mastoid muscle about two inches above the clavicle. There was a certain amount of hæmoptysis at the time of the injury, but this has now disappeared. Swallowing was also difficult, but is now all right again. There is a very loud purring bruit over the right carotid artery, which is probably the seat of an arterio-venous aneurysm.

MISCELLANEOUS WOUNDS.

CASE 1.—A wound from a Mauser bullet was received on Jan. 2nd at an unknown range. The entrance wound was three inches directly below the inferior angle of the right scapula in the ninth intercostal space. The exit wound was about three quarters of an inch to the right of the xiphoid cartilage just below the seventh costal cartilage. The receipt of the wound was followed by a great deal of tympanites, vomiting, tenderness, and pain, but the patient is now doing well and the wounds have healed.

CASE 2.—In this case the entrance wound was half way between the left trochanter major and the posterior superior iliac spine on the left side, and the exit wound was in the outer part of the fold of the right buttock. There were no symptoms and the wounds have healed.

CASE 3.—This was a case of a bullet wound received on Jan. 4th at a range of about 600 yards. The entrance wound was two inches above the centre of Poupart's ligament and in a line from that ligament to the umbilicus. The exit wound was in the centre of the right buttock. There were no symptoms and the wounds have healed.

CASE 4.—In this case a Mauser bullet perforated the right tibia a little above its centre without causing complete fracture. The fibula was not broken. This case has progressed without interruption and the external wounds have healed.

CASE 5.—In this case a Mauser bullet traversed the right knee-joint beneath the patella, across the centre of that bone. The wounds have healed and the internal damage to the joint is apparently undergoing an uninterrupted recovery.

CASE 6.—The patient received a wound from a Mauser bullet at an unknown range, probably of the subscapular artery, the history being that a diffuse aneurysm was found in this region. Three weeks after the receipt of the injury the sac was laid open. The artery could not be located as it entered or left the cavity, so the axillary artery was tied in its first part. The patient is doing well.

CASE 7.—In this case the entrance wound was two and a half inches to the right of the second lumbar vertebra and the exit wound was below the ninth central cartilage on the right side. At first there were no symptoms, but the patient soon after the receipt of the injury became unconscious and hæmatemesis set in. There was also absence of abdominal breathing and tenderness over the hypochrondriac region. An iliac abscess is reported as having burst into the bowel and later pus passed for two days in large quantities. The patient is now doing well and no symptoms remain.

CASE 8.—The patient had received a bullet wound about a fortnight before at an unknown range. The entrance wound was one inch above the umbilicus in the median line. The exit wound was at the tip of the twelfth rib on the right side. The wounds have practically healed and there are no symptoms, although it was reported by Major Harris, R.A.M.C., of the field hospital at the front, that the omentum protruded after the injury was received, and that after replacing it he (Major Harris) had put his finger into the abdominal cavity.

CASE 9.—Field-Cornet Pretorius (a Boer prisoner) is lying in No. 1 General Hospital with an amputated thigh. I have previously mentioned this case. He received a bullet through his left knee on Oct. 21st. The bullet entered at the external side of the knee-joint and made its exit through the patella which was badly fractured. He made a remarkably good recovery from the injury, and was getting about on crutches, when, on Nov. 20th, he slipped and fell, refracturing the patella and bursting the cicatrix and skin open and causing a severe wound which suppurated. It then became necessary to amputate the thigh. The operation was successfully performed on Dec. 26th at the junction of the upper and middle thirds. The patient is now doing well.

It is very difficult to understand how some of these traversing wounds of the thorax have been so promptly and so easily recovered from. In the case of the abdominal injuries in some the visceral contents may have escaped perforation, but this can only be true of a few. In the others probably an empty alimentary tract and the rapid closing of the small perforations the bullet causes may account for the absence of any severe symptoms, but in some instances the nature and position of the wounds and the direction which the bullet has in every probability followed render recovery, practically either without symptoms or without any symptoms of importance, inexplicable.

WILLIAM MAC CORMAC.

(FROM OUR SPECIAL CORRESPONDENT AT THE BASE.)

Up to Jan. 17th the following operations have been performed in No. 1 General Hospital:—Amputations: of the arm, three; of the arm at the shoulder, two; of the forearm, one; of the thumb and fingers, four; of the thigh, six; and of the leg, six—total, 22. Excisions: of the elbow, one; of the ankle, two; and of part of the ulna, one. There have been 27 extractions of bullets, two cases of laparotomy, three sutures of nerves, and six cases of ligature of arteries. The patients in two cases of thigh amputation and in one case of laparotomy died.

We have had two or three trains down since I last wrote, but the cases were mostly medical and at the time of writing there are not many in hospital and we are sending a large number home in the *Majestic* to-morrow. Lord Roberts and Lord Kitchener visited the hospitals last week and were full of praise as respects the arrangements made for the wounded. I had not seen Lord Roberts for several years—the last time I met him being in India in 1892—but he is still the same courteous, kindly man that everyone knew him to be out in the East and he possesses a marvellous memory for faces. Lord Kitchener looked as fit as ever and seemed struck by the difference between the climate of Wynberg and that of Omdurman.

I hope that in the next great war we have in a decent climate so much money will not be spent on providing costly hospital ships, for although they are undoubtedly good in theory I cannot myself see where they come in in a war like the present when we have large and fast transports to convey sick and wounded to Netley. For this reason: the majority of patients who are sent home from this country are convalescent and do not require the elaborate arrangements which exist on board the hospital ships. The climate here is so good that there is absolutely no reason to send anyone to England till his wounds have practically healed. It must be understood that I am referring to hospital ships to convey wounded home and not of those engaged in bringing wounded from Natal. The latter ships, of course, should be as completely fitted as possible as the cases have to be treated on board. It is not as if we were fighting in a malarious or tropical country. From such a country it is absolutely necessary to clear patients out as quickly as possible, but here, where we have one of the finest climates in the world, I cannot myself see the necessity of equipping ships with exceedingly expensive fittings, operating rooms, and x-ray chambers, when the chances are that all the patients which they are likely to take home will have been convalescent some weeks before they embark. This, of course, is only my opinion, and I am quite open to correction on the matter. Given large, roomy, and fast transports, with no overcrowding, I am sure they would be found to answer better and would not be so expensive. Ask the authorities at Netley how many cases have arrived there which actually required hospital accommodation on board ship, excepting medical cases, and I think you will be surprised at the number. Far be it from me to cavil at the kindly thought and generous expenditure which have been shown in fitting out these floating hospitals, but still the fact remains that, given a good climate like that of South Africa at this time of year, their sphere of usefulness must be restricted to the conveyance of cases from coast ports to Cape Town for treatment at the base hospital, and not for the voyage to England.

The sanatorium at Claremont is proving a very useful adjunct to the various hospitals where officers are treated. Directly the patients are able to move about and do not require any elaborate dressings they are drafted to this charming place, where, surrounded by beautiful scenery and lovely gardens and looked after by a staff of nurses and medical attendants, they are soon fitted for duty again.

Wynberg, Jan. 17th.

THE HOSPITAL SHIP "NUBIA."

(FROM A DURBAN CORRESPONDENT.)

The conversion in Southampton of the steamship *Spartan* from an ordinary passenger-ship into a hospital ship, with accommodation for 130 patients, last October, elicited favourable comments from the home papers. However, in the fitting up in Durban of the transport *Nubia* for hospital purposes, with accommodation for nearly 500 patients, it may be fairly claimed that the young colony of Natal has shown its aged parent "how the thing ought to be done." This will not be doubted when it is stated that the entire transformation was effected in eight days. The *Nubia* belongs to the Peninsular and Oriental Steam Navigation Company and was employed last summer in their China mail service. She is 430 feet long, 49 feet broad, of 5914 tons register, and she has a sea speed of 14 knots. Last October she was chartered as a transport and brought the 1st Battalion Scots Guards to the Cape. She then proceeded to Durban, where she will remain until the present campaign is over. On Dec. 25th a telegram was received by the naval authorities at Durban from the General Officer Commanding the Forces in Natal requesting them to select and fit up a large steamer as a hospital ship with all possible speed. The *Nubia* was inspected, and, being deemed suitable, 130 plumbers, carpenters, and painters were placed on board of her the following day. Most of these workmen were refugees from the Transvaal. By working day and night the ship's whole aspect was changed and her interior completely rearranged, and on Jan. 4th, 1900, she was converted into a floating hospital replete in every detail and ready for the reception of the sick. The *Nubia* had been fitted up for the carrying of 2000 troops, and this entailed an additional amount of labour as all the extensive troop fittings had to be removed ere the work could be begun. It speaks well for the resources of Durban and for the energy of those to whom the work was entrusted that every cot and every fitting had either to be supplied or constructed locally.

Altogether the *Nubia* has accommodation for 474 sick, wounded, or convalescent patients. These are distributed into seven wards named from A to G, beginning in the fore part of the ship with Ward A and finishing in the stern with Ward G. Ward A can accommodate 100 convalescents, B Ward 26 cot cases, C Ward 32 cot cases, D Ward 200 convalescents, E Ward 28 cot cases, F Ward 30 cot cases, and G Ward 30 cot cases, whilst 28 convalescent officers will have the use of the passengers' cabins, in which only the lower berths will be used, the upper ones having been removed to make more room. The convalescent men will sleep in hammocks. The wards are all between decks and can be completely separated from one another by closing the water-tight doors. In Ward F and Ward G, which will be used for the most serious cases, swinging cots are provided, so that when the ship proceeds the motion will be reduced to a minimum, thereby conducing to the comfort of these patients. The floors of the wards have all been varnished and the sides match-boarded and painted white, which adds an air of brightness and cleanliness to their appearance. The vessel is ventilated throughout by means of steam ventilators and electric fans; as a result the wards are always delightfully fresh and cool, even in the middle of the day, when the heat is sometimes oppressive. The operating theatre is situated on the main deck aft, and is provided with all the latest appliances for the pursuit of antiseptic surgery; further aft still is a mortuary, where post-mortem examinations will be conducted. The plentiful supply of fresh water, so necessary at post-mortem examinations, has received due attention. The dispensary opens out of Ward E and a washhouse and laundry are situated on the main deck amidships. The approaches to the wards from the upper decks have been made easier and more adapted to the needs of invalids by having the steps broader and less perpendicular than is usual on board a ship. Two lifts for the use of helpless patients have been fitted. They work by hand and are so contrived as to be free from jerking. The electric light installation has been rearranged and the bright glare subdued by the use of coloured glass shades.

The medical staff consists of six medical men, seven nursing sisters, and 35 attendants. A guard of 10 marines from H M.S. *Terrible*, which is stationed here, are attached. Their duties consist in keeping sentry at the gangway, seeing that due order and discipline are maintained, and that no convalescents leave the ship without permission. During the conversion of the ship Sir William MacCormac paid a visit to it and expressed his satisfaction with the excellence of the work. Whilst inspecting the wards he gave several valuable hints and suggestions. The ladies of Durban came forward with their usual munificence and supplied numbers of deck chairs, small tables, and screens, together with many hanging ferns and palms. These enormously enhance the general comfortable and cheerful appearance of the wards. Every day bundles of newspapers and illustrated periodicals arrive from sympathetic friends and well-wishers.

The patients will be brought down from the base hospitals at Pietermaritzburg and Frere, and will travel in special hospital trains, which are rendered conspicuous by having the Red Cross painted on the carriages. These trains generally consist of seven coaches, of which five are saloons, one a kitchen car, and one a store car. The saloons for the wounded contain 25 berths, which are arranged lengthways with the train. The berths are arranged in two tiers. In the middle of each saloon on either side are a pair of doors similar to those of the luggage compartment of an ordinary train, and the ends of the berths adjoining these doors are so arranged as to facilitate the passage of the patients to the narrow centre passage which runs the entire length of the train. At one end of the train is a store room, fitted with racks and shelves for the rifles and kits of the unfortunate men who are brought on board. At the other end of the train is a kitchen car, provided with a large store, an ice-chest, and every convenience for furnishing the wounded with nourishment, such as beef-tea and jellies, during the railway journey.

The patients will be kept aboard ship until they are able to resume their duties at the front, or if incapacitated from further service they will be sent home as soon as possible. Cloudless blue skies from week's end to week's end, with an occasional shower of rain to vary any possible monotony, the fresh salt smell of the sea, cool breezes from the south-west, and an equable temperature day and night,—these are the climatic conditions of Durban, and it is trusted that they will soon bring back health and strength to these invalids who, having shed their blood in fighting their country's battles, are now justly entitled to every care and comfort that a grateful country can provide.

Durban, Jan. 13th

THE ANNUAL REPORT OF THE CHIEF INSPECTOR OF FACTORIES AND WORKSHOPS (PART II.).

THE work of this important department of State has increased enormously of late. The present report by Dr. Whitelegge, which was published last week and which is the second and concluding part of the report, Part I. of which was issued in April, affords evidence of this fact. The duties of this department have increased owing largely to considerable fresh legislation having been applied to the ontrol of factories and workshops, and it is no exaggera- on to say that the subject of the health conditions of peratives has received more attention during the past few ears than any other coming under the head of domestic gislation. Generally speaking the report will be found to ontain satisfactory evidence of the care which our laws ake to secure as far as possible the best hygienic con- litions for the circumstances under which a great number f our workmen and workwomen pursue their toil.

DANGEROUS MACHINERY.

Under this heading may be included accidents vhich arise in all industries. Substantial progress has een made with the fencing of dangerous machinery, ut there is an increase in the record of accidents rom certain causes, which Dr. Whitelegge attributes mainly to the following causes. 1. Fuller appreciation and observance of the requirements of the 1895 Act which not only extended the scope of the Act to additional important ndustries but called for the notification of minor accidents formerly not reportable. 2. Increased activity of trade, *especially in the branches which are attended with risk to* life and limb." 3. Increased use of machinery and speeding of machinery. Again, the closer attention which has been given in the department in the last few years to the recording of accidents is doubtless responsible for some part of the increase even among those reportable to the surgeon. The increased number of reports of accidents adds naturally to the work of the department.

DANGEROUS TRADES.

These include the industries of pottery, lucifer match-making, and white lead manufacture. There has been an increase *during the year of the* number of processes which have come to be regarded as dangerous and accordingly fresh demands have been made upon the time of the inspectors. Several inquiries connected in particular with the pottery and lucifer match manufactories were undertaken during the year by Dr. Thorpe and Dr. T. Oliver who were engaged together on the pottery inquiry, while Mr. G. Cunningham joined these gentlemen in the inquiry relating to poisoning by phosphorus fumes in match factories. Both reports were dealt with at length in our columns. Some changes have been made in regard to the special rules applied by the Home Department to factories and workshops. The principal event of the year in connexion with these special rules was the arbitration at Stoke-upon-Trent, which arose out of the amended code for the manufacture and decoration of earthenware and china. The report of the medical officer, Dr. T. M. Legge, gives an account of this and the text of the rules.

LEAD, PHOSPHORUS, AND ARSENIC POISONING.

The report of the medical inspector of factories comprising the industries which are placed under special rules as affecting the health of the operatives is very interesting. He states that the requirements of Section 29 of the 1895 Act are producing very important results and bringing to light illness often contracted from hitherto unsuspected sources. The following up of a notification by a report from the certifying surgeon who sees the patient and visits the works where the illness was contracted has evidently placed a mass of valuable material at the disposal of the Home Office. Thus there is an increase in the total number of reported cases of lead-poisoning, which is due rather to the greater attention on the part of medical practitioners throughout the country to the duty of notification than to increase of plumbism generally. The number of reported cases of lead poisoning in 1897 and 1898 correspond closely. Of the total 457 cases of lead poisoning notified in 1898 as having occurred in china earthenware works 429 were reported in the Midland division which comprises the Potteries district. Dr. Legge makes some interesting observations in regard to the various symptoms referable to lead, to the number of attacks, to the duration of employment of those attacked, and to the degree of severity of the cases Similar observations are made in reference to the white-lead industry. The report of Dr. Thorpe and Dr. Oliver dealing with the question as to how far leadless glazes or fritted glazes are practicable is, of course, here referred to, but the important practical issues which it raises will form the subject of comment in the next annual report. The report also of these gentlemen, in collaboration with Mr. George Cunningham, on phosphorus manufacture and necrosis in match factories is also to be discussed in the next annual report. In view of the announcement by a very large firm of match manufacturers that they have recently succeeded in doing away with yellow phosphorus in the production of a "strike anywhere" match it is probable that further action may be taken in advance of that suggested by the report. Cases of mercurial poisoning are recorded in *connexion with the manufacture of electric filament* lamps. The great source of industrial mercurial poisoning, the silvering of mirrors, has, however, ceased with this process becoming obsolete. The relation of pulmonary diseases to life in a dust-laden atmosphere affords an interesting section, and micro-photographs showing the nature and character of the dust taken from the air of a large silk factory are reproduced in the report. Dust arising also from china scouring and from flax scutching is illustrated in the same way.

COTTON CLOTH FACTORIES.

Certain important regulations came into force in regard to this large industry in 1898 Perhaps the most interesting was that in which a standard of purity for the air was required. This was fixed at a maximum limit of nine volumes of carbonic acid to every 10,000 volumes of air. Mr. W. Williams, the inspector under the Cotton Cloth Factories Acts, was able to obtain evidence of enormous improvement made in the health conditions of weaving sheds in one or two of the factories in which the new requirement had been carried out. Another regulation refers to maintaining an artificial humidity of the air by means of steam. Hitherto it appears that often the steam for this purpose was raised from offensive water. Thus Mr. Williams says that in some of the sources of water used for this purpose it is not uncommon to see the putrefying carcasses of dogs floating and, as he remarks, "operatives can hardly be charged with over-fastidiousness when they object to inhale air impregnated with steam raised from such sources." We notice that a case was reported last week in which certain cotton manufacturers were summoned for using impure water in this way. Mr. Williams trusts that reform will soon be gained in this direction.

WOMEN INSPECTORS.

Not the least interesting feature of this report is the work conducted by Her Majesty's women inspectors. Unhealthy *and dangerous occupations* occupy the premier consideration, but it may be remarked that this comparatively new organisation is *fulfilling its duties admirably.*

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

(Continued from p. 331)

IN the second notice of the final report of Lord Llandaff's Commission which appeared *in THE LANCET, of Feb. 3rd* we gave the result of the deliberations of the Commissioners on the question of the proposed purchase of the undertakings of the metropolitan water companies by the London County Council. It may be remembered that the Commissioners advised that the London County Council should not be allowed to purchase the undertakings, and that they gave the reasons which had led them to come to that decision.

Another very important inquiry which the Commissioners were directed by their terms *of reference* to undertake was whether, in the event of the water companies' businesses not being acquired, additional powers of control should be exercised by local or other authorities, and if so what those powers should be. At the *outset of this inquiry* the Commissioners had to consider the meaning which they should attach to the word "control." *They define control* as "measures by which the due performance of the existing statutory obligations of the companies *can be efficiently* and conveniently secured and enforced." The Commissioners point out that the main obligations of the water companies are contained in the Waterworks Clauses Act (10 Vict., c. 17; 26 and 27 Vict., c. 93) Under the provision of the Metropolis Water Act of 1871 (34 and 35 Vict., c. 113, s. 7) the companies are bound when required by the metropolitan authority to provide and keep a constant supply of pure and wholesome water sufficient for the domestic purposes of the inhabitants who live within their limits of supply. The water must be constantly laid on at a pressure sufficient to make it reach the top storey of the highest houses, but not exceeding certain levels prescribed in the special (private) Acts of the companies. Should the metropolitan authority not insist on a constant supply being given the Local Government Board has the power to do so, but the companies are not required to give a constant supply unless regulations made by themselves and approved by the Local Government Board (to prevent waste, misuse, and contamination of the water, and prescribing also the nature and size of the water appliances inside the dwelling-houses) have been efficiently carried out in at least four-fifths of the premises for which a constant supply is required. The water companies also are free from liability in the case of frost, unusual drought, or other unavoidable cause preventing the supply. Should the cause not be unavoidable the company which fails to give a constant supply is liable to a penalty of £200 and a further penalty of £100 for every month during which the non-supply continues after notice from the Local Government Board has been given to the company, and this penalty may also be recovered by the metropolitan authority in any court having jurisdiction for the recovery of a debt for a like amount. There are also penalties for a failure to give a constant supply under the Water Clauses Act of 1847 to any person who has paid or tendered the water rate. In this case the fine is £10 and £2 for each day of default Under the Act of 1871 provision was made for the appointment of a water examiner who, nominated by the Local Government Board and paid by the companies, was to ascertain whether the water which was taken from the rivers was effectually filtered before delivery to the consumers. The Local Government Board, on the complaint of 20 householders as to the quantity or quality of water supplied, and at their own discretion with regard to the quality of water supplied, have power to appoint a person to inquire and report, and as the result of that report the Board may require a company to remove any ground of complaint. The Act of 1871 contained also certain other provisions to secure the purity of the water supplied by the companies. For example, filtered water reservoirs within five miles of St. Paul's must be covered, and water for domestic use may not be brought into the metropolis in open aqueducts unless it is filtered before distribution.

Another important provision of the Act forbids the companies to resort to any new sources of supply without giving previous notice to the Local Government Board who may prohibit the use of the proposed source. For the public services the companies were obliged to keep a sufficient supply of water for cleansing sewers and for municipal purposes generally, and for this supply the amount of payment must be settled either by agreement or, in case of difference between the company and the local authorities, by two justices. For the water used in extinguishing fires no charge is to be made.[1] Under the Metropolitan Water Act of 1897 (60 and 61 Vict., c. 56, ss. 1 and 2) any water consumer or any local authority (that is to say, the council of any county, borough, or district, the corporation of the city of London, or any vestry, district board, or local board of health in the county of London) has power to bring before the Railway and Canal Commissioners any complaint with regard to the quantity or quality of the water supplied by any metropolitan company or failure to perform any statutory duty. The Railway and Canal Commissioners may impose penalties and direct the removal of the cause of complaint. The local authorities are empowered also to assist the consumers in obtaining the determination of any question of general interest in reference to the quantity or quality of water supplied or with respect to charges made by the companies, and the local authority has power to be made a party to such proceedings and to become liable for the costs.

These enactments, the Royal Commissioners report, cover the whole ground of control as they understand it and provide some remedy for every breach, but criticism may be made of the tribunals and of the principle which runs through all these statutes for postponing action until a breach of some statutory duty has been committed. The Commissioners have been much struck with the ignorance and neglect on the part of local authorities and water consumers of the enactments which were made for their benefit. They quote the example of the Board of Works for Wandsworth which complained of defective supply for road watering, a neglect for which a summary remedy was provided and of which they did not avail themselves. Instead of doing so they contented themselves with writing to the Local Government Board. The Commissioners are of opinion that the apathy of some of the local authorities apparently depends on the complexity of the Waterworks Acts, which, they report, are very much in need of consolidation. The Commissioners considered in some detail the suggestions which were made to them for improving the machinery of control and making it more effective. Mr. Dickinson, a representative of the London County Council, suggested that representatives of that body should be placed on the boards of the companies in a majority. The control thus created would be administrative and would, Mr. Dickinson opined, be more effective than the present system. The suggestion amounted to conferring the whole direction and management of the water businesses upon representatives of the consumers and giving them nearly all the advantages of purchase without any payment of compensation. The representative directors might reduce water charges and thereby reduce dividends to a vanishing point. The proposal was apparently seriously made, but the Commissioners say that it can hardly be regarded as a practical suggestion. Sir John Lubbock suggested that water consumers had a direct interest in the economical management of the profits of those companies which had reached their maximum dividend and he thought it reasonable that one or two representative members might justly be nominated to the boards of the companies to look after the interests of the consumers. The Commissioners report that this proposal exceeds what they believe is meant by control. They consider that things which come more properly under the head of control have reference to the control of the water from the wells and from the Thames and Lee with respect to filtration and to the distribution of the water and its delivery to consumers. The Thames Conservancy Act of 1894 provides that effectual means shall be taken to ascertain from day to day the quantities of water pumped by the companies from the Thames. The engineer of the Thames Conservators has power to enter the premises of the companies and to inspect their appliances. The Conservators have acted with independence and discretion; they are a proper body to control and superintend the quantity of water taken from the Thames, and the only suggestion which the Commissioners make is that provision should be made in case of difference of opinion between the companies and the Thames Conservators as to the payment of any legal costs which may be incurred in an arbitration. In the case of the Lee the statutory provisions are less effective. The Lee Conservators have no control over the gauges which are provided by the New River and the East London Companies. Legislation requires amendment so that the Lee Conservancy Board should have power to inspect all gauges and have the same powers as those possessed at present by the Thames Conservancy.

With regard to the filtration of water the Commissioners point out that although Lord Balfour's Commission recommended that after due inquiry regulations should be drawn up with respect to filter beds no such inquiry has been made, and the Commissioners themselves think that the question is not yet ripe for settlement.

The Commissioners also considered the question as to whether it was advisable to place any restriction upon taking water from the rivers during periods of flood, and they give it as their opinion that the engineers of the water companies are even more disposed to avoid taking flood water than "theory" requires, because when flood water is taken it necessitates more frequent cleansing of the filter beds and is apt to show "slight traces of colour in the filtered water." Several recommendations are made with regard to the efficient control of filtration, and the Commissioners report that it is more useful to test the results of filtration than to impose restrictions on the quality of the water taken. The Commissioners report that regulations are advisable: 1. To ensure that every filter-bed shall have a separate well, so that if a sample taken should prove unsatisfactory it would be possible to immediately see which filter is at fault. 2.

---

[1] In the case of water which has been used for putting out fires no money has ever been paid to water companies. There is a tradition, not, however, very satisfactorily authenticated, that at the time of the great fire of London the flow of water in the New River was interfered with by the incendiaries so that there should be as little chance as possible for the fire to be got under control.

That the rate of filtration in each filter should be automatically recorded and that the apparatus used should indicate he rate of filtration and at the same time record the esult as a diagram. 3. That the Water Examiner should have the right of entry to the works of the companies and a right to inspect every part of the works. 4. That he Water Examiner should possess the power of prohibiting the distribution of water to consumers should he find that any particular filter-bed is defective in operation; he would thus be able to compel the company either to cleanse or improve the filter bed before it was again used. The Commissioners suggest that possibly some power of appeal against the decision of the water examiner ought to be allowed and they see no objection to allow an appeal to an arbitrator under provisions similar to those provided in the Staines Reservoir Act, 1896, ss. 20, 23, but penalties should be imposed on a company which disobeys any order of the water examiner 5. The Commissioners acting on a suggestion made by Sir Edward Frankland suggest that bacteriological laboratories should be built close to the spot from which samples of water are taken in order that the cultivation should take place at once. At these stations experiments should be conducted on the different modes of constructing and of working filters. The Commissioners suggest that the water companies should be required to provide structural and other facilities necessary for testing the samples of water at some place near the works. Sir Edward Frankland suggested three stations, one at Hampton to examine the filtered Thames water, one at Green Lanes at the New River Company's station, one at Lee Bridge at the premises of the East London Company. The Commissioners recommend that examinations of the water which are carried out under the authority of the Local Government Board should in future be more extensive than they have been in the past, and that frequent "bacterioscopic" as well as chemical examinations should be made of the unfiltered river water, of water as it issues from the filter beds, and of the water in the wells and in the mains of the companies, and that the cost of these examinations should be paid by the Local Government Board who should be empowered to recover the expense from the water companies in such proportions as may be arranged. The Water Examiner should have the general control of the examinations and the reports should be sent to him and submitted by him to the Board with his own report. These reports should have the effect of reports under Section 35 of the Metropolis Water Act 1871 and Section 9 of the Metropolis Water Act of 1852. The Commissioners think that the application of the last section should be extended and that the Local Government Board should have power on receiving complaint from any local authority to order an inquiry as to the quality of any water supplied by any company or as to the pressure maintained in the mains. It ought also to be made clear that "frost unusual drought, or unavoidable accident," will not excuse a failure of supply should it be shown that the failure was caused because the works of the company were not in an efficient condition or had not a sufficient capacity for the storage of water.

With regard to the suggestions which had been made by some of the witnesses examined that local authorities should have power of entry to the companies' works the Commissioners report that it would be undesirable to have a dual inspection and that the system would work more smoothly if the control were vested in a Government officer whose reports would be published from time to time so that local authorities would be able to obtain full information. Such authorities might make representations to the officer if they thought his action dilatory The Commissioners, however, point out that the local authorities have used their existing powers of control with very little zeal and efficiency, and they are on that account less disposed to recommend that any additional powers should be given to them.

With regard to the pressure of water in the mains of the companies the Commissioners report that it is reasonable to require that the companies shall record and return to the Water Examiner the pressure which is maintained in the mains at certain specified hours and also shall make a daily return giving the minimum depth of water in the reservoirs. The Commissioners do not advise that any proscription for penalties should be vested in the Water Examiner should the returns show that the companies were not acting up to their statutory duties, but they think that it would be better for him to communicate the returns to any local authority in which such power is already vested to take such action as that authority shall think best.

On the question as to whether an excessive amount of water is pumped from the wells in Hertfordshire the Commissioners decided at an early sitting that they would not reopen the investigation as it had been so recently reported on by Lord Balfour's Commission. They report, however, that the companies were not doing more than the law entitles them to, and that if there is a grievance with regard to the abstraction of water it can be only obviated by an alteration in the English law as to underground water. At the same time they quote the recommendation given by the Balfour Commissioners that "distinct obligations should be laid upon any company or local authority which is allowed to pump water from the chalk for the purposes of public supply, to keep accurate observations of the effect of their operations on the level of the water in the wells from which they pump, and return the results to the Water Examiner under such regulations as may be framed. The great difficulty which we have had to encounter has been in getting accurate and reliable information as to the actual effect of the operations now carried on. The importance of procuring this will increase each year as the limit of what can be taken from any district with safety is gradually being reached." The Commissioners concur in this recommendation, which was made in the year 1893.

On the question of finance the Commissioners report that the Act of 1871 is satisfactory and efficient. There is one blot in the system of audit which should be remedied. Should a difference of opinion arise between the auditor appointed by the Local Government Board and the water companies the matter in difference may be referred to an arbitrator, but in that case the auditor himself has to fee counsel and pay his own costs. The Comissioners think that provision ought to be made for paying the expenses of the auditor out of public money; he is a public officer and he should not be discouraged from asserting his views in opposition to the companies by the prospect of being out of pocket if he does so.

A considerable part of the report is taken up with a review of the evidence given on the waste of water, the control of which, as the Commissioners point out, is rather in aid of than against the companies Lately much has been done in the way of detecting waste by the use of Deacon's water meters. By this means the exact places in which waste is taking place can be localised and the necessary remedies applied Formerly a very large proportion of the waste was due to defective fittings, but some of the companies by careful testing of fittings before they are supplied have succeeded in reducing the amount of waste to a very great extent. Thus the New River Company have induced 95 per cent. of their new customers to adopt fittings which they have examined and stamped as efficient. In some cases the waste of water has, the Commissioners think, been wholly indefensible—as, for example, when taps are left running all night or are even cut off and removed bodily. A great deal of water has been wasted in poor neighbourhoods, in which the agents who manage the properties have put in fittings which satisfy the letter of the regulations but which soon become inefficient, and the magistrates to whom the enforcement of the regulations is committed do not impose penalties in cases in which a tap does not leak when it is put up although its construction is so imperfect that it must necessarily soon prove inefficient. Some of the nothern towns, the Commissioners point out, have adopted a regulation by which it is necessary that fittings must be tested before they are put up In the case of Bradford this change has resulted in a decreased consumption of water. The regulations came into force in the year 1893 when the average amount supplied per head was 24 gallons per day and this amount has now been reduced to a daily average of 17½ gallons. Although the water companies have legal power to cut off the supply of water when a customer wrongfully causes or permits waste this extreme remedy as a matter of fact is rarely resorted to and then only after repeated notices have been sent. Under the Act of 1871 the London County Council have power to require an occupier to provide proper fittings; they have, however, never used that power, and the local sanitary inspectors have no interest in limiting the waste of water. In these circumstances the Commissioners think that the water companies might rightly be empowered to require that all fittings should be approved and tested by themselves and should be renewed and repaired from time to time on their requisition and brought into conformity with properly framed regulations.

With respect to the question of cisterns the Commissioners think that the regulations require intelligent revision and fresh legislation. According to the Metropolis Water Act of 1871 a cistern is a "fitting," but neither the regulations nor the special Acts of the companies prescribe the size or the character of the cisterns which the companies are entitled to require before they lay on water to a house for the purpose of a constant supply. [The Commissioners pending a judicial decision of the question decline to offer an opinion as to the meaning of Sections 24, 30, and 33 of the Metropolis Water Act of 1871. They say that they were not informed of any provisions which compel customers to provide houses with cisterns where a constant supply is not given, although it is obvious that cisterns are essential where the supply is intermittent] Some of the local authorities had caused cisterns to be removed on the ground that they contained much dirt and even dead mice. The Commissioners give it as their opinion that a company should have the power to require that a properly constructed cistern approved by them and of dimensions proportionate to the number of persons likely to inhabit the house should be placed, and should remain in good order and repair, in any house supplied with water, and that the local authorities as guardians of the public health should be empowered to see that the cisterns are properly cleansed and that their construction is modified so as to prevent the fouling of the water, but they should not have the power to order the removal of a cistern unless it is to be at once replaced by another one.

The Commissioners make an important recommendation with respect to information which they think ought to be furnished by the water companies to the Local Government Board. At the present time there is no obligation on the part of the companies to give any information either with regard to their works or their water-supply. All the information at present published by the Water Examiner is supplied as a matter of courtesy, yet these reports have been used in the course of inquiries by Parliamentary Committees and Royal Commissions as authoritative sources of information. The Commissioners report that power should be given to the Local Government Board to prescribe periodical returns containing such information or to call for such plans or documents as might from time to time appear to them necessary or desirable, and it should be a statutory duty of the companies to supply these returns, statements, and plans. The Commissioners further report that in their opinion the power of the Local Government Board to make inquiries might be usefully extended; for example, at the present time the companies are not under control with regard to making any provision for the future wants of their customers. The water undertakings should have reserve capacity of supply in excess of their average wants in order to meet a case of emergency. They ought to exercise prudent forethought in increasing the reservoirs and filter beds and in making provision for the necessary additional pumping power so that the work should all be carried out in time to ensure that the supply may always be constant and efficient. The recommendations which the Commissioners make on the subject of control are in their opinion equally applicable and desirable whether the water companies' undertakings are purchased or not. The Commissioners point out that some witnesses had suggested that in the case of purchase of the undertakings by a public body that body might be left entirely without control because representatives of the people could be thoroughly trusted. The Commissioners, however, without expressing the least distrust of any representative or other authority, think that the measures of control which they suggest should certainly be kept alive in the event of the purchase of the undertakings of the companies by a public authority, although it might be necessary that the machinery to be used for exacting the penalties might have to be altered in the case of dealing with a public authority.

NEWPORT AND MONMOUTHSHIRE INFIRMARY.—The annual meeting of this institution was held on Jan. 31st under the presidency of Lord Tredegar. The financial statement showed that the income amounted to £3296 and the expenditure £2656. It was stated that during the past year Dr. Garrod Thomas and Mrs. Thomas had contributed a fourth donation of £1000 to the new hospital building fund.

THE PHYSIQUE OF THE BOERS.

(FROM A CORRESPONDENT.)

THERE can be no doubt that the Boers have displayed much greater prowess and power as men of war than was ever anticipated. The physical and psychical causes of this capacity for fighting come well within the province of discussion in these columns, for they are scientific rather than political problems. Indeed, the successes of the Boers confirm and enforce all that has been said and attempted to be taught in regard to the preservation of public health. There is not a sanitary reformer who could not deduce many an object-lesson from the history of the present unfortunate campaign. What, after all, is the extremely simple basis on which good sanitation rests? To ensure healthy lives we require plenty of pure air, constant out-door exercise, simple but sufficient food, enough warm clothing, and, in face of the growing prevalence of nervous disease, freedom from gnawing worry and anxiety as to the morrow's bread. The sanitary reformer may also claim to be an advocate of temperance in all things and especially in regard to the consumption of alcohol. This being the ideal, how do the Boers compare with the inhabitants of Great Britain? With but few exceptions the Boers live in the open country. Indeed, it has been said that the ambition of the Boer is to be surrounded by so vast a tract of land that he cannot see the dwelling of his nearest neighbour. Then his occupations are all out-door occupations. He must ride enormous distances to go to church, to do his shopping, to fetch a medical man, or to pay a visit. For his food supply he depends to some extent on hunting, and here we have again a health-giving occupation, to say nothing of the incidental fact that this familiarises him with the use of a gun and enables him to become an excellent marksman. But over and above all these considerations there is the all-important fact that he is exempt from the health-wearing trials alike of wealth and of poverty. Neither surfeited by luxurious living nor starved for want of the necessaries of existence, the Boer leads a life of true temperance free from over-indulgence and from the excess of abstinence. But what in the long run often proves more fatal than, for instance, too much or too little food is that terrible strain on the nervous system due to the want of leisure, the want of freedom from anxiety caused by our overwrought civilisation and the acuteness of the struggle for existence. The Boer mind is not torn and harassed by the ambitious hope of wealth or the constant dread of bankruptcy, of poverty, debt, and starvation. His is an easy-going life. He feels quite safe as to the morrow's existence. His land is not over-populated but under-populated. There is plenty of room for him and his family, however numerous. He has no fear of the bailiff or of the debtors' court. He does not tremble at the thought that he may be discharged from his employment or that the formation of some big trust or syndicate may ruin his business. He has but little experience of the luxuries and the extravagant modes of living prevalent in our western civilisation, but he knows nothing either of our sordid poverty, of our overcrowding, and of all the insalubrious and degrading conditions bred of misery that accompany and put to shame our wealth. It would not be possible to find a "submerged tenth" among the Boers. Therefore the Boers are free from those nerve disorders that so largely contribute to destroy the health of the populations in the great commercial centres.

In so far as they are of Dutch descent, the Boers should be small. The French blood which is mingled with that of the Dutch would not tend very considerably to increase the height of the Boer. The French, though taller than the Dutch, are not so tall as the English. Yet the Boers of to-day are taller, stronger, and possess a more powerful physique than the English. It is quite a common occurrence to meet a Boer six feet six inches in height. Indeed, it has been said that the average height of the Boer is six feet two inches. This is undoubtedly a gross exaggeration, but that such an exaggeration is possible tends to show how striking is the impression made by the tall stature of the Boers. All travellers bear witness to their magnificent physique, especially those who have been among the real Boers, that is to say, those who live in the rural districts well away from the railway lines. The Boer who has taken to town life and acquired town vices may degenerate like other people, but this is not of frequent occurrence, Even those who do live in towns often preserve their primitive and simple methods of existence President Kruger himself is a good example He still keeps up the pastoral habit of going to bed at eight o'clock in the evening and he is up by five o'clock in the morning

But apart from the flesh and bone, the big, strong frames, and the hard muscles developed by the healthy constant out door exercise, the Boers have practical freedom from the diseases due to alcoholism and vice They are not total abstainers but they are remarkably sober and drunkenness is rare among them, Equally important from the health point of view is the fact that the Boer is essentially a moral man Indeed, even were it otherwise, his isolated life in far off farms offers no opportunities for contracting the diseases connected with vice On the other hand, how often are British soldiers punished for drunkenness and invalided through venereal disease Not only is almost every Boer physically fit to take the field and fight for his country, but he is a stronger, healthier, and bigger man than even those who have been selected by medical examination as fit to serve in the British army If the entire male population of our country, without any sort of selection, from the age of 14 to 60 years, were made to stand forth they would present a sorry spectacle as compared with a similar crowd of Boers Let any one, for instance, take his stand in a crowded street in the centre of Glasgow and note how many men will pass him whose backs are straight who have expanded chests and healthy complexions Again in Lancashire, let the observer note the dwarfed figures and pallid faces of the thousands of factory women as they leave the mills And London with its West-end slums festering under the shadow of neighbouring mansions, and its boundless stretch of East end misery, what sort of army would this huge metropolis produce if every male inhabitant were called under arms? In dealing with the sanitary aspect of the question it would be most misleading to compare the British army with the Boers The British army is an infinite minority of the British nation and is composed of men specially selected for their physique With the Boers it is the entire nation that has risen to fight against us, and the fact that primarily interests sanitarians is that there has been no selection among the Boers for all, practically speaking, are physically fit Surely there is something in this marvellous fact to give us pause and to make us think seriously as to whether we are doing all we can to ensure that our people shall possess and preserve those physical qualities without which our empire cannot be maintained If our disasters render us no other service they ought to contribute powerful arguments in favour of still more extensive sanitary reforms Not but that we possess certain sanitary advantages which do not exist among the Boers It may even be said that they have no artificial sanitation whatsoever Their sanitation is of the natural order They have no drains, no sewers, no isolation hospitals, no compulsory notification of infectious diseases, no disinfecting processes, and there is very little medical aid available for medical advisers are few and far between In England we possess all these advantages, and what with workhouse infirmaries, hospitals, and numerous charitable institutions, there is ample provision of medical and surgical aid even for the poorest sections of the population The Boers on the contrary, often suffer for want of such facilities The difficulty of obtaining the assistance of competent surgeons has resulted in the loss of lives that might otherwise have been saved, more especially when Boer women give birth to their first child Nevertheless and as a rule, these women are so strong and healthy that they need but little assistance and it often happens that a day or two after giving birth to a child they are up and busy attending to their domestic duties Again, there have been small epidemics, notably of diphtheria and these were doubtless due to the total absence of any sort of precautions Neighbours will sit in the room of the patient, there is no attempt at isolation or disinfection and of course the disease spreads The women as well as the men have a great amount of outdoor work and exercise, and it is quite certain that very many lives that in England would be saved by medical treatment precautions and care are lost in the Transvaal or Orange Free State Consequently those who survive possess strong constitutions and this also helps to explain why the Boers are such a remarkably fine race

All these facts should induce us to look at home and make us inquire what recruiting grounds still remain where we may find the raw material for the constitution of an effective British army. The most terrible of all the disasters experienced during this war has been the loss of so large a number of Highlanders at Magersfontein The question naturally arises, how are these Highlanders to be replaced? In too many instances their homes exist no longer. The crofter's cottage has been levelled to the ground The hardy race of inhabitants from which our Highland regiments used to be recruited have been driven away Many of them have come to seek employment in the large towns where the process of physical degeneration soon produces its disastrous effects It will be no easy matter to reconstitute the Highland regiments Much the same may be said of the British agricultural population Here also the tendency is to gravitate towards the large towns The decadence of British agriculture to some extent involves the decadence of the fighting qualities of the British race It stands to reason that poverty in a large town is far more destructive of health and physical strength than poverty in a rural district Though the English agricultural labourer is very poor, his wages ranging from 9s to 16s a week, nevertheless, the healthy nature of his occupation makes him the better man physically, and he is more likely to possess the necessary stamina than the worker in the town, even though the latter earns higher wages This is a very grave question and it involves a very deep political problem—namely, whether the great commercial nations do not run a serious risk of being defeated on the battlefield by those nations the bulk of whose population is still employed in agricultural pursuits

Victory in modern warfare will rest with those who possess the best marksmen, or physically speaking, those who have the strongest nerve To keep cool, to take deliberate steady aim, these are the qualities required in action Then between the actual fighting great mobility is necessary and the troops that can best endure the fatigue of long forced marches have the greater chance of being at the right place at the right moment For these purposes the every day occupation of the agriculturist is a far better preparation than the labour of the town worker Let anyone study the distribution of the population in Great Britain and he will at once see the disadvantage of our home condition and the advantage which in this respect the Boers possess The moral is very simple The efforts of legislation and of philanthropy should be directed first to the endeavour to get as large a section of the population as possible back on to the land Secondly, we should strive to make town life as similar to country life as is possible Therefore our streets should be as broad and our houses surrounded with as much open space as circumstances will admit All accumulations of filth which corrupt the atmosphere of towns should be removed with the utmost celerity; and means of communication should be so multiplied and reduced in cost as to enable townsfolk to enjoy the maximum of exercise in the open country If we must fight for our empire such measures are indispensable

To recover from the blows we have received we must calmly consider the whole situation Our national prejudices, our patriotic aspirations, the affection we bear for those who are at the front may be very worthy, natural, and respectable sentiments, but there is no room for them in a scientific investigation We may have very good ethical and sentimental reasons for wishing that lead should be lighter than snow, but they will not alter the verdict given by the scales, and the true patriot to day is the man who dares to look facts in the face and can judge and weigh them impartially

---

ROYAL UNITED HOSPITAL, BATH—The annual meeting of this institution was held on Jan 29th under the presidency of the Mayor The report stated that 1287 in patients had been admitted and that 8941 out patients had been treated, being an increase in each case as compared with 1898 The financial statement showed that the income amounted to £7421 and the expenditure to £7768 The report alluded to the services rendered to the hospital by the late Mr. H Culliford Hopkins first as house surgeon and then, since 1876, as registrar and curator of the museum, and added that his name would be handed down as one of the most zealous of workers for the hospital

Obituary.

SIR THOMAS GRAINGER STEWART, M.D., F.R.C.P. EDIN., LL.D. ABERD., F.R.S.E. EDIN.,

PROFESSOR OF PRACTICE OF PHYSIC AND OF CLINICAL MEDICINE IN THE UNIVERSITY OF EDINBURGH AND PHYSICIAN-IN-ORDINARY TO THE QUEEN IN SCOTLAND.

BY the death of Sir Thomas Grainger Stewart the profession in Scotland has lost one of its most prominent and best known of its members. He died on Saturday morning, Feb. 3rd, the end coming sooner than had been anticipated. For months past he had been laid aside from active work; indeed, since his return from the Congress on Tuberculosis in Berlin he had been more or less of an invalid, confined to the house or his room, and only occasionally able to drive out. Years ago he suffered from more than one attack of acute rheumatism, and it was commonly understood that his heart had not passed through the ordeal quite unscathed; still, he showed little signs of diminished vigour until recurring attacks of influenza seem to have disturbed the balance and initiated a progressive impairment which skill and care could not arrest.

Thomas Grainger Stewart was a native of Edinburgh and was born in September, 1837, so that at the time of his death he was in his sixty-third year. He was educated at the Royal High School of Edinburgh and the University of Edinburgh, and graduated as a doctor of medicine in 1858. After graduation he visited some of the continental schools and on his return acted as house physician under the university professors of clinical medicine in the old Royal Infirmary. At the early age of 25 years he was elected pathologist to the Royal Infirmary and began lecturing on pathology in the extra-mural school at Surgeons' Hall. It was during his tenure of office in this capacity that he did work on the kidney which was incorporated in his book, "A Practical Treatise on Bright's Diseases of the Kidneys," and which has ever since associated his name with kidney affections. He was at the same time a physician to the Hospital for Sick Children. When the chair of Pathology became vacant in 1869 he was a candidate for it, but failing in his application he resigned the post of pathologist to the infirmary, his lectureship and his appointment at the Children's Hospital, and was elected to the post of junior physician in the infirmary. In 1873 he began to lecture on the Practice of Physic in the extramural school, the lecture-room he occupied being opposite the entrance to the infirmary. He at once became the popular lecturer on his subject and his class-room was filled. In the wards of the infirmary also he attracted a large number of students to his cliniques. As a clinical teacher he was clear and systematic and conducted the class by means of question and answer, while the students in rotation listened to abnormal sounds in the patient's chest or otherwise examined him. As a systematic lecturer he was equally clear and precise, so that his doctrine was easily followed even by the junior student. Many circumstances, which need not be detailed, of the Edinburgh Medical School at that time promoted the popularity of a teacher with the gift of clear and easy exposition which characterised Dr. Stewart even in those days. In this respect there is little doubt that he made a marked impression on the teaching of the school, and that the hope that he was wont to express that he would be remembered in the school as having done something to advance the teaching of clinical medicine has been fully realised. After having been extra-mural lecturer for three years the chair of Practice of Physic became vacant by Professor Laycock's death and Dr. Stewart was fortunate in being chosen to succeed him. His success as an extra-mural lecturer was undoubtedly the claim which weighed strongest with the curators of the chair. He thus became the successor of Cullen, Gregory, and Allison. With his appointment to the chair the practice of physic in the University assumed a changed aspect and comparatively few students went for systematic medicine outside the walls of the University class-room. With the increase in the number of students coming to the Edinburgh school which took place soon after that time the class of practice of physic became one of the largest in the University and under the strong hand of Dr. Stewart it never lost its position. From that time consulting practice and honours came to him. He succeeded Sir Robert Christison as Physician-in-Ordinary to the Queen in Scotland; from 1890 to 1892 he was President of the Royal College of Physicians of Edinburgh, and in 1894 he was created a knight. When the British Medical Association was invited to hold its annual meeting in Edinburgh in 1898 Sir Thomas Grainger Stewart was nominated by the local profession to the presidential chair. In this capacity, during the meeting in Edinburgh, he showed to the greatest advantage, all acknowledging that he performed the duties of the post with distinguished success and with a dignity, suavity, and eloquence which had seldom been equalled.

In addition to his book on Bright's disease, to which reference has already been made, he published several monographs and lectures on diseases of the nervous system and on important symptoms—as giddiness and albuminuria. His latest published contributions were some chapters on nervous diseases in the "System of Medicine," edited by Professor Clifford Allbutt. But of all his writings it was his early work upon kidney disease which attracted most attention and which brought him most reputation.

In politics Sir Thomas Grainger Stewart was a Liberal; as a church-man he was a staunch Presbyterian and an office-bearer in St. George's Free Church. He took an active interest in many religious movements and shortly before his death had been re-appointed president of the Edinburgh Medical Missionary Society, having already occupied that position for five years.

In addition to his qualities as a physician, he was a man of wide and general culture, with strong historical and archæological leanings and considerable literary tastes and aspirations. He was endowed with a fine presence and had a gift of ready and graceful speech which made him a valuable ally in controversial times especially when public advocacy of a question was required.

Amongst other honours he was an honorary Fellow of the Royal College of Physicians of Ireland, an M.D., *honoris causâ*, of the University of Dublin and of the Royal University of Ireland; and an LL.D. of Aberdeen University.

The funeral took place on Feb. 7th, from St. George's Free Church to the Dean Cemetery, and the procession was attended by representatives of the University of Edinburgh, by the Fellows of the two Edinburgh Colleges in their official capacity, and by many students, and a large concourse of the general public and his friends and patients.

An old house physician to Sir Thomas Grainger Stewart sends us the following graceful testimony of his indebtedness to his old chief:—"In the Edinburgh Royal Infirmary no post was more sought after or more highly valued than that of resident physician to Sir Thomas Grainger Stewart, and it was indeed deemed a high honour to be selected by him out of the 100 clinical clerks who daily thronged his wards. His house physicians had the privilege of being admitted into the closest intimacy and enjoyed his fullest confidence. They all became his lifelong friends and their future careers were followed by him with the deepest interest. He was an ideal chief—kind, considerate, and ever ready to help and advise. Very rarely did he miss a day in going round the wards he loved so well. None of his house physicians will forget the keenness with which, after the ward visits were over, he discussed with them the various points of interest in connexion with the cases he had just seen, or the valuable lessons they then learnt as the fruit of his ripe and varied experience. Sir Thomas Grainger Stewart was keenly interested in the clinical progress of his clerks and was particularly wel pleased if a case had been well recorded as showing that th student had done his work intelligently and conscientiousl The keynote of his clinical teaching was *method*. Whatev the nature of the case he never permitted any deviati on the part of his students from the exhaustive meth of case-taking which he had himself introduced into University clinical wards, and he frequently inculcated necessity of pursuing the same method of observing all various systems of the body in dealing with private pati and so reducing to a minimum errors of omission in diagr A favourite method of his in ward-teaching was to ta doubtful case admitting of more than one possible diag and then select two or more students to take up and su the rival views and debate the question before the other whose interest was in this way invariably aroused. H failed to impress upon his pupils the importance of ob the general constitution and temperament of a patien

SIR THOMAS GRAINGER STEWART, M.D., F.R.S. EDIN.,
PHYSICIAN-IN-ORDINARY TO THE QUEEN IN SCOTLAND; PROFESSOR OF THE PRACTICE OF MEDICINE AND CLINICAL MEDICINE IN EDINBURGH UNIVERSITY; AND LATE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

proceeding to study the particular ailment His clinical lectures in the Royal Infirmary were always thoroughly practical, and the lecture theatre was invariably crowded His students, and especially his old house physicians who knew him best, had an unbounded admiration for their chief They, more than other men, could appreciate his singularly attractive personality, his high attainments, his magnificent mental grasp and medical acumen He was truly endowed with a large share of what he himself used to characterise as 'the mens medica' We all feel that to day we mourn the loss of a great physician a man worthy of the best traditions of Scottish medicine and whose place it will be hard indeed to fill"

BERNARD EDWARD BRODHURST, F R C S Eng

MR BERNARD EDWARD BRODHURST was born at the Friary, Newark, on Feb 4th, 1822 He obtained the Membership of the Royal College of Surgeons in 1844 and subsequently spent five years at the medical schools of Paris, Vienna, Berlin, Bologna Florence and Rome He reached Rome shortly before the entry of Garibaldi in 1849 and attended the French wounded after Marshal Oudinot's repulse in April of that year For this service he received the Cross of the Legion of Honour and is said to have been offered a baronetcy by Lord Palmerston On returning to London in 1852 Mr Brodhurst was elected a surgeon on the staff of the Royal Orthopædic Hospital In 1859 he passed the examination for the Fellowship of the Royal College of Surgeons of England In 1862 he was elected assistant surgeon to St George's Hospital, but resigned this post after some years on account of his increasing practice preventing him from giving enough time to the affairs of the hospital He was, however, elected surgeon with orthopædic beds

Mr Brodhurst was the author of several works upon orthopædic surgery among which were "Curvatures and Disease of the Spine" "On Anchylosis," and "Lectures on Orthopædic Surgery" He also contributed articles to Holmes's "System of Surgery" and Reynolds's "System of Medicine"

DEATHS OF EMINENT FOREIGN MEDICAL MEN—The deaths of the following eminent foreign medical men are announced —Dr Johannes von Steinau Steinruck of the Bethany Hospital, Berlin, of heart disease in his fiftieth year —Professor Albert Mooren of Dusseldorf, whose name is known not merely as an ophthalmologist but as a historian —Dr William B Canfield Lecturer on Medicine in the Maryland University, Baltimore —Dr Axtell, Lecturer in the University of Denver —Dr William A Hammond, formerly Professor of Nervous Diseases in Bellevue Hospital Medical College New York —Dr Antonio Valenti Lecturer on General Pathology in the University of Rome —Dr Orsi Professor of Clinical Medicine in the University of Pavia —Dr Brunetti, formerly Professor of Pathological Anatomy in the University of Padua —The Marquess Andres del Busto, formerly Professor in the Medical Faculty of the University of Madrid —Dr Constantin Voroshiloff, formerly Professor of Physiology in the University of Kazan

---

ASYLUM REPORTS

London County Asylum Bexley heath, Bexley (Report for the year ending March 31st, 1899) —The asylum was opened in 1898 and male patients were first received on Sept 19th Dr T Stansfield, the medical superintendent states in his report that the patients were "received into what will ultimately be female epileptic and chronic wards, the administrative arrangements for cooking lighting, bathing, and water supply all being of a temporary character." The number of patients to be received was at first limited to 240 but this was subsequently extended to 300 "The laundry was in the hands of the contractors and consequently arrangements were made with the Claybury sub-committee for the washing to be done at that asylum With regard to call-bells, telephones tell tales and fire alarms these essentials are now being arranged for, but in the meantime their absence considerably increases the administrative difficulties and renders the work much more arduous" A fire brigade has been organised and weekly drills have been regularly held Up to the end of December, 1898, there were 265 admissions, and all of these with the exception of eight, were transfers from out-county asylums and from the sister asylums of the county of London 'The character and duration of the disease in the patients transferred were such as to preclude the expectancy of recovery 40 per cent of the patients, put down on their transfers as non workers, have been induced to occupy themselves and thus much valuable work has been done "in the laying-out of airing courts, road making, gardening, and clearing the land." A large day room served as a recreation room and a chapel for Sunday services The wide expanse of heath (Dartford Heath) nearly five miles in circumference immediately adjoining, serves as a beautiful adjunct to the asylum estate and walking parties are sent out over it daily The asylum sub-committee state in their report that a gate porter's lodge has been repaired and is put into use and that plans for the construction of the farm buildings are being carried out Two spray baths have been fitted in the female general bathroom, and it has been decided on the recommendation of the medical superintendent, to have the male general bathroom fitted up entirely with spray baths A well has been satisfactorily sunk and an ample supply of water is obtained and the necessary pumping plant is being fixed up The Kent Waterworks Company supplied water during the progress of the above arrangements The fitting up of the kitchen and cooking apparatus has been completed, while the electric light installation and the fitting up of the laundry are rapidly nearing completion The estate is being completely fenced in, and the land intended for growing crops has been grubbed and steam-cultivated and prepared for planting 'We have from time to time reported,' say the committee "that the sum of £350 000 voted for the building of the asylum would be exceeded We shall shortly be in a position to state with some amount of precision the probable extra cost and will then report accordingly' In addition to the male patients received arrangements have been made for the reception of 480 females and a further 150 male patients, making the total accommodation 930 The sub committee have not considered it desirable to provide a cemetery and, there being no accommodation in the local burial ground, have entered into an agreement with the Plumstead Cemetery authorities for the interment of patients dying in the asylum The Lunacy Commissioners were approached on the subject of the provision of a crematorium at the asylum, but they considered that public opinion was not yet sufficiently ripe or ascertained to warrant the introduction of cremation into public institutions The health of the patients has been good and there were but two deaths during the year—one from organic brain disease and one from general paralysis both being males

London County Asylum, Horton (Report for the year ending March 31st, 1899) —This is the latest asylum for the County of London and consists of two parts—viz, the Horton (Main) Asylum and the Manor Asylum The foundations of the Horton (Main) Asylum—which will practically be a duplicate of the Bexley Heath Asylum—were designed for 2000 patients The time for completion of the superstructure is October 1900 and its estimated cost was £285 000 Since the building has been in progress certain additions and alterations have been sanctioned—viz, re arrangement of the accommodation for the medical and female officers including the provision of a detached nurses' block, at an estimated extra cost of £4500 The fencing of the estate has been carried out at a cost of £3200, and a contract has been entered into for the heating and hot water supply at a cost of £24 560 The Manor Asylum is a temporary building for 700 patients and is nearly completed A portion of it has already been opened and is ready for the reception of patients The water-supply is obtained from a well bored for the purpose but as a precautionary measure the asylum main has been connected with the district water supply so that this will be available should the supply from the boring run short The building is lighted up by gas instead of by electricity as originally intended, and this is supplied by the Epsom Gas Company A cemetery has been provided on the asylum estate and a site of one acre has been apportioned off and suitably prepared for the purpose A working colony for epileptic patients has been decided on and the necessary buildings are now in progress of erection for the accommodation of 300 patients and staff The sub-committee of the asylum reports further details in progress, and it is believed that part at least of the asylum will be shortly ready for the reception of a limited number of patients.

ROYAL ARMY MEDICAL CORPS FUND.

A MEETING of the Central Committee of the recently formed Fund to supply certain necessaries and comforts to the officers and men of the Royal Army Medical Corps now serving in South Africa was held on Feb. 5th at 11, Grafton-street, Piccadilly, by the kind permission of Sir Dyce Duckworth. Surgeon-General Jameson, the Director-General of the Army Medical Service, occupied the chair and was supported by Surgeon-General Muir, the Deputy Director-General. Letters of apology were read from H.R.H. Princess Christian, Lady Rothschild, Lady Wantage, Lady Priestley, and others for their non-attendance. Among those present were Lady White, Lady Knutsford, Lady (Russell) Reynolds, Lady (Douglas) Powell, Lady Brunton, Lady Savory, Mrs. Barlow, Mrs. John Anderson, Mrs. Butlin, Mrs. Pye-Smith, Mrs. Field, Mrs. Walsham, Mrs. Church, Mrs. Charlton, Mrs. Vesey Holt, Mrs. Berkeley Hill, Mrs. Percy Kidd, Mrs. Arbuthnot Lane, Mrs. Liveing, Mrs. A. H. Morgan, Mrs. Charters Symonds, Mrs. Walsh, Mrs. Alfred Willett, Mrs. Johnston, and Mrs. Jameson. Mr. Charters Symonds described how the formation of the Fund came about and read to the meeting the list of vice-presidents. An executive committee was also appointed, and Mr. Charters Symonds announced that so far the amounts received came to a sum of £214.

Surgeon-General Muir proposed that an appeal for funds should be made both in the daily journals and in the medical press. As regards the former at any rate it was decided that only names should be published and not amounts. Small subscriptions were suggested as being most convenient and it was proposed to ask for one of half-a-crown. Surgeon-General Muir also mentioned that the Indian dhoolie bearers would share in the benefits of the Fund as well as the other members of the Army Medical Corps. This is good news, for these men have done admirable work in the most quiet and unassuming way under very trying circumstances. The work of every member of the Army Medical Corps is trying, but possibly that of a stretcher-bearer is the most so of any. A surgeon attending to the wounded under fire is sustained by the necessity for keeping his head cool and his wits about him, but the transport of a wounded man upon a stretcher under a heavy fire, although it may be exciting, is not inspiriting.

In addition to the names already published we have received the following names of members of the committee, including Vice-Presidents and Executive Committee:—Mrs. Church, Mrs. Frederick Taylor, Mrs. Treves, Mrs. Acland, Mrs. Ambrose, Mrs. Anderson, Mrs. Charlton Bastian, Mrs. Brailey, Mrs. Burnett, Miss Burnett, Mrs. Watson Cheyne, Mrs. Origan, Lady Mansfield Clarke, Mrs. Dodd, Lady Fayrer, Mrs. Garrett, Mrs. Hensman, Mrs. Berkeley Hill, Mrs. Frank Howard, Mrs. Liveing, Mrs. Marston, Mrs. A. H. Morgan, Lady Priestley, Mrs. Cooper Perry, Mrs. Steele Perkins, Mrs. Knox Shaw, Lady Savory, Lady Felix Semon, Mrs. Richard Symonds, Mrs. Treves, Mrs. Trueman, Mrs. Cooper Wilkinson, and Mrs. Wornum.

It is suggested that local committees should be formed to work in the provinces in harmony with the central committee. As the object of the Fund is to provide various comforts for the members of the Royal Army Medical Corps now at the seat of war it is obvious that money is required. We shall be most happy to receive subscriptions and to acknowledge their receipt in these columns. If every member of the profession were to contribute at least half-a-crown, while those who are blessed with this world's goods contributed several half-crowns, the Fund would soon mount up to a respectable sum.

Although large subscriptions will naturally be eminently useful yet it is to be hoped that very many small subscriptions, representing an equal number of separate subscribers, will be sent in, for this will show the
mpathy of the profession as a whole.
ions may, if desired, be sent to the offices
ll be forwarded by us to the treasurer
ds, 58, Portland-place, W.).

All postal orders and cheques should be crossed "Holt and Co." and made payable to R.A.M.C. South Africa Fund. Contributions in kind to be sent to Miss Maxwell-Müller, R.R.C., Honorary Secretary, Royal Army Medical South Africa Fund, 100, Victoria-street, S.W.

SICK AND WOUNDED OFFICERS' SURGICAL AND MEDICAL AID FUND.

THE following are among the subscriptions that have been received to this fund. Additional subscriptions are earnestly requested and may be sent to Messrs. Coutts and Co., or to the honorary secretary and treasurer, Mr. Arthur Brodrick, at Hampden House, 61, Green-street, W.

	£	s.	d.
Daily Mail (Kipling Poem)	500	0	0
Messrs. S. Neumann and Co...	250	0	0
His Grace the Duke of Abercorn, K.G.... ...	100	0	0
Mr. M. Griffith	100	0	0
Mr. Alfred Harmsworth	100	0	0
Mrs. H. Longueville Jones	100	0	0
Mr. F. A. Hamilton ...	100	0	0
Messrs. Wakley, Editors of THE LANCET	52	10	0
Mayor of Derry	50	0	0
Mr. Victor W. B. Van de Weyer	50	0	0
Lord Ashcombe	50	0	0
Lord Ebury	50	0	0
Lady Haliburton	50	0	0
Mr. H. R. Davies ...	30	0	0
No. 6 Lodge of Friendship, per Mr. John H. Morgan...	26	5	0
Earl of Ducie	25	0	0
Sir James Musgrave ...	25	0	0
Mr. V. Saville	25	0	0
Miss E. Appach	20	0	0
Rev. R. Kinleside ...	20	0	0
A. M...	20	0	0
Mr. J. Denison-Pender	20	0	0
Lord Robert Cecil ...	20	0	0
Miss F. M. Stephens ...	20	0	0

	£	s.	d.
Miss C. Turton	15	0	0
Mr. E. Coles Baker ...	10	10	0
Sir Angus Fraser	10	10	0
Sir Harry B. Poland, Q.C.	10	10	0
Mr. Reginald Cardwell	10	10	0
Miss A. E. Hogan ...	10	10	0
Mr. R. Kay Gray ...	10	10	0
Miss Powys Keck... ...	10	0	0
Miss Emily F. K. Maclean	10	0	0
Mr. J. B. H. Montgomery	10	0	0
Sir Douglas Powell ...	10	0	0
Mr. Alfred D. Acland...	10	0	0
Mr. Granville Lloyd-Baker...	10	0	0
Hon. Miss Brodrick ...	10	0	0
Mrs. Burnside	10	0	0
Mr. G. H. B. Caldwell	10	0	0
General E. M. Cherry	10	0	0
Mr. David Gillespie ...	10	0	0
Mr. Gossage	10	0	0
Mrs. Gossage... ...	10	0	0
Miss Rose B. Greene ...	10	0	0
Major A. E. Hay	10	0	0
Miss P. Hurker	10	0	0
Miss E. Isaac... ...	10	0	0
Miss E. S. Lomer... ...	10	0	0
Professor J. O. Mahaffy	10	0	0
Miss Robinson	[illegible]		
Mrs. Silver	[illegible]		

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6711 births and 4719 deaths were registered during the week ending Feb. 3rd. The annual rate of mortality in these towns, which had decreased from 30·9 to 22·6 per 1000 in the four preceding weeks, further declined last week to 21·2. In London the rate was 19·6 per 1000, while it averaged 22·3 in the 32 large provincial towns. The lowest death-rates in these towns were 12·6 in Derby, 13·9 in Croydon, 14·3 in Burnley, and 14·4 in West Ham. The 4719 deaths in these towns included 427 which were referred to the principal zymotic diseases, against numbers declining from 578 to 428 in the six preceding weeks; of these 121 resulted from whooping-cough, 110 from diphtheria, 83 from measles, 40 from diarrhœa, 38 from "fever" (principally enteric), 33 from scarlet fever, and two from small-pox. No fatal case of any of these diseases occurred last week either in Derby, Birkenhead, Huddersfield, or Gateshead; in the other
towns they caused the lowest death-rates in C
Brighton, Nottingham, and Sunderland, and the
rates in Wolverhampton, Salford, Preston, and S
The greatest mortality from measles occurred in Pl
Wolverhampton, Preston, and Sheffield; from scar
in Halifax; and from whooping-cough in Wolver
Liverpool, Salford, and Oldham. The mortal
"fever" showed no marked excess in any of
towns. The 110 deaths from diphtheria inclu
London, 21 in Sheffield, five in Leicester, an
West Ham. Two fatal cases of small-pox were
last week in Hull, but not one in any ot
33 large towns. There were 21 cases of smal
treatment in the Metropolitan Asylums H
Saturday last, Feb. 3rd, against 18, 2

at the end of the three preceding weeks, no new cases were admitted during the week, against 10, five, and four in the three preceding weeks The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2179, against numbers decreasing from 3578 to 2287 at the end of the 11 preceding weeks, 174 new cases were admitted during the week, against 180, 207, and 190 in the three preceding weeks Influenza was certified as the primary cause of 109 deaths in London The deaths referred to diseases of the respiratory organs in London, which had decreased from 1221 to 490 in the four preceding weeks, further declined to 432 last week, and were 46 below the corrected average The causes of 72, or 1 5 per cent, of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in Plymouth, Cardiff, Salford, Leeds, and in eight other smaller towns, the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Preston, and Huddersfield

HEALTH OF SCOTCH TOWNS

The annual rate of mortality in the eight Scotch towns, which had been 23 0, 23 3, and 23 4 per 1000 in the two preceding weeks, further rose to 23 7 during the week ending Feb 3rd, and exceeded by 2 5 per 1000 the mean rate during the same period in the 33 large English towns The rates in the eight Scotch towns ranged from 16 6 in Paisley and 20 5 in Leith to 30 7 in Dundee and 40 5 in Perth The 733 deaths in these towns included 25 which were referred to measles, 11 to scarlet fever, nine to diphtheria, eight to whooping cough, eight to diarrhœa, and five to "fever" In all 66 deaths resulted from these principal zymotic diseases, against numbers increasing from 64 to 81 in the four preceding weeks These 66 deaths were equal to an annual rate of 2 1 per 1000, which was 0 2 above the mean rate last week from the same diseases in the 33 large English towns The fatal cases of measles, which had been 32 in each of the two preceding weeks, declined last week to 25, of which 21 occurred in Glasgow and two in Dundee The deaths from scarlet fever, which had been eight in each of the two preceding weeks, increased to 11 last week, and included nine in Glasgow The fatal cases of diphtheria, which had risen from three to seven in the four preceding weeks further increased last week to nine of which three were registered in Glasgow and two in Aberdeen The deaths resulting from whooping cough, which had been eight in each of the two preceding weeks, were again eight last week, and included three in Glasgow, two in Edinburgh, and two in Perth The fatal cases of diarrhœa which had been seven and 23 in the two preceding weeks, declined again last week to eight, of which five were recorded in Glasgow The five deaths referred to different forms of "fever' were all registered in Glasgow, and showed an excess of two over the number in the preceding week The deaths referred to diseases of the respiratory organs in these towns, which had declined from 253 to 172 in the five preceding weeks, rose again to 212 last week, but were 70 below the number in the corresponding period of last year The causes of 49 or nearly 7 per cent, of the deaths in these eight towns last week were not certified

HEALTH OF DUBLIN

The death rate in Dublin, which had decreased from 50 3 to 38 6 per 1000 in the four preceding weeks, further declined to 35 5 during the week ending Feb 3rd During the past four weeks the death rate in the city has averaged 41 9 per 1000 the rate during the same period being 24 4 in London and 23 3 in Edinburgh The 238 deaths registered in Dublin during the week under notice were 21 below the number in the preceding week, and included 12 which were referred to the principal zymotic diseases, against 31, 22 and 10 in the three preceding weeks of these four resulted from measles, three from diphtheria two from "fever,' two from diarrhœa one from scarlet fever, and not one either from small pox or from measles These 12 deaths were equal to an annual rate of 1 8 per 1000 the zymotic death rate during the same period being 1 8 in London and 1 0 in Edinburgh The deaths referred to measles which had declined from 18 to five in the three preceding weeks, further fell last week to four The fatal cases of diphtheria, which had been three, two, and one in the three preceding weeks, rose again to three last week The deaths from "fever,' which had decreased from five to one in the four preceding weeks rose again to two last week The mortality both from scarlet fever and from diarrhœa showed an excess over that recorded in the preceding week The 238 deaths in Dublin last week included 31 of infants under one year of age and 78 of persons aged upwards of 60 years, the deaths both of infants and of elderly persons showed a decline from the number in the preceding week Eight inquest cases and five deaths from violence were registered, and 90, or more than a third, of the deaths occurred in public institutions The causes of 10, or more than 4 per cent, of the deaths in the city last week were not certified

VITAL STATISTICS OF LONDON DURING 1899

Complete statistics relating to sickness and mortality during the year 1899 in each of the 43 sanitary areas of London are summarised in the accompanying table The mortality figures relate to the deaths of persons actually belonging to the various sanitary areas and are the result of a complete system of distribution of deaths occurring in the institutions of London among the various sanitary areas in which the patients had previously resided With regard to the notified cases of infectious diseases in London during 1899 it appears that the proportion of persons reported to be suffering from one or other of the nine diseases shown in the accompanying table was equal to 9 3 per 1000 of the population, estimated at 4,546,752 persons in the middle of the year In the three preceding years the rates were 11 1 10 2 and 8 3 per 1000 respectively Among the various sanitary areas the lowest rates were 5 0 in St Giles 5 1 in St George Hanover square, 5 3 in Strand, 5 4 in St Martin in the Fields, 6 1 in Kensington, and 6 3 in Hampstead, the highest rates were 12 9 in Fulham and in Greenwich, 13 4 in Bermondsey and in Lewisham (excluding Penge), 13 6 in St George Southwark and in Rotherhithe and 15 4 in Plumstead The prevalence of small pox in London showed a further decline during 1899, the new cases notified being only 29, against 979, 225, 104, and 32 in the four preceding years, of these three belonged to Islington, three to Camberwell and two each to Marylebone Hackney Whitechapel, Limehouse and Poplar sanitary areas The number of small pox patients admitted into the Metropolitan Asylums Hospitals during 1899 was 18 and seven remained under treatment at the end of the year The prevalence of scarlet fever in London during 1899 showed a slight increase upon that recorded in the preceding year, the number of cases notified being 18 094, against 25 647, 22 850, and 16 894 in the three preceding years, this disease was proportionally most prevalent in Fulham, St Olave Southwark, Rotherhithe, Greenwich, Lewisham (excluding Penge), and Plumstead sanitary areas During the year under notice 13 641 scarlet fever patients were admitted into the Metropolitan Asylums Hospitals, against 15,982 15 256 and 12 480 in the three preceding years, the number of cases under treatment, which had been 3506 and 2883 respectively at the end of the two preceding years had further declined to 2797 on Dec 30th last Diphtheria showed a slightly increased prevalence during 1899, the cases notified being 13 692 against 13 192 and 11 855 in the two preceding years; this disease showed the highest proportional prevalence in St Saviour Southwark, St George Southwark Newington, Bermondsey Camberwell, and Lewisham sanitary areas The Metropolitan Asylums Hospitals contained 1239 patients at the beginning of 1899, 9569 cases were admitted during the year, and 1679 remained under treatment at the end of December last The prevalence of enteric fever in London during the year under notice considerably exceeded that recorded in any recent year, the number of notified cases being 4456 against 3103 and 3024 in the two preceding years, among the various sanitary areas this disease was proportionally most prevalent in St James Westminster, London City, Bethnal Green, Limehouse Whitechapel and Poplar The number of enteric fever patients admitted into the Metropolitan Asylums Hospitals during 1899 was 1835 against 939 and 1116 in the two preceding years, and 405 cases remained under treatment at the end of December last. Erysipelas showed the highest proportional prevalence in Holborn, St. Luke, Shoreditch Bethnal Green St. George in the East, Newington, and Rotherhithe sanitary areas The 330 notified cases of puerperal fever showed an excess of 83 over the number recorded during 1898 32 belonged to Islington, 27 to Lambeth, 19 to Hackney, 19 to Bethnal

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING THE YEAR 1899.

(*Specially compiled for* THE LANCET.)

Sanitary Areas.	Estimated population in the middle of 1899.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,546,752	29	18,094	13 692	14	455	69	330	5608	15	42,307	9·3	3	2111	398	1946	1717	2	758	1	4181	11,147	2·46	87,530	19·3	166
West Districts.																										
Paddington	128,794	—	384	205	1	98	1	7	148	—	844	6·8	—	6	5	29	43	—	9	—	106	198	1·55	2065	16·1	151
Kensington	172,899	—	444	260	1	111	17	11	210	—	1054	6·1	—	24	10	43	61	—	24	—	101	263	1·53	3054	17·7	180
Hammersmith	108,785	—	439	191	1	115	—	12	109	—	867	8·0	—	22	13	25	46	—	23	—	101	230	2·11	2058	19·0	183
Fulham	130,720	1	847	528	—	110	1	13	179	4	1683	12·9	—	63	33	59	64	—	25	1	183	423	3·23	2607	19·2	189
Chelsea	96,721	—	282	238	—	64	4	9	83	1	681	7·1	—	18	8	26	71	—	15	—	64	205	2·13	1893	19·6	164
St. George Hanover-square	80,876	—	198	91	—	46	—	2	73	—	410	5·1	—	17	7	12	14	—	9	—	29	88	1·09	1142	14·2	129
Westminster	62,117	—	200	101	—	44	1	—	56	—	402	7·7	—	17	5	10	5	—	9	—	39	85	1·64	1159	22·3	207
St. James Westminster	21,827	—	49	37	—	34	—	—	22	—	142	6·5	—	3	1	3	6	—	3	—	8	24	1·12	389	17·9	142
North Districts.																										
Marylebone	140,139	2	400	196	—	118	1	6	202	—	925	6·6	1	24	15	36	34	—	26	—	100	236	1·70	2596	18·6	124
Hampstead	80,252	—	289	116	—	45	—	5	52	—	507	6·3	—	22	6	15	11	—	4	—	35	93	1·16	928	11·6	129
St. Pancras	244,548	—	862	578	—	246	—	13	311	1	2011	8·2	—	102	25	111	142	—	42	—	231	653	2·69	4948	20·3	178
Islington	348,085	3	1498	710	—	361	2	32	355	3	2964	8·5	—	164	34	126	170	—	48	—	256	798	2·30	6299	18·1	160
Stoke Newington	35,187	—	182	30	—	17	—	7	32	—	268	7·6	—	10	3	6	4	—	6	—	19	47	1·33	446	12·7	103
Hackney	222,571	2	988	709	—	268	5	19	301	—	2292	10·3	—	110	16	89	48	—	35	—	194	492	2·22	3753	16·9	163
Central Districts.																										
St. Giles	37,196	—	76	30	—	24	—	1	55	—	186	5·0	—	16	—	5	1	—	4	—	26	52	1·40	739	19·9	112
St. Martin in the-Fields	12,142	—	31	17	—	7	—	1	9	—	65	5·4	—	5	—	1	—	—	1	—	6	13	1·07	189	15·6	233
Strand	23,016	—	55	37	—	12	—	—	17	—	121	5·3	—	5	1	7	—	—	—	—	17	30	1·30	521	22·7	189
Holborn	29 621	1	117	62	—	35	2	1	46	—	264	8·9	—	11	3	6	13	—	7	—	26	66	2·23	737	24·9	226
Clerkenwell	66,068	—	321	198	—	91	1	6	72	—	669	10·5	—	36	13	28	30	—	23	—	70	200	3·04	1492	22·6	193
St. Luke	40,868	—	162	103	—	36	—	—	64	—	365	9·0	—	26	8	10	14	—	6	—	59	123	3·03	1159	28·4	149
City of London	27,986	—	74	57	—	86	1	—	21	—	239	8·6	—	4	1	7	5	—	12	—	9	39	1·36	599	21·5	144
East Districts.																										
Shoreditch	121,071	1	364	373	—	168	6	10	202	1	1125	9·3	—	90	13	65	47	—	25	—	198	438	3·64	2875	23·8	204
Bethnal Green	128,938	—	430	345	—	202	—	19	326	1	1323	10·3	1	95	9	59	45	—	38	—	156	405	3·15	2936	22·8	174
Whitechapel	81 391	2	209	202	4	138	—	5	125	—	685	8·4	—	58	2	27	24	—	15	—	46	173	2·12	1714	21·1	147
St George in the East	48,550	1	99	104	—	72	—	5	78	—	359	7·4	—	58	3	12	25	—	9	—	59	166	3·44	1312	27·1	200
Limehouse	58,807	2	171	132	—	136	—	3	78	—	522	8·9	—	62	1	34	31	—	22	—	71	221	3·78	1500	25·6	216
Mile End Old Town	113,161	—	294	373	—	138	2	7	149	—	963	8·5	—	62	5	65	48	—	26	—	111	307	2·72	2406	21·3	159
Poplar	170,606	2	420	424	—	271	4	14	230	—	1371	8·1	—	104	10	77	106	—	38	—	247	582	3·41	3762	22·1	176
South Districts.																										
St. Saviour Southwark	24,207	—	91	123	—	11	—	3	33	—	261	10·8	—	21	2	17	10	—	1	—	34	85	3·51	607	25·1	203
St. George Southwark	60,636	1	237	447	1	56	1	2	76	—	821	13·6	—	63	6	63	32	—	8	—	102	274	4·53	1673	27·7	205
Newington	124,168	—	509	728	—	111	—	5	201	—	1554	12·5	—	87	13	104	104	—	23	—	124	455	3·67	2969	24·0	191
St. Olave Southwark	11,098	—	64	32	—	11	—	1	3	—	111	10·0	—	10	2	9	—	—	2	—	6	29	2·61	278	24·9	147
Bermondsey...	85,835	—	402	513	3	110	1	3	88	—	1150	13·4	—	69	10	88	29	1	13	—	82	296	3·46	2063	24·1	187
Rotherhithe	41,050	—	256	160	1	54	—	2	83	—	556	13·6	—	14	11	32	14	1	11	—	32	115	2·80	865	21·1	170
Lambeth	308,108	1	1014	1122	1	220	10	27	336	3	2734	8·9	—	170	25	158	130	—	50	—	276	810	2·65	5894	19·2	158
Battersea	174,898	—	723	609	—	162	—	14	203	—	1716	9·8	—	105	14	62	52	—	33	—	116	387	2·22	2910	16·7	162
Wandsworth	209,655	—	911	617	—	127	1	13	240	—	1909	9·1	—	59	9	63	65	—	18	—	176	395	1·89	3203	15·3	153
Camberwell	264,817	3	1144	1241	1	176	4	19	259	—	2847	10·8	—	130	19	160	66	—	33	—	239	667	2·52	4502	17·4	159
Greenwich	182,513	1	1206	684	—	167	2	11	271	1	2346	12·8	—	127	17	73	53	—	30	—	203	503	2·76	3415	18·8	167
Lewisham (excluding Penge)	91,027	1	580	482	—	63	1	8	82	—	1212	13·4	1	14	6	68	12	—	11	—	91	203	2·23	1478	16·3	143
Woolwich	41,542	1	167	130	—	27	—	4	28	—	357	8·6	—	13	4	21	13	—	5	—	45	101	2·44	879	21·2	163
Lee	40,219	—	195	135	—	21	—	2	29	—	382	9·5	—	25	4	14	9	—	4	—	27	83	2·06	606	15·1	141
Plumstead	64,031	—	708	182	—	25	1	5	64	—	985	15·4	—	3	6	18	10	—	—	—	51	86	1·35	914	14·3	124
Port of London	—	4	2	10	—	21	—	—	2	—	39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 339 cases of membranous croup.

† Including deaths from membranous croup.

Green, 19 to Camberwell, 14 to Poplar, 14 to Battersea, and 14 to Greenwich sanitary areas.

During the year under notice the deaths of 87,530 persons belonging to London were registered, equal to an annual rate of 19·3 per 1000, against 18 2, 17·7, and 18·3 in the three preceding years, 1896–7–8; the average rate in the 10 years 1889–1898 being 19 2 per 1000. In the various sanitary areas the lowest death-rates were 11·6 in Hampstead, 12 7 in Stoke Newington, 14·2 in St. George Hanover-square, 14 3 in Plumstead, 15·1 in Lee, and 15 3 in Wandsworth; the highest rates were 24 9 in Holborn and in St. Olave Southwark, 25·1 in St. Saviour Southwark, 25·6 in Limehouse, 27·1 in St. George-in-the-East, 27·7 in St. George Southwark, and 28 4 in St. Luke. Taking the five groups of sanitary areas the rate of mortality during 1899 was 17·8 per 1000 in the north, 18·0 in the west, 18 8 in the south, 22 9 in the east, and 23·0 in central districts. To the principal zymotic diseases 11,147 deaths were referred during the year under notice; 4181 resulted from diarrhœa, 2141 from measles, 1946 from diphtheria, 1717 from whooping-cough, 761 from different forms of "fever" (including two from typhus, 758 from enteric, and one from simple continued fever), 398 from scarlet fever, and three from small-pox. These 11,147 deaths were equal to an annual rate of 2·46 per 1000, against 3·11, 2 57, and 2 77 in the three preceding years 1896–7–8. Among the various sanitary areas the zymotic death-rates ranged from 1·07 in St. Martin-in-the-Fields, 1·09 in St. George Hanover-square, 1·12 in St. James Westminster, 1·16 in Hampstead, 1·33 in Stoke Newington, and 1·35 in Plumstead, to 3 46 in Bermondsey, 3 51 in St. Saviour Southwark, 3 64 in Shoreditch, 3 67 in Newington, 3 78 in Limehouse, and 4 53 in St. George Southwark. The three fatal cases of small-pox registered in London during 1899 were 40 below the corrected average number in the 10 preceding years; one case belonged to Marylebone, one to Whitechapel, and one to Lewisham sanitary areas. The 2141 deaths referred to measles were 700 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in St. George-in-the-East, Limehouse, St. Saviour Southwark, St. George Southwark, St. Olave Southwark, and Bermondsey. The 398 fatal cases of scarlet fever were 557 below the corrected average number; this disease was proportionately most fatal in Fulham, Clerkenwell, St. Luke, St. Olave Southwark, and Rotherhithe sanitary areas. The 1946 deaths referred to diphtheria were 279 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in St. George Southwark, Newington, St. Olave Southwark, Bermondsey, Rotherhithe, and Lewisham (excluding Penge). The 1717 fatal cases of whooping-cough were 718 below the corrected average number; this disease was proportionately most fatal in Chelsea, St. Pancras, Limehouse, Poplar, St. George Southwark, and Newington sanitary areas. The 761 deaths referred to different forms of "fever" were 164 above the corrected average number; among the various sanitary areas the highest "fever" death-rates were recorded in Holborn, Clerkenwell, City of London, Bethnal Green, Limehouse, and Rotherhithe. The 4181 fatal cases of diarrhœa were as many as 930 above the corrected average number; this disease showed the highest proportional fatality in Fulham, St. Luke, Shoreditch, Poplar, St. Saviour Southwark, and St. George Southwark sanitary areas. In conclusion, it may be stated that the mortality in London during 1899 from these zymotic diseases was, in the aggregate, more than 9 per cent. below the average.

Infant mortality in London last year, measured by the proportion of deaths under one year of age to registered births, was equal to 166 per 1000, against 160, 158, and 166 in the three preceding years The rates of infant mortality in the various sanitary areas ranged from 103 in Stoke Newington, 112 in St. Giles, 124 in St. Marylebone and in Plumstead, and 129 in St George Hanover-square and in Hampstead, to 203 in St. Martin-in-the-Fields and in St. Saviour Southwark, 204 in Shoreditch, 205 in St. George Southwark, 207 in Westminster, 216 in Limehouse, and 226 in Holborn.

BOTKIN'S *Bolnichnaya Gazeta* is publishing a series of "Letters from India" from Dr. Kashkadamoff. At present the statistics of the plague epidemic and the hygienic methods adopted for combating it are the subjects principally dealt with.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: F. A. Jeans to the *Ramillies* and J. D. Henwood to the *Benbow*. Staff Surgeons: H. B. Beatty and J. H. Thomas to the *Diana*; R. F. Bowie to the *Europa*; and J. H. Stenhouse to the *Edgar*. Surgeons: Henry N. Stephens to the *Egeria*; Samuel H. Woods and Percy T. Sutcliffe to the *Duke of Wellington*, lent to the *Excellent*; A. E. Kelsey and W. W. Keir to the *Royal Arthur*; P. M. May to the *Mildura*; F. Bradshaw to the *Wallaroo*; J. A. Forrest to the *Howe*; W. B. Macleod to Haslar Hospital; R S. Bernard to the *Torch*; W. L Martin to Haslar Hospital; J. W. W. Stanton to the *Algerine*; L. G. E. O'Leary to Haslar Hospital; F. J. McKenna to the *Lion*; K. H. Jones to the *Waterwitch*; and A. H. Jeremy to the *Phœnix*.

THE IMPERIAL YEOMANRY.

To be Medical Officers, with the temporary rank of Captain: A. C. Fry,; E. T. Vint, Surgeon-Lieutenant-Colonel W. J. Naismith (Ayrshire Yeomanry), H. Manders (Captain and Honorary Major, 1st Volunteer Battalion Princess Charlotte of Wales's Royal Berkshire Regiment), H. A. Lownds (Captain, 2nd Volunteer Battalion the York and Lancaster Regiment), Robert Craig Dun, Douglas Percival, Charnley Smith, and R Mervyn Wilson. J. A. Lea to be Medical Officer, Base Depôt, with the temporary rank of Captain.

ROYAL ARMY MEDICAL CORPS.

Lieutenant E. McDonnell and Major C. Birt have arrived at Portsmouth for duty with No. 7 General Hospital. Lieutenant Colonel W. W. Kenny, Captain G. A. T. Bray, and Lieutenant G. J. S Archer have left Woolwich. Lieutenant-Colonel J. G. MacNeece has arrived at Portsmouth for charge of No. 7 General Hospital, being mobilised for South Africa. Major J. Moir, medical officer in charge of troops, Esquimalt, British Columbia, is ordered home. Captain H. A. Berryman has arrived at Colchester.

The undermentioned Lieutenants to be Captains:—George E. F. Stammers, Charles F. Wanhill, Wilfrid E. Hudleston, Martin P. Corkery, Frederick J. Gaine, Leonard Addams Williams, Malcolm Mac G. Rattray, John H. Power, Richard E. G. Phillips, Thomas H. M. Clarke, D.S O., and Edwin W. P. V. Marriott.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant A. Macdonald to be Surgeon-Captain, and Surgeon Captain Simon Linton, 1st Fifeshire Volunteer Artillery, to be Surgeon-Captain.

MILITIA MEDICAL STAFF CORPS.

Surgeon-Lieutenant-Colonel C. B. Stoney, 3rd Battalion the Prince of Wales's Leinster Regiment (Royal Canadians), resigns his commission, with permission to retain his rank and to wear the prescribed uniform on his retirement.

VOLUNTEER CORPS.

Artillery: 1st Cumberland: Surgeon-Lieutenant George Martin resigns his commission and is appointed Captain. 2nd Glamorganshire: Surgeon-Lieutenant C. H. D. Morland resigns his commission *Royal Engineers:* 1st Lancashire: Henry Halton to be Surgeon-Lieutenant. *Rifle:* 3rd Volunteer Battalion the Cheshire Regiment: Second Lieutenant Bernard Hale Woodyatt resigns his commission and is appointed Surgeon-Lieutenant. 2nd Volunteer Battalion the Welsh Regiment: Surgeon-Lieutenant A. W. Sheperd to be Surgeon-Captain. 3rd Volunteer Battalion the Essex Regiment: Daniel Mowat to be Surgeon-Lieutenant. 2nd Volunteer Battalion the Duke of Cambridge's Own (Middlesex Regiment): Thomas Christopher Cummins to be Surgeon-Lieutenant.

TRANSVAAL WAR NOTES.

In the House of Commons on Tuesday, Feb. 6th, in reply to Sir W. Foster, Mr. Wyndham said that 368 officers of the Royal Army Medical Corps are employed in South Africa, 377 at other foreign stations, and 111 at home. 133 civil surgeons are employed in South Africa and 28 more are under orders to go. 112 retired pay officers are employed at home.

At a meeting of the Imperial Yeomanry Hospital Committee held at 20, Curzon-street, W., on Feb. 5th, Lady Georgiana Curzon stated with reference to the position of affairs in regard to the hospital and its equipment that three-quarters of the equipment would be shipped by Feb. 7th, and two-thirds was already at sea. The medical men would leave in the *Majestic* on Feb. 10th with the exception of Lieutenant-Colonel Sloggett, R.A.M.C., military commandant of the hospital and principal medical officer, and Mr. A. Fripp, chief civilian medical officer, who would go in the *Norman* on the same date, accompanied by 114 members of their staff. The Prince of Wales will inspect the hospital staff at Devonshire House to-day (Friday). Mr. Charles Stonham, F.R.C.S. Eng., senior surgeon, Westminster Hospital, Surgeon-Captain, Middlesex Yeomanry Cavalry, has been appointed senior surgeon.

Dr. Mario Nascimento, a Portuguese doctor, lately Mayor of Lourenzo Marques, has volunteered his services in the British ambulance at Natal and has been accepted.

Princess Christian and Princess Victoria of Schleswig-Holstein visited the sufferers from the war at Netley Hospital on Feb. 6th. Their Royal Highnesses were received at Netley Pier by Colonel Creagh and Colonel Charlton, R.A.M.C. On arrival at the hospital their Royal Highnesses were conducted through the wards, in which were some 300 patients.

Nurse "Lawrence," mentioned in the second paragraph under the above heading last week, should have been Miss Eda C. Laurence, sister of Judge-President P. M. Laurence, of the High Court of Griqualand West, Kimberley, and daughter of the Rev. P. Laurence of Walesby, Lincs.

FIELD HOSPITALS AND AMBULANCE FOR HILL WARFARE.

Lieutenant-Colonel C. J. McCartie, I.M.S., has issued through Messrs. W. Thacker and Co., Creed-lane, E.C., a pamphlet recommending several changes in our field hospital system to make it suitable for mountain warfare. The main points of his plan are to divide the hospital equipment into (*a*) indispensable and (*b*) reserve, and to have the "indispensable" carried by porters accompanying the troops. Each regiment now takes two field panniers on a mule, but Lieutenant-Colonel McCartie believes that instead of this a regiment might take all the indispensable articles of the panniers in two knapsacks of about 35 lb. each on two porters. For a brigade of four regiments and a battery there would be 10 porters attached to corps and 32 porters to carry all the articles that are really necessary for the two field hospitals belonging to the brigade, whereas at present the equipment is carried by about 105 mules with 35 drivers. Porters can keep up with the troops over hills or snow, but mules cannot do this. There are 13 medical officers in the brigade Each would be accompanied by a porter carrying an amputation case, chloroform, and everything necessary for ordinary operations. With the present system an operation cannot be performed on the march without unloading and re-loading a mule, and if the mules are left behind no instruments or lanterns are obtainable. The other 29 porters would carry medicine, milk, soup, dressings, &c., and about 14 lanterns. The ambulance of a brigade now provides for the carriage of 49 patients in dandies and 160 on riding mules, besides the four stretchers for each regiment. There are 306 bearers for the dandies Lieutenant-Colonel McCartie describes and figures patterns of dandies and stretchers which he considers to be much superior to the regulation ones

THE FAMINE IN INDIA.

India has been sorely tried of late years It will be seen from our Special Correspondent's letter published in the present number of THE LANCET that plague continues its ravages and from the official statement furnished by the Secretary of State for India to the Lord Mayor that the country is suffering from a terrible famine—terrible alike in the great extent of its area of prevalence and the number of the population affected.

JOURNALISM AND THE WAR.

We refer our readers to the latter part of an article, "Musings without Method," in *Blackwood's Magazine* for February for a trenchant criticism on journalism in connexion with the war in South Africa It strikes us as well worthy of being read at the present time.

The annual distribution of prizes to the London Companies the Volunteer Medical Staff Corps will take place on Feb. 17th, at 8 P.M., at the headquarters of the corps 51, Calthorpe-street, Gray's Inn-road. The prizes will be distributed by Surgeon-General H. S Muir, Deputy Director-General, Army Medical Service.

Correspondence.

"Audi alteram partem."

NEALE'S DIGEST: A RECOGNITION OF THE AUTHOR'S LABOURS.

To the Editors of THE LANCET.

SIRS,—No doubt most of your readers are aware that Dr. Neale has recently published the supplement to his Medical Digest, which completes and brings down to date that admirable guide to the British medical literature of the last 50 years; but it is not likely they have any idea of the enormous and unremitting labour this self-imposed task has cost the compiler. The work of making his index and preparing it for the press has involved an average of four hours per day for more than 50 years. This labour has not only been without remuneration, for the publication of the Digest has never been profitable, but it has been carried on year after year at great cost to Dr. Neale, who with rare determination has cheerfully persevered in a task which he originally undertook for the benefit of science and of his profession rather than for his own pecuniary advantage.

It seems to the undersigned that it would be unbecoming to the profession he has worked for if Dr. Neale's labours were allowed to pass unrecognised, and they have, therefore, decided to invite the members of the profession throughout the British Empire to contribute to a fund which will enable them to present Dr. Neale with a suitable testimonial, as a recognition by his professional brethren of his long-continued and invaluable labours on their behalf. Obviously, it would be premature to discuss the form of the testimonial until the amount of the contributions can be ascertained, but all the subscribers will be communicated with before a decision is arrived at.

We are, Sirs, yours faithfully,
W. S. CHURCH,
President of the Royal College of Physicians.
WM. TURNER,
President of the General Medical Council
H. G. HOWSE,
Senior Vice-President of the Royal College of Surgeons.
THOMAS BRYANT,
President of the Royal Medical and Chirurgical Society.
R. DOUGLAS POWELL,
President of the Clinical Society of London
W. WATSON CHEYNE,
President of the Pathological Society of London.
FREDERICK T. ROBERTS,
President of the Medical Society of London.
ALBAN DORAN,
President of the Obstetrical Society of London
W. H. BROADBENT,
President of the Medical Graduates' College and Polyclinic.
HENRY POWER,
President of the New Sydenham Society.
JONATHAN HUTCHINSON,
Honorary Secretary of the *New Sydenham Society*.

P S.—Subscriptions may be sent to Mr. J. Y W. MacAlister (Librarian of the Royal Medical and Chirurgical Society), 20, Hanover-square, London, W. It will save him much trouble if cheques are made payable to "Bearer" and crossed "National Provincial Bank—Neale Testimonial Account."

"THE CONFERENCE AT NEWCASTLE AND THE MIDWIFERY QUESTION."

To the Editors of THE LANCET.

SIRS,—I have pleasure is answering the questions and suggestions of Mr. Chas E S. Flemming in his letter appearing in THE LANCET of Feb 3rd (p. 338). Radical changes of any kind in systems or schemes which have enjoyed much support for a number of years usually meet with strenuous opposition from some source or other, and I can only express surprise that more has not been shown against my suggested scheme as sketched in THE LANCET of Jan. 20th (p. 197). I feel bound to attribute this to a very wide sympathy which my suggestions have elicited.

Mr. Flemming devotes nearly the whole of his letter to the question of responsibility.' Now, for the life of me I cannot see why he should be so anxious over this point, especially as I myself can observe other points in my scheme which would seem to call for more insistent questioning—as they might be viewed from the standpoint of critics. I refer your correspondent to the division of responsibility as it obtains between a medical practitioner and either his qualified assistant or his trained medical or surgical nurse. Moreover, it should be in the power of an appointed district obstetric practitioner to dismiss any registered obstetric nurse for malpraxis or certain irregularities at a moment's notice, and such dismissal should be followed by inquiry and loss of certificate if the offence were considered sufficiently serious. But whoever hears of serious malpraxis on the part of either an assistant or a qualified medical or surgical nurse? The circumstances under which chief and subordinate work practically forbid it; and so it would be with the properly qualified registered obstetric nurse. I would draw your correspondent's attention to the fact that I gave no fees as appropriate to a Bill. I never mentioned the word Bill in my scheme or in paragraphs referring to that scheme. The whole question of right adjustment of all fees is one for after-consideration, the main question being, Does it seem feasible that midwives should be replaced by the coöperative working of medical man *plus* obstetric nurse?

To the question, "What is the intended effect of the medical man's visit as suggested in the latter paragraph of Clause 4?" I answer that the visit would be one made in order to confirm or not the obstetric nurse's opinion and the patient's belief that she is in a satisfactory condition—a simple confirmative and disciplinary visit, to satisfy everybody and to remind the nurse that her finished work is subject to the inspection of a medical man. Mr. Flemming is labouring under an apprehension regarding Clause 7. He forgets that the working-classes would not be obliged to retain the joint services of an appointed medical man and obstetric nurse, for they would be at liberty to engage an ordinary practitioner if they chose. Under my suggested scheme I do not expect quite every woman to rush to the combination although I do believe that more would take advantage of it than of a midwife as we now understand her, and thus a badly paid and to many practitioners an undesirable class of work (so they say) would be diminished in amount. Likewise Mr. Flemming's anticipation of "complications between neighbours and the difficulties of enforcing the rule" is one of an alarmist. Consultations would never be held with other local general practitioners, but with outside consultants of standing, as rarely as they would be required, and the appointed obstetric practitioner would go on with the case afterwards. *The appointment of obstetricians would take place annually.* Women of the general public would not be obliged to engage the combination, supposing either a medical man or a nurse were unpopular.

I am, Sirs, yours faithfully,
HAYDN BROWN.
London, Feb. 3rd, 1900.

CONTAMINATED COCKLES.

To the Editors of THE LANCET.

SIRS,—You are no doubt aware that we had in the city of Belfast in 1898 what might have been considered an epidemic of typhoid fever, and if now the number of cases reported has fortunately very materially decreased we still have more cases amongst us, compared with the other parts of the United Kingdom, than would be considered normal. Notwithstanding the most diligent inquiries the local authorities and the local medical profession have failed to trace the origin of the epidemic. I suggested from time to time that the sale of cockles, collected on the shores of estuaries contaminated by sewage, was perhaps one of the sources which would account for the prevalence of typhoid fever in Belfast. Cockles are mostly consumed here by the poorer classes and these classes seem to furnish more than their proportion of typhoid fever cases. We have in Belfast about 700 Jews, mostly of Russian origin and poor, who all strictly adhere to the Mosaic code of diet, discarding amongst other food all animals living in the sea not covered by scales. As President of the Hebrew community here I have made inquiries and no case of typhoid fever has been reported amongst the members of the congregation for many years past.

My object in bringing the matter before you is to draw attention to this fact, and if similar experience is recorded elsewhere you will no doubt use your powerful influence in connexion with the other members of the medical press to obtain some legislation to prohibit the collection of cockles and oysters from any estuary that might be contaminated by sewage.

I am, Sirs, yours truly,
OTTO JAFFE.
Belfast, Feb. 5th, 1900.

THE DURATION OF THE IMMUNITY CONFERRED BY INOCULATION AGAINST TYPHOID FEVER.

To the Editors of THE LANCET.

SIRS,—In a leading article on Anti-typhoid Inoculation in THE LANCET of Jan. 27th you state that "it is necessary that the effects should last for a considerable period. On this point we have as yet little information." This raises the question whether we have any scientific data or guide to fix approximately the effect of this or any other inoculation.

It appears to me that there is one circumstance which might and does help us in coming to some conclusion. Dr. W. B. Ransom in his address on "Immunity to Disease" says, "In small-pox, scarlet fever, measles, syphilis, the protection is considerable and long; in typhoid fever it is fairly well marked; in diphtheria more transient; while in pneumonia, erysipelas, influenza, and cholera it is hardly at all apparent." Of course he means an attack of disease naturally acquired and which confers immunity. This may be in diseases naturally acquired. I think in inoculation the period of incubation of disease does help us in coming to some conclusion on the subject. In those diseases in which the period of incubation is longer the effect of inoculation is also longer. One hears a good deal about plague and cholera inoculations. I think the effect of inoculations in these cases must be very transient in men. We are told to look at the statistics. As we all know, statistics can prove anything. What we as scientific men want is scientific explanation to guide us. It further appears to me that inoculation that takes a long time in producing its effect—viz., malaise, fever, &c.—confers immunity which ought to last for a long time too. This leads us to another conclusion. Inoculation can confer a longer immunity only in those diseases in which progress of the disease and morbid changes in the organs or glands which they particularly affect are slow and gradual. In those diseases in which progress is very rapid inoculation cannot be of any advantage such as plague, cholera, and influenza.

For these reasons I venture to think that "anti typhoid inoculation" will prove of great service, but there should be two or three inoculations at intervals before a marked and permanent effect is produced. Though it has been demonstrated that immunity is due to a vital action of the cells of the body, alteration, however slight, in structure of glands affected has something to do with it. Of all the diseases in which inoculations have been performed in only two of them is there a marked benefit—vaccination against small pox and inoculation against rabies. The reason is that entire lymph in one case and emulsion of the entire substance of the medulla oblongata in the other are used, and not dead bacilli toxins or proteins separately. It shows that to have any marked effect there should be something more than "anti-infective" or "antitoxin" substances.

Copeman seems to have found the micro-organism of variola. I think, for practical purposes, it will be an evil day for science and humanity if such a bacillus is isolated and we leave off using vaccine lymph as protection against small-pox.

I am, Sirs, yours faithfully,
P. J. DAMANIA, D.P.H.
Portley, Caterham, Feb. 4th, 1900.

"DEATHS UNDER CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—If Mr. Whiteford will do me the honour to reconsider what I have endeavoured to set out in the three cited recent numbers of THE LANCET he will find that the apposition of facts has answered his question by demolishing the proposition on which it is based. But there is no difficulty in giving a categorical reply. Speaking of the open or Skinner's mask method of administration, Mr. Whiteford's question is: "If the patient does not absorb a similar dose of chloroform in each case, why do we get a similar result? I am still waiting a reply to this query."

The answer is that *we do not get a similar result.* As I have stated, there lie upon my table newspaper reports of 83 inquests upon persons killed by anæsthetics during the year 1899 in England alone; and some 80 per cent. of these deaths occurred before operation commenced. This 80 per cent., therefore, died of the administration apart altogether from contingencies in the course of an operation. Reading between the lines these 83 inquests represent probably 200 deaths from anæsthetics. Assuming that for each irretrievable case of poisoning four cases are resuscitated by artificial respiration, we have yearly 1000 cases in England in which operative proceedings are broken in upon and a most distressing anxiety is suddenly thrust upon all the medical men who are present. In a country town such a death may also half ruin the career of a young practitioner and prejudice his professional usefulness for years afterwards. These deaths are a matter of intense professional and public concern, and they are due to a want of exactly that uniformity of results which Mr. Whiteford assumes to occur. Again, Mr. Whiteford's argument if sound would merely shift on to the administrator personally, and on to all the medical men who have stood by without protest, that blame which rests upon our present *rule-of-thumb method of administration.* Mr. Whiteford's argument would also divert us from the real remedy, which, as I submit, lies in the direction of measured dosage.

Mr. Whiteford has left unanswered two questions which I asked him, and I take this opportunity of thanking him in advance for replies in his next letter. Those questions were: 1. Can he show us any method of measured dosage other than the volumetric administration of air charged with the vapour of the anæsthetic? 2. Can he show us any apparatus by which precise and registrable dosage can be secured other than the improved Krohne inhaler?

The administration of "chloroform from an air-tight inhaler" combines asphyxia with chloroform poisoning. I agree with Mr. Whiteford in condemning it utterly. Asphyxia *plus* chloroform poisoning was, in fact, the vice of the old Junker apparatus. Yet even to day many writers seem not to know the difference between the old Junker apparatus and the modern Krohne inhaler. The Krohne inhaler has, of course, a respiration orifice many times larger than the area of the glottis and which is always open, so that no element of asphyxia can be imported into the use of the apparatus. It also has the feather-indicator, the action of which displays the currents of the respiration with all their variations to every one in the room. This relieves the administrator of watching the movements of the chest. It also prevents his depending upon chest-movements which, with closure of the glottis, are abortive and misleading—though apparently active. In diphtheria and other conditions involving obstruction of the glottis the movements of the chest, as is well known, become specially strenuous, but they are a measure of the difficulty of respiration—not of its efficiency. These persistent chest-movements, nevertheless, are often a trap to the administrator.

As several thousands of the improved Krohne inhalers are now in use all over the world deaths now and then occur with them. I have myself seen administrators use the Krohne inhaler so as to "*blow chloroform* at the patient." Of course I advocate the Krohne inhaler *used as I have described.* The injection of chloroform air into the vulcanite face-piece must be made *at the ebb tide of each expiration* so that the *on-coming* inspiration may sweep the dose of chloroform air well into the lungs. In that case we do not "blow chloroform at our patient"—we blow it into the recesses of his lungs, and all we have to do is to realise that chloroform is a very powerful poison and that we must think in fractions of a minim for each inspiration and not as if we were slopping chloroform about by the ounce. Administrators there are who complain that they "cannot get their patients under with the Krohne inhaler." If such administrators be observed it will be seen that they have no sense of time as to the proper phase-moment of the respiration cycle at which the chloroform air is injected into the face-piece. Some such men lose or gain time and work all round the respiration cycle like a man who gains or loses a whole bar in a waltz every time he gets round the room. The result is that sometimes they cannot get their patients under, sometimes they get them under too well. If the chloroform air be injected into the face-piece during expiration it is "blown at the patient," but it is at once reflected into the faces of the medical men and nurses by being blown out of the mixing box. If the administrator have a sense of time but no other sense he will stick to the beat of the expiratory phase of the respiration cycle, pump very strenuously, and use bad language to the inhaler. Sometimes he will stop up the respiration orifice and by hook or by crook will stupefy his patient, the stupefaction being a combination of asphyxia and anæsthesia If he lack a sense of time as well as other sense, when not being able to get his patient under has driven him to desperate pumping, he may suddenly lose half a beat and drop into the inspiration phase of the respiration cycle. He then provokes spasma glottidis and the sequence of phenomena which I have previously described.

It is quite true that "the depth and frequency of the respiration vary in different patients and in the same patient at different times." But Mr. Whiteford's conclusion upon this is a *non sequitur.* In using the Krohne inhaler we have the patient recumbent; the inhaler is then fitted carefully and comfortably to the face, a little pleasant small talk *follows until the patient has realised that he can breathe* as comfortably and freely with the inhaler on as with it off. Under this manœuvre the patient's respiration generally becomes calm and regular. But *in any and every case* the squeeze of the bellows-ball *must* be *timed to* the ebb-tide of the expiration so that the on-coming inspiration sweeps the chloroform air, diluted with the inspiration current, into the recesses of the lungs. So much for timing to the beat of the phase-moment of the respiration cycle. As to amplitude of squeeze—which governs not the time of the injection but the amount of each dose—that can be controlled perfectly with a very little previous practice, and be made to deliver from one to 100 cubic centimetres of air saturated with chloroform vapour. In maintaining anæsthesia a squeeze of small amplitude for every third or fourth inspiration generally suffices. Here one must be guided, as Mr. Whiteford says, rather "by the state of the pulse, respiration, and pupils than by any hard-and-fast line as to the amount of chloroform" used. Assuming that the injections of chloroform air are properly timed for the successive inspirations and that the amplitudes of squeeze are properly regulated, our position is improved immensely over the open method, in which we never really know how much has been propelled into the lungs. But we still have indeterminate factors to cope with, and the effect, or real dosage, depends on the balance between ingestion and egestion—as with other drugs whether ingested by the stomach, by hypodermic injection, or by inhalation through the lungs. In hot weather, for instance, exhalation by the lungs and skin are much more active than in cold weather, and there are other factors which will alter the balance of real dosage. The final adjustment of the dosage is a matter of touch—like pitch in playing the fiddle. But to have an implement which responds perfectly to all the intelligence that an administrator can hope to possess is a vast help and security. That is what the Krohne inhaler is to the man who has initiated himself into its use. Practically its face-piece is a domed cell, standing over the mouth and nose, made air-tight to the face below by means of the rubber inflator, but absolutely open at the top and there furnished with the feather indicator which displays the currents of the respiration. Through this one can breathe all day as well as if it were not *on*, and there is no element of asphyxia unless some sage stops up the respiration orifice and converts it into an old Junker apparatus. The rest of the apparatus is a mere addendum by which any volume of air can be pumped through chloroform in a graduated bottle and be propelled into the face piece. The chloroform air, being heavier and a shade colder than the atmosphere, falls on to the mouth and nose at the moment of the pause after the expiration is finished. By the next on-coming inspiration this chloroform air, more or less mixed with the inspiration current, is swept into the recesses of the lungs. The outcome is that, with a little practice, a sufficiently precise and measured dosage — summed up and registered by the graduated bottle—can be secured. This serves as a "dead reckoning," but it does not supersede the astronomical observations with which a prudent captain checks off his dead reckoning as often as opportunities occur.

Again, there is always the time-factor. If an administrator work his bellows with such amplitudes as to inject, say, 10 minims of chloroform into the 12 or 13 cubic inches of blood that lie between the terminals of the pulmonary and coronary arteries—*not giving the time necessary for the distribution of these 10 minims of chloroform into the large mass of blood in the general circulation*; in that case the use of a Khrone inhaler will not keep the patient alive Here the time-factor is the determinant. We kill our patient with an insignificant amount of chloroform, just as with a hammer of insignificant weight we *fracture* the skull of a porter who carries a hundredweight on his head comfortably by means of the distributing ring which is known as the porter's knot. In these cases of sudden death before operation it is the stroke of the concentred action — the local poisoning of the pulmo-cardiac blood—which kills.

The object to be aimed at in inducing an anæsthesia is so admirably described by Mr. Whiteford that I ask permission to reproduce it prominently. It runs thus:—

"I set out with the object of inducing anæsthesia slowly and quietly in from about 10 to 12 minutes and of maintaining this state with regular pulse and respiration and with contracted pupils."

I could not wish for a more lucid or more concise set of sailing directions. They are just what I had the advantage of being taught as an apprentice *now some* 50 years ago, and they have served me well ever since. For *some 40 years I was in the habit of giving chloroform off* a towel, or anything else, simply by the light of those principles and with the rule to *go gently at first*—so as to provoke no cough, no resistance, no spasm of the glottis. I have had large experience of chloroform, and should never think of using anything else. I have never had any sort of anxiety about my chloroform in any single case. But I confess, now I have got used to the improved Krohne inhaler and realise the true significance of these deaths, that I should think it a crime to go back to a towel or a Skinner's mask.

I am, Sirs, yours faithfully,
Manchester-square, W. JAMES EDMUNDS.

THE ANTI-VACCINATION PROPAGANDA.

To the Editors of THE LANCET.

SIRS,—I observe from reports in the provincial press that a member of the Anti-Vaccination League has resumed the delivery of the lectures which he gave last year and which were illustrated by lantern slides of (what is called in the advertisement of the lecture) "a *painful* character" to general audiences. I shall be glad if any of your readers who may be aware of the proposal to give such lectures in their own immediate neighbourhood will kindly communicate with me as soon as possible, in order that efforts may be made to place the lecturer and his misrepresentations in their proper light before the public.

I am, Sirs, yours faithfully,
FRANCIS T. BOND, M.D. Lond.,
Gloucester, Feb 6th. *Honorary Secretary, Jenner Society.*

THE HOSPITALS AND THE SICK AND WOUNDED IN THE SOUTH AFRICAN WAR.

To the Editors of THE LANCET.

SIRS,—I have just been to the Army Medical Department and have learnt from Surgeon-General Jameson *himself* that this question to the hospitals, "What beds have you available?" has been misunderstood The department did not wish to oust civilians to make room for soldiers, but merely to inquire *at which hospitals there were wards now empty* which for want of money or other reasons could not be opened and which would therefore be available for soldiers if the Government were to pay the cost of opening them. To this question we at the London Hospital are obliged to answer that we have no beds "available" but with sufficient notice we shall, as will every other hospital, be only too glad to do our best to help. As a fact I do not think any civil hospital will be asked, and I found this opinion on the fact that the Army Medical Department, or rather the Soldiers and Sailors Help Society to whom is relegated this work, are refusing offers of completely equipped hospitals from people in all parts of the country. There are a very large number of beds vacant in the military hospitals and huts are being erected to accommodate any overflow. Tempted as every hospital chairman must be to say, "The whole of my *hospital is open to the wounded soldiers*" because of the advertisement thereby attained, we all have duties to the sick and injured civilians, especially in East-end hospitals where we have no hospital within a cricket-ball's throw to take the cases which we may have to refuse.

I am, Sirs, yours faithfully,
SYDNEY HOLLAND,
Bryanston-square, W. *Chairman, London Hospital.*

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

To the Editors of THE LANCET.

SIRS,—Whatever may be said of the value of Royal Commissions as a rule there can be no doubt that the members of the latest Royal Commission on the Metropolitan Water-supply have rendered to all interested in the question this service: they have summarised the position. It is true that the inquiry has been unusually protracted and it is also true that a considerable time has elapsed between the termination of the sittings and the publication of the present report. On this latter fact, however, little surprise can be expressed when the very comprehensive nature of the report is realised *by a careful perusal and consideration of its contents.* The previous history of inquiries on the subject had to be reviewed, the rapid developments in regard to modern requirements had to be taken carefully into account, and fresh possibilities under a series of abnormally dry seasons had to be faced before Lord Llandaff's Commission could get to work on the special subjects upon which Her Majesty through her Ministers on May 1st, 1897, "deemed it expedient that a Commission should forthwith issue to inquire."

You have in a leading article already indicated the limitations of the work of the Commission. It was appointed to determine as accurately as possible the expediency of purchase in the interests of ratepayers and water consumers on financial grounds, and with regard to the future as well as the present requirements of Water London. Now, Lord Balfour's Commission (1892–1893) reported in effect that the sources available within the watersheds of the Thames and Lee were adequate in quantity and quality for a period of 40 years from the date of the inquiry. Since that date the question of adequacy of supply at all times has been intensified and big schemes of increasing present resources or of tapping new water areas have been widely discussed, and to take Lord Balfour's Commission as an authority that was not to be gainsaid was an error. May not the London County Council take advantage of that error and try to re-open questions that have now been decided against them? The proposition by the London County Council to derive water from Wales was the most remarkable suggestion placed before Lord Llandaff's Commission. The London County Council has rendered excellent service to the metropolis, whatever may be said of its methods and ambitions, by forcibly attracting public attention to the important questions of transferring the water undertakings to a public body and of securing an adequate supply of pure water for all purposes.

I am, Sirs, yours faithfully,
MUNICIPALISATION.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Outbreak of Small pox and Measles in Bombay simul-
taneously with Plague.—The Plague in Karachi are
Poona.—General Decline of the Epidemic in India. The
Great Increase in Bombay City.—Inoculation then mak*and*
ndia, but

BOMBAY is not only in the commencement *in Bombay.*
epidemic of plague but it is confronted with a of a fourth
small-pox. The latter began to show itself abo n outbreak of
in the northern part of the city and three it a month ago
deaths numbered 36 In the week weeks back the
victims rose to 68 and for the nding Jan. 2nd the
the death-roll totaled 96. These week ending Jan. 9th
disease is spreading, and cases ar figures show that the
parts of the city. Up to the pre e now occurring in all
sent time the only other

regularly increased from 1876, the year when the organisation was founded, to 1896. From the beginning of 1897, when the service was reorganised, the expenses diminished by 72,000 francs in three years. In this period of time the receipts from patients who were visited at night amounted to 39,974 francs, making a total lessening in expenditure of nearly 112,000 francs. M. Vilain points out that even allowing for a fee of 10 francs for every night call during 1899 this sum represents a profit of at least 10,500 francs to the night medical service. This bonus will be added to the estimates for the year of the Exhibition—viz., 1900—the ordinary estimate being fixed at 145,000 francs. In the report submitted to the Municipal Council the balance sheet for 1899 was remarkable for a diminution in the expenses and an increase in the receipts. This happy result is owing in great part to a circular from the Prefect of Police, distributed at all the police-stations, which is handed to every person making a claim on the night medical service. The friends of the patient are informed that they must pay the fees owing to the collector for the district, gratuitous attendance being reserved solely for the very poor. This circular has certainly had the effect of cutting down expenses, and in one district, which formerly was noted for the calls made upon the night medical service, several persons after having been shown this circular have gone away without levying any further tax upon the service.

Hospital Laboratories.

In the recent debate upon the Budget at the Municipal Council M. Henri Rousselle, chairman of the Laboratories Department, again put forward a motion that the various private hospital laboratories should be suppressed and their place taken by a central laboratory for each hospital. M. Rousselle argued that this system would be much cheaper, as all instruments and apparatus could be used in common which are now dispersed among different laboratories whose separate upkeep is very little less expensive than would be that of a central laboratory. He said that culture stoves, autoclaves, and other apparatus could easily be used in common, and the laboratory would be under the charge of a director and two assistants who should be nominated by the medical staff of the hospital and chosen exclusively from among past house physicians and surgeons. The Municipal Council, which thinks of nothing but expense, accepted this view, but from the scientific point of view it has not been so favourably received by hospital medical officers. The work done in a medical laboratory is not comparable to that done in a commercial laboratory of which the Municipal Council was apparently thinking. The director of a medical laboratory is an actual collaborator personally associated with research, and it would be difficult for him were he to be associated with eight or ten different medical men engaged respectively in their own line of research, for he could not be equally versed in all of them. Also, in many researches the medical man engaged wishes his work kept secret before publication, which would be a difficult matter in a public laboratory. The view of a research laboratory current among the Municipal Council shows an absolute ignorance of the methods of scientific work customary in France. Even from the economic point of view the benefit is illusory. The present laboratories are carried on at but small expense and are quite sufficient for their present work. A central laboratory would need a large and specially constructed building and the expense of building would be a hundred times greater than the sum to be saved by a common use of apparatus. Also if, as would be the case, every medical man were to be engaged upon a research of his own his place would have to be reserved for him and so private laboratories would be practically reconstituted with the additional expense of new buildings for the public institution.

Influenza.

Influenza is raging in Paris as it is in every capital of Europe, and people are much exercised, for there is scarcely anyone who is not affected primarily or secondarily by the disease. Nevertheless, these fears are much exaggerated, for if the cases are numerous they are fortunately not serious. Dr. Bertillon, the head of the municipal statistical department of the city of Paris, in an interview on the subject declared that influenza, which is endemic in Paris, has this winter become particularly prevalent owing to the very damp state of the atmosphere. Here are the mortality figures from influenza during December and January. In December [illegible] deaths registered from [illegible] In January, 1899, there were 18 deaths, while in January, 1900, the figure rose to 39, and 20 of these occurred in the first week of the month, although the general mortality of Paris was not above the normal. The statistical department does not consider that a real epidemic exists—a view which, perhaps, has origin in the fact that a very severe epidemic was looked for during the winter of 1899-1900, based upon the fact that influenza made its appearance during the winter of 1889 and it was thought that there would be a special exacerbation after ten years' time. Such an opinion holds good for most epidemic diseases. The weather, however, continues unfavourable, the wind being constantly from the south. It must be remembered that the figures given above only represent deaths, but it is certain that the number of persons attacked is very large.

Feb. 6th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Influenza and the Holy Year.

LIKE the Horatian "pallida mors," influenza is knocking at the door of the hovel and at the portal of the palace. Queen Margherita is not spared by the unwelcome visitant any more than the subalpine peasant or the factory hand "in populous city pent." Her Majesty is now, I am happy to say, in full convalescence, though not yet allowed to leave her apartment, and the State concert fixed for to-day at the Quirinal has had to be postponed till that most shadowy of all periods, "a more convenient season." His Holiness the Pope "sta bene," I have just been assured; though certain changes in the "order of the day" at the Vatican are quite important enough for lay journalists to connect them with another "deliquio" or "raffreddore" on the part of Dr Lapponi's august patient. These "changes," it may be opportune to state, are thus accounted for: the pilgrimages which were to have started this week from Upper Italy have, by influenza, been so reduced in numbers that the "Commissione dei Pellegrinaggi per l'Anno Santo" has had to admonish their "personally conducting" bishops to defer them till their full complement can be made up. The Vatican, in so doing, is for once in harmony with the Italian Government, which sees in the influx of masses of poor people from disease-stricken communities a present danger for Rome, itself gravely visited by the same scourge. Even greater vigilance is being exercised at the French frontier in guarding against the introduction of infective maladies from that quarter. Not only influenza but small-pox is prevalent at Marseilles and Toulon; indeed, the latter disease has already found its way into Italy from those seaports. In view of the pilgrimages from France, therefore, the Italian Government has despatched to Ventimiglia, the frontier station, a fully equipped "servizio sanitario" to subject the pilgrims in question to a thorough examination, which is to exclude from Italy not only the influenza patient but also every individual not effectively vaccinated or revaccinated.

The Treatment of Influenza

While all the towns and villages are exposing in their churches the images of their respective saints or tutelary "patroni" and "patrone," and are, through their priests, preferring prayers for the removal or abatement of the influenza scourge, the medical schools are formulating the therapeutics hitherto found most efficacious in reaching the same end. The University of Turin, represented by one of its most authoritative consultants, publishes a series of practical indications for the benefit of the practitioner and of the more intelligent of the laity—indications not more significant in their positive than in their negative bearing on influenza. Practically, I may say, these correspond with the findings of the German Committee, which after the epidemic of 1890-92 obtained the opinions of 6000 medical men within the Fatherland as to their professional experiences in presence of the disease. Never, according to the Piedmontese professor, was there more need of the "medico" in contradistinction to "medicamenti" than in the influenza visitations of the last decennium. Yet, he says, "to day we have increased a thousand-fold the mania for phenacetine, salicylate of soda, salicylate of quinine, and such like," all this, moreover, because the lay or non-professional world sists on remedies which medical experience has either andoned or prescribes only in very special cases. This aving on the part of the public for "medicamenti" is couraged, he says, by those coöperative societies which vend their subscribers "boccette di chinina" (phials of quinine), boxes of phenacetine, or of the above-named salicylates thout professional sanction, till, with Dr. Furbringer (of e German Committee aforesaid), he finds that it is more than oubtful whether many patients are not suffering less from fluenza than from the "Galenical poisoning" induced by eir self-prescribed "medicines." Such "therapeutics" e greatly due to panic; and, if only to allay that epressing emotion, the patient who thinks he is "in for attack" cannot see the physician too soon and bring himlf under the sway of reason and clinical experience. *Au ste*, his indications are such as commend themselves British practice, in their attention to "small ings," in their consideration of every individual case "on s merits," in their avoidance of drastic agents, in their liance on rest in bed, above all in their warning against patience of the sick room or undue "haste to be ell" He would often, indeed, approve the line taken by a ell known English consultant who, when assured by his atient, "Doctor, I have tried everything," replied, "No, ou have not. Have you tried nothing?" and sent him back bed accordingly.

Feb. 5th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Bubonic Plague in New Caledonia.

THE bubonic plague has broken out at Nouméa, New aledonia, a port in regular communication with Sydney and nly three and a half days' distant. Immediately information eached Sydney of the occurrence of the outbreak the resident of the Board of Health took steps to have all essels arriving from New Caledonia placed in quarantine or 12 days. Several passengers were landed from the teamer *Pacifique* before the quarantine was declared. everal of them have been traced and placed under edical surveillance, but 10 adults and one child are still t large untraced. The steamer *Maroc* was also quarantined t Newcastle, but released on Dec. 29th. In August last he Government cabled to Dr Haffkine for a litre and a alf of his plague vaccine, but none has yet arrived, and r. Ashburton Thompson, the President of the Board of ealth for New South Wales, has recommended that the accine should be prepared locally in the laboratories of he Health Department. The late Government opposed he idea of giving the plague bacillus a home in any art of Australia, even under strict supervision, but probably he subject will now be reconsidered. In Queensland the overnment has ordered a quarantine of 14 days for all essels from New Caledonia. At Melbourne the *Australia* arrived with trans-shipped passengers from the *Pacifique*, and one passenger from Nouméa to Melbourne was placed in arantine and no other passengers were allowed to land. D [illegible] sswell, President of the Board of Health of [illegible] recommended that a supply of Haffkine's [illegible] ained from India At a special meeting of [illegible] ublic Health held on Dec. 30th, the following reso[illegible] agreed to

(a) T[illegible] hole of Polynesia, Madagascar, Seychelles Islands, and Reunion [illegible] be proclaimed as plague-infected.

(b) That [illegible] period of quarantining vessels from infected ports be 12 days, and that uniformity be urged upon New South Wales and the other colonies in this connexion.

(c) That the shipping companies affected be informed of the quarantine restrictions

(d) That the medical profession be asked to immediately notify the board and the councils of the householders concerned of any cases they discover, independent of the obligations imposed upon them by the Public Health Act

(e) That the Minister be asked to secure an immediate supply of the plague vaccine, as essential to the health of the community

(f) That the councils of the colony be informed by circular as to steps to be taken anticipatory of an outbreak

(g) That all vessels arriving from infected ports, whether they have been over the 12 days on the voyage without an outbreak on board or not, be inspected by medical officers for a week after arrival—i e, the second fourth, and sixth days of their stay at a Victorian port

(h) That no vessels from any Polynesian port be allowed alongside.

Annual Meeting of the Victorian Branch of the British Medical Association.

The annual meeting of the Victorian Branch of the British Medical Association was held on Dec 21st. The report of the council showed that the average attendance at the meetings during the year had been less than usual. The council had been forced to deal with several ethical cases, and in one had to expel a member for unprofessional conduct, the council's action being ratified by the branch. The following were elected as office-bearers for the ensuing year: President, Mr. G. A. Syme; vice-president, Mr F M. Harricks; treasurer, Mr. J. R M. Thomson; secretary, Dr. D. M. Officer; librarian, Mr. A. W. F. Noyes; Victorian editor of the *Australasian Medical Gazette*, Dr. J. W. Springthorpe; members of the council: Dr. A. V. M. Anderson, Mr. F. D. Bird, Mr. A. L Kenny, Mr. H. Lawrence, Dr. R. L McAdam, Mr. F. Meijer, Mr. M. U O'Sullivan, and Dr. R. R. Stawell. In his address the retiring president, Mr. A. L. Kenny, dealt almost exclusively with the internal affairs of the branch and its relations to the parent association, a subject on which he could speak with authority and knowledge, having acted for years as secretary of the branch and also subsequently as treasurer, and having represented the branch in England when visiting there. Mr. Kenny was of opinion that more interest should be taken in the affairs of the colonial branches by the council of the association and especially greater care and promptness exercised in the association's secretarial and financial dealings with the branch. The by-law of the association dealing with the election of colonial representatives on the council should be altered to permit a branch availing itself of the services of any suitable member who might be sojourning in London. At present a member of the council "must have resided within the area of the branch for at least 12 months prior to his election." Mr. Kenny next advocated the amalgamation of all the Australasian branches in one association as making for increased strength and influence in all Australasian public and professional matters in dealing with colonial Governments and in ethical questions. The amalgamation could also supply an effective and permanent managing body for the Australasian Medical Congresses. The fifth session of the congress at Brisbane was referred to in complimentary terms and some suggestions made for improvements in the routine of congress work, chiefly in the direction of giving more time to sectional work and less to entertainments. Mr. Kenny affirmed the propriety of the resolution passed by the congress with reference to hospital abuse. He recommended that hospital managers and medical officers should be legally empowered to recover fees from patients found guilty of imposition.

The New South Wales Nurses Association.

A special meeting of the New South Wales Trained Nurses Association was held on Dec. 1st to amend the constitution and rules of the association. The secretaries reported that the association numbered 227 members. It was resolved that the name of the association be altered to "The Australasian Trained Nurses Association" and the following was accepted as the basis for registration and membership:—

> Candidates for registration must produce proof—(a) That they have been engaged for three years in general hospitals recognised by the council and containing not less than 40 beds; or (b) that they have been engaged for four years in a country, district, or suburban hospital recognised by the council and containing not less than 20 beds and have been trained at that hospital under a matron or nurse who holds a certificate from a training school for nurses recognised by the council of this association, or (c) that they have been engaged for five years in a private, country, district, or suburban hospital recognised by the council, and containing not less than 10 beds, and have been trained at that hospital under a matron or nurse who holds a certificate from a training school for nurses recognised by the council of this association. Furthermore, all candidates must give references as to their moral character, produce certificates of competency from the hospitals in which they had been engaged, and account for any interval of time in their nursing career when not engaged in hospitals or nursing associations.

Fever Hospital for Sydney.

Dr. Ashburton Thompson, in his capacity as chief medical officer to the Government of New South Wales, has presented to Parliament a report on the need for a metropolitan fever hospital in Sydney. In his opinion such an institution is urgently required and is a necessary corollary to the notification clauses of the Public Health Act. It should not be removed to any great distance from the city. If a few acres of the Sydney Common on Dowling street could be obtained they would provide a suitable site.

Surgeons for South Africa.

Dr. A. MacCormick and Dr. R Scot Skirving of Sydney have volunteered and been accepted for service in South Africa.

Primary Sarcoma of the Liver in a Child 14 Weeks Old.

In the *Intercolonial Medical Journal* for December Mr. H. M. Hewlett records a case of primary sarcoma of the liver in a child 14 weeks old. The child's symptoms were diarrhœa and vomiting and in the abdomen was a swelling, extending from the costal margin to below the umbilicus, smooth and very tender. No jaundice was present. The swelling had appeared rapidly and rapidly increased. The necropsy showed that the swelling was an enlarged liver, studded with nodules which on microscopic examination consisted of large round cells and a few spindle and small round cells embedded in a delicate fibrillar matrix. The lungs were also studded with similar nodules. No other organs were affected. As far as Mr. Hewlett can ascertain the youngest case hitherto recorded was at 12 months.

Dec 28th, 1899.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following were admitted to degrees on Feb. 1st:—

Bachelor of Medicine.—F. Shufflebotham, Trinity; R. Ainsworth, Pembroke; G. S. Keeling, Caius; R. N. Salaman, Trinity Hall; and F. C. Eve, Emmanuel.

Bachelor of Surgery.—F. Shufflebotham, Trinity; O. Inchley and J. F. Skrimshire, St. John's; G. Browse and R. S. Trevor, Clare; and F. C. Eve and S. V. Pearson, Emmanuel.

FOREIGN UNIVERSITY INTELLIGENCE.—*Florence:* Dr. Angelo Mugnai has been recognised as *privat-docent* of Surgery.—*Halle:* The chair of Internal Medicine has been offered to Professor Kast of Breslau, but he has declined to migrate.—*Munich:* Dr. Otto Walkhoff of Brunswick has been appointed to the chair of Operative Odontology.—*Padua:* Dr. E. Truzzi of Messina has been appointed Professor of Clinical Midwifery in succession to the late Dr. Giovanni Inverardi.—*Pavia:* Dr. Casimiro Mondino of Palermo has been appointed Professor of Clinical Psychiatry.—*Rome:* Dr. Gaetano Mazzoni has been recognised as *privat-docent* of Surgery.

VACCINATION GRANT.—Mr. W. G. Evans, public vaccinator to the Second District of the Frome Union, has been awarded the Government grant for successful vaccination for the seventh time.

PROPOSED MUNICIPAL HOSPITAL FOR BARRY.—On Jan. 31st Dr. F. St. George Mivart of the Local Government Board conducted a public inquiry at Barry Dock into the application made by the Barry District Council for power to borrow £1800 for a site for the purpose of erecting a municipal general hospital for the town.

A PHILANTHROPIC MEDICAL MAN.—Dr. John Beddoe and his wife have provided six cottages as convalescent homes at Bradford-on-Avon where women and girls will be admitted for a nominal weekly contribution. The cottages have been comfortably furnished and fitted with modern sanitary appliances.

BRISTOL MEDICAL ATHLETIC CLUB.—The Bristol Medical Athletic Club held its annual meeting with the Birmingham Medicals at Bristol on Feb. 1st. The usual football match was played in the afternoon and resulted in a win for the home team. In the evening the visitors were entertained at dinner, Mr. J. Paul Bush being in the chair. A visit to the pantomime and a smoking-concert brought the day's proceedings to a successful close.

A MUNIFICENT BEQUEST.—The late Mr. S. Rudolph Zunz of Edgehill, Wimbledon, who died last December, has bequeathed £25,000 to one of the metropolitan hospitals, to be selected by his executors, in order to found and endow, as a memorial of his late wife, an "Annie Zunz Ward," in which is to be placed and kept in preservation a life-size photograph of her. The estimated value of Mr. Zunz's estate is £125,395, and after providing several annuities and assigning the aforesaid sum of £25,000 he directs that the surplus of the estate, the annuities as they fall in, and the entire residue, are to be appropriated to the founding and endowing of "Annie Zunz Wards," in such London hospitals as his executors may select, other than the hospital to which the above £25 000 has been allocated. For the "Annie Zunz Wards" it is considered that between £80 000 and £90,000 will eventually be available.

HOSPITAL SUNDAY IN BRISTOL.—Jan. 28th was observed as Hospital Sunday in Bristol and collections were made on behalf of the Fund in over 200 places of worship. In 1899 the sum of £1608 was contributed to the Hospital Sunday Fund.

PRESENTATIONS TO MEDICAL MEN.—Mr. E. F. Eliot, F.R.C.S. Edin., J.P., was presented on Jan. 25th with a plate-glass surgical instrument cabinet by Classes A and B of the London and South-Western, Southampton Dock, Branch of the St. John Ambulance Association as a mark of appreciation for his services as honorary lecturer of the classes.—Mr. Lennox Browne, F.R.C.S. Edin., has retired from the active staff of the Central London Throat and Ear Hospital but will continue to be identified with the institution as consulting surgeon. His colleagues on the committee and medical staff have presented him with an illuminated address recording their appreciation of his services to the institution since its foundation in 1874. Accompanying the address was a gift of old English furniture.

THE MANCHESTER MEDICAL GUILD.—The sixth annual meeting of the Manchester Medical Guild was held on Jan. 23rd, the President, Alderman F. H. Walmsley, J.P., M.R.C.S. Eng., being in the chair. There were 50 members present. The annual report of the council, which was received and adopted, stated that the council had held 14 meetings during the year and had dealt with many matters of professional interest, including club practice reform, hospital reform, advertising and "underselling," preliminary education, medical aid societies, direct representation on the General Medical Council, alleged secret commissions, the suggested Board of Conciliation, medical organisation, the International Congress of Medical Ethics at the forthcoming Paris Exhibition, district nursing, the collection of blood and other specimens for bacteriological examination for health authorities, points of etiquette, &c. Three members had died during the year, four had resigned, and 29 new members had joined—the number of members at date being 222. Special emphasis was laid upon the need of more localised organisation in order to carry out to the full the objects of the guild—every parliamentary division in the area covered should have at least one convener and every practitioner should be a member of the Guild.—The districts of Eccles and Harpurhey were held up as examples to be followed in this respect. The statement of accounts showed a balance in the bank of over £37. The election by the council of the president (Mr. Walmsley) and of the following honorary vice presidents was approved:—Dr. Henry Ashby, Dr. C. H. Braddon, Dr. Samuel Buckley, Mr. Wm. Crosby, Dr. J. Dreschfeld, Dr. A. M. Edge, Dr. C. E. Glascott, Dr. Alfred Godson, Dr. James Hardie, Mr. Francis Hepworth, Mr. Thomas Jones, Dr. David Little, Dr. J. Dixon Mann, Dr. D. Lloyd Roberts, Dr. Henry Simpson, Mr. F. A. Southam, Dr. Graham Steell, Mr. Walter Whitehead, Dr. Sam Woodcock, Mr. G. A. Wright, and Mr. A. H. Young. The following officers and council were elected:—Chairman: Mr. Geo. Arthur Wright. Vice-chairman: Mr. R. H. Wolstenholme. Honorary treasurer: Dr. C. G. L. Skinner. Honorary secretary: Dr. Arnold W. W. Lea. Ordinary members of council: Mr. Samuel Bagley, Dr. Isaac Blore, Mr. William G. Booth, Mr. G. H. Broadbent, Dr. Alfred Brown, Dr. Samuel Crawshaw, Dr. Alexander Fraser, Dr. John H. Godson, Dr. William Graham
Dr. J. Wilson Hamill, Dr. John C. Nichol, Mr. Davi
Owen, Mr. Alic Phillips, Dr. J. Ratcliff-Gaylard, Dr. A
Brown Ritchie, Mr F. Leyland Roe, Mr. Arthur W. Senio
Dr. Alexander Stewart, Mr. J. W. A. Wood, and Dr. F. H
Worswick. Auditors: Dr. J. Stavely Dick and M
J. W. Moore.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

The Midwives Question.

THE Bill promoted by private members "to secure the better tra
of midwives and to regulate their practice" was introduced int
House of Commons on Friday, Feb 2nd, by Mr. TATTON EGE
The names on the back of the Bill on this occasion are those
introducer, Sir WILLIAM HART DYKE, Mr. SCHWANN, Mr. H
Mr. HEYWOOD JOHNSTONE, Mr BONSOR, Mr. FLOWER and Mr. TE
In the ballot for places Mr. TATTON EGERTON drew the eighth

which enabled him to put down the second reading of the measure in the second place on Wednesday, Feb 28th As the measure in the first place on this day is the Mines (Eight Hours) Bill—a measure certain to give rise to a long debate—it is improbable that the Midwives Bill will be reached in time for discussion

Bills Introduced

On Monday, Feb 5th, in the House of Lords, the Lord Chancellor introduced the Lunacy Bill promised in the Queen's Speech, and the Earl of Lichfield a Bill to amend the Isolation Hospitals Act of 1893. No date has been fixed for the second reading of either Bill

Vaccination Petition

When Members of either House present petitions it is not to be taken that they necessarily agree with the views expressed in them. The Lord Chancellor was careful to explain this when on Tuesday, Feb 6th, he presented a petition from the guardians of Wandsworth and Clapham Union in favour of an amendment of the vaccination law so as to prevent vaccination officers from prosecuting defaulters without first obtaining the sanction of the guardians His lordship carried his explanation so far as to say that he entirely disagreed with the prayer of the petition

HOUSE OF COMMONS

THURSDAY FEB 1ST

Inoculation with Anti Typhoid Serum.

Mr **ALFRED PEASE** asked the Under Secretary of State for War if the War Office had sanctioned the experiment of inoculating with anti typhoid serum troops now on their way to the front, and if, in view of the uncertainty that exists as to the efficacy of inoculation as a preventive of enteric fever, and the debilitating effects of the operation, the Department would forbid the continuance of these experiments, and whether his attention had been drawn to the description in the *Morning Post* of Jan 29th of the condition and appearance of the soldiers who had submitted to the inoculation on board the *Dunottar Castle*.—Mr **WYNDHAM**: The efficiency of the treatment appears to be sufficiently well established to justify the continuance of this operation, which is voluntarily submitted to by the troops

FRIDAY, FEB. 2ND.

Street Noises

On the motion of Mr **JACOBY**, a Bill was introduced at this sitting to control and regulate street noises

Meat for the Troops

General **LAURIE** and Mr **JEFFREYS** addressed questions to the Secretary to the Admiralty with reference to the quality of the fresh meat supplied for the use of the Royal Artillery and other troops taking passage on the steamship *American* which sailed from Southampton for South Africa in the month of January.—Mr **MACARTNEY** replied Arrangements were made with the owners of the *American*, the West Indian and Pacific Steamship Company (Limited), to victual the troops at the rate of 1s per head per day A portion of the troops embarked at Southampton and it has been reported that the fresh meat in question, on being put on board at Southampton, was at once rejected by the embarking officers at the usual inspection of provisions on the ground that it consisted entirely of "bull" and old cow "beef The day being Sunday a fresh supply could not be obtained at that port but in accordance with telegraphic instructions it was replaced at Queenstown (where the remainder of the troops embarked) by meat of good quality ordered by the owners' agent at their expense The owners state that the meat was purchased from a firm who they are informed, have supplied a large number of transports and two important trans oceanic passenger lines The full market price was paid for it, a guarantee having been given that it would give satisfaction. The contractors state that some of it had been served in the saloon and also to the troops before it was condemned without a word of complaint and that after the meat was returned it was inspected by the town doctor, who certified that it was perfectly sound, it being afterwards disposed of to his family and hotel customers The directors of the steamship company gave instructions that the victualling of all transports was to be done with unstinted liberality and regardless of cost.

MONDAY, FEB 5TH

Sanitation of Gibraltar

Mr **CHAMBERLAIN**, replying to a question addressed to him by Mr **STEVENSON** said that the health of Gibraltar was good The death-rate for 1898 was only 17·79 per 1000 The remodelling of the whole drainage of the fortress was concluded early last year and he had no reason to believe that anything further was required The Sanitary Commissioners had already sufficient powers for dealing with insanitary houses and were exercising them satisfactorily There was no space available on the limited part of the Rock not reserved for military purposes for the provision of further recreation grounds nor so far as he was aware had any recommendation been made to that effect

Medical Certificates in the Post Office Service

Mr **STEADMAN** asked the Secretary to the Treasury as representing the Postmaster-General, whether he was aware that a female telegraphist of the Western District office London, visited Dr Mason, the official medical officer, on Dec 18th 1899, who, whilst admitting she was suffering from a severe cold, stated that she could perform her duties; that on the same day Mr Oswald of Brixton, who had been in attendance on the telegraphist for some time, certified she had bronchial catarrh and debility and ordered her to remain indoors and that although Mr Oswald afterwards extended the certificate till Dec. 28th the telegraphist had been reported and punished with the loss of two days pay for remaining from office during this period, whether it could be stated why the Post Office medical official declined to accept the certificate of a well known practitioner, and whether the Postmaster-General would personally investigate the circumstances which had led to the telegraphist being condemned for malingering though only acting in obedience to medical instructions.—Mr **HANBURY**: In the opinion of the medical officer of the Western district, who saw the telegraphist in question on the 18th and 23rd of December, her state of health on those days was not such as to require her to remain at home, but as Mr. Oswald, who saw her on the 28th, was of a contrary opinion, the Postmaster General had thought it right to give her the benefit of the doubt and her pay for the two days in question has been allowed.

The Case of the Transport "Jelunga"

In reply to a question on this subject by Mr Swift MacNeill Mr **WYNDHAM** said About 500 wives and children of soldiers were landed from the transport *Jelunga* They were not in a destitute condition, but they were in a very neglected condition, owing to the want of a sufficient staff on board to look after them It would no doubt have been difficult for the general officer commanding at Cape Town to provide a sufficient staff but the Secretary of State for War is of opinion that proper care was not taken, and a reprimand has been accordingly sent to Cape Town No nurse was on board Six children died in the course of the voyage; they did not die of cold and exposure since they died in the tropics The women were periodically asked throughout the voyage whether they had any complaints to make, and they made none on the subject of their accommodation The staff officer at Southampton and the officer of the Soldiers and Sailors' Families Association made every effort to help the women on their arrival, all were asked if they wanted money and all said that they had it. Ten women and 35 children had to spend the night at Waterloo. I have answered this question at length because the Secretary of State regards the incident as most regrettable and is anxious that it should be fully explained to the House As I have said, care has been taken to impress upon those concerned the necessity of avoiding such mistakes in future

TUESDAY, FEB 6TH

The Strength of the Army Medical Service.

Sir **WALTER FOSTER** asked the Under Secretary of State for War how many officers of the Royal Army Medical Corps are now employed in South Africa and how many civil medical officers have been sent out to aid them, how many officers of the Royal Army Medical Corps are employed at other foreign stations and how many are at home stations, and whether it is intended to employ any of the retired pay officers for duties in the United Kingdom.—Mr **GEORGE WYNDHAM**: 308 officers of the Royal Army Medical Corps are employed in South Africa 377 at other foreign stations and 111 at home 133 civil surgeons are employed in South Africa and 28 more are under orders to go 112 retired pay officers are employed at home

PRESERVATIVES AND COLOURING MATTERS IN FOOD

EVIDENCE BEFORE THE DEPARTMENTAL COMMITTEE.

MONDAY, FEB 5TH

THE Committee appointed by the President of the Local Government Board to inquire into the question of preservatives and colouring matters in food held another meeting to day, at the rooms of the Chemical Society, Burlington House and proceeded with the collection of evidence The Committee consists of Sir Herbert Maxwell, M P, chairman Professor Thorpe Dr Bulstrode and Dr Tunnicliffe, with Mr O J Huddart, Secretary

Dr **BLAXALL**, lecturer on bacteriology in the Westminster Hospital Medical School and bacteriologist to the Vaccine Department of the Local Government Board, examined by the chairman, said that he had undertaken experiments dealing with the bacteriological action of preservatives in milk His first idea was to see whether small quantities of formalin could be used to sterilise milk and whether the formalin could be driven off leaving the milk sterile but this he found to be impossible. He found that it required 1 in 500 of formalin to effect sterilisation in milk This strength killed all germs in the milk and made it keep indefinitely He had milk with 1 in 500 of formalin which had kept for seven months The milk with which he experimented was bought from local dealers in London and was received not in sterilised vessels but in ordinary domestically cleaned vessels from which it was measured out in known quantities He tested all the samples for formalin, but he only tested the first two for boric acid or salicylic acid. The bacteriological test which he applied to the control milk showed that it was in a normal condition The samples were kept hermetically sealed With one exception all the controls went bad in 24 hours the exception occurring on a very cold night. The experiments he had made with boric acid proved that this was a much less powerful germicide or even antiseptic than formalin. Boric acid would not sterilise milk in any of the proportions he used, and he used as much as 1 in 33, the milk would only take up 1 in 25. The proportion of 1 in 33 prevented fermentation, but did not prevent germs being in the milk

By Professor **THORPE** His experiments were all made with commercial milk in the condition in which it would be supplied to the consumer, and the bacteriological examination of the control samples showed, with certain exceptions that the samples were taken comparatively near milking time. Salicylic acid he found to be as little efficacious as boric acid His experiments were made from the point of view of a scientific man—to study the course of the action of preservatives upon the milk—and he did not attempt to imitate the conditions in which these preservatives might be used in the practice of trade He had general but not expert knowledge of the conditions in which they were used commercially and he could not say whether such an amount as 1 in 600 of formalin was ever used His experiments had shown that 1 in 10 000 of formalin would keep milk sweet for a short time—for possibly 24 hours—at 60° F He had not found it keep for 24 hours at 80° F He quite agreed that want of precise information as to the age of the milk caused a considerable amount of uncertainty as to the direct applicability of his results

Professor **THORPE**: Would you say from your experiments that 1 in 50 000 of formalin would be of any use in keeping fresh milk sweet for 24 hours on a hot day?

Dr **BLAXALL**: It entirely depends upon what comes in contact with fresh milk If fresh milk is sterilised then it does not matter whether you put in formalin or not.

Professor **THORPE**: But suppose ordinary commercial conditions, do you think 1 in 60 000 of formalin would be of any practical use in keeping fresh milk sweet for 24 hours in hot weather?

Dr **BLAXALL**: I do not think it would be of any use

In answer to further questions by Professor **THORPE**, Dr **BLAXALL** said that in his experiments quantities like 1 in 2000 of boric acid and 1 in 50,000 of formalin had no material effect in keeping milk sweet, though of course they had a certain effect.

By Dr. TUNNICLIFFE: From a bacteriological standpoint a commercial milk containing from 200 to 500 organisms per loopful would be a fair normal milk. It was difficult to say what number of organisms would render the milk unsaleable, because everything depended on the kind of organisms present. In the summer he bought two samples of milk and they contained 20,000 and 40,000 organisms per loopful and there was no evidence that the milk was sour or unfit for sale. The probability was that the greater the number of organisms the nearer the milk was to sourness and therefore to decomposition. In some of these milks to which preservatives had been added, say boric acid, there was still an innumerable amount of organisms and yet the milk had not gone bad; fermentative action had been stopped but other organisms had been allowed to grow. He was not prepared to give an opinion upon the antiseptic action of these preservatives from the point of view of their toxic equivalents.

By Dr. BULSTRODE: The formalin he used in his experiments was a 40 per cent. solution. He commenced to work in May and went on through May and June, then in a desultory fashion in August, and then he commenced again in September, and all through the autumn and winter he had been working at the subject systematically. It was quite obvious that besides lactic acid changes there were other changes which might be going on in the milk. They were nearly all distinguishable by smell; he did not think that the milk would be sweet if processes which were deleterious were going on. He thought that pathogenic organisms, such as the typhoid bacillus, might be expected to be inhibited by less quantities of the preservatives than would be required for the complete sterilisation of the milk, for the typhoid bacillus was much less resistant than the lactic acid bacillus.

Mr. HENRY CHARLES CAMERON, Produce Commissioner for the Government of New Zealand, the only other witness examined at this sitting of the Committee, gave evidence principally with regard to the New Zealand butter trade. He explained that the Government of the colony seek to improve the industry by means of instruction and inspection and that their efforts in these directions are eminently successful. The bulk of the New Zealand butter sent to this country was, he said, either treated with salt or with a preservative whose basis was boric acid. It was found necessary to use this preservative because, according to Mr. Cameron, butter which had been brought to this country in refrigerating chambers deteriorated more rapidly when taken out of these chambers than butter which had not been frozen. But the quantity of preservative required was small, not more than one half per cent. Mr. Cameron thought that there should be a statutory limit and he suggested half per cent. as suitable in the case of butter.

The Committee then adjourned.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ADAMS, JOSEPH DIXON, M.D. St. And., M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health by the Yeovil Rural District Council.

AMBROSE, A. P., M.R.C.S., L.R.C.P., has been appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham-road, London, S.W.

ANDERSON, F. T., M.D. Brux., F.R.C.S. Edin., has been appointed Honorary Medical Officer to the Barnstaple and North Devon Dispensary, vice J. L. W. Ware, resigned.

BEGGS, J. B., B.A., M.D., D.P.H. Cantab., has been appointed Medical Superintendent to the Grove Fever Hospital, Tooting, S.W.

BIRKETT, G. T., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Catford Sanitary District of the Lewisham Union.

GREENWOOD, T. PARKER, M.B., C.M., B.Sc. Edin., has been appointed Assistant Medical Officer to the Three Counties Asylum, Hitchin.

GRIFFITHS, JOHN, L.R.C.P. Lond., M.R.C.S., has been appointed District Chief Superintendent of the No. 2 District (Southern and Western Counties of England and Wales) of the St. John Ambulance Brigade.

JONES, W. WATKINS, M.D., C.M. Edin., D.P.H. Camb., has been appointed Medical Officer of Health to the Gelligaer and Rhigos District Council.

MANDER, PERCY ROBERT, L.R.C.P. Lond., M.R.C.S., L.S.A., Deputy Medical Officer of Dartmoor Prison, has been transferred to Wandsworth Prison, and will be succeeded at Dartmoor by Mr. Forward.

METCALFE, G. E. GIBSON, L.R.C.P., L.R.C.S. Edin., L.F.P. Glasg. & L.M., has been re-appointed Medical Officer for the Capel District of the Tonbridge Union.

MORGAN, FREDERICK CHARLES, L.R.C.P. Lond., M.R.C.S., has been appointed Resident Medical Officer at the Eastville Workhouse by the Bristol Board of Guardians.

NOBLE, H. PERCY, M.B., B.S. Lond., M.R.C.S., L.R.C.P., has been appointed Assistant Anæsthetist to the Middlesex Hospital.

PASTEUR, WM., M.D. Lond., F.R.C.P., M.R.C.S., has been appointed Physician to the Middlesex Hospital.

PORTER, CHAS., M.D. Irel., M.R.C.S., D.P.H. Cantab., has been appointed Medical Officer for the County of Salop.

POTTS, W. J., M.D. Lond., L.R.C.P., M.R.C.S., D.P.H. Camb., has been appointed Medical Superintendent of the Infirmary, parish of St. Matthew, Bethnal Green, London.

RENSHAW, C. A. K., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Aston-on-Mersey Sanitary District of the Bucklow Union, vice J. Paulin, resigned.

RICHARDSON, R. J., M.B., C.M. Edin., has been appointed Visiting Physician for the Netherfield-road Hospital, Liverpool.

RISDON, GEORGE OWEN, L.R.C.P. Lond., M.R.C.S., L.S.A., has been re-appointed Medical Officer for the No. 2 District of the Wells (Somerset) Union.

ROBINSON, ARTHUR HENRY, M.D. Durh., M.R.C.S., D.P.H. Camb., has been appointed Medical Superintendent of the Islington Infirmary, Highgate-hill, N.

ROSSER, J. S., M.D. Glasg., D.P.H. Glasg., has been appointed Medical Officer for the Llandovery District of servants employed on the London and North-Western Railway, and also Medical Officer to the railway employés of the Llandovery and district Railway Medical Fund, vice F. W. Lewis.

ROWBOTHAM, A. J., M.R.C.S., has been re-appointed Medical Officer for the Newton-on-Trent Sanitary District of the Gainsborough Union.

ROW, C. M., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Fourth Sanitary District of the Battle Union, vice J. C. Garman, resigned.

SHARPLEY, J. E., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Blyborough Sanitary District of the Gainsborough Union.

VINCENT, R. H., M.B., B.S., has been appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham-road, London, S.W.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

ALDERSHOT URBAN DISTRICT COUNCIL.—Medical Officer of Health. Annual election. The inclusive salary will be £300 per annum payable quarterly.

BATH GENERAL OR ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board and apartments in the Hospital.

BRECON INFIRMARY, South Wales.—Resident House Surgeon, unmarried. Salary £90 per annum, with furnished apartments, board, all found except beer, attendance, fire, and gas.

BRISTOL EYE HOSPITAL.—House Surgeon. Salary £120, without residence.

BURTON-ON-TRENT INFIRMARY.—House Surgeon. Salary £150 for the first year and £170 for the second year, with furnished rooms in the Infirmary, and coals and gas free.

CARDIFF INFIRMARY.—Assistant House Surgeon and Assistant House Physician, each for six months. Salaries at the rate of £50 per annum, with board, washing, and apartments.

CHELSEA HOSPITAL FOR WOMEN, Fulham road, S.W.—Clinical Assistant. Tenable for three months on payment of eight guineas.

CITY ASYLUM, Nottingham.—Second Assistant Medical Officer, unmarried. Salary £150, with board, apartments, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY, Dumfries.—Assistant House Surgeon. Board and washing provided.

DUNDEE ROYAL INFIRMARY.—Fourth Resident Medical Assistant for six months. Salary at the rate of £40 per annum, with board and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, London.—Surgeon to Out-patients.

GENERAL HOSPITAL, Nottingham.—Assistant House Physician for twelve months. Salary £50, with board, lodging, and washing in the hospital.

GENERAL INFIRMARY AT GLOUCESTER AND THE GLOUCESTERSHIRE EYE INSTITUTION.—House Surgeoncy. Salary £100 per annum, with board, residence, and washing.

GLASGOW LUNACY DISTRICT BOARD.—Medical Officer (Assistant) for Woodilee Asylum, to act as Pathologist. Salary £100 per annum, with board, apartments, &c.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway road, London.—Assistant Anæsthetist for six months. Honorarium at the rate of 10 guineas per annum.

HANTS COUNTY ASYLUM, Fareham.—Third Assistant Medical Officer, unmarried. Salary £125 per annum, increasing to £150 after twelve months' service, with furnished apartments, board, washing, and attendance.

HASTINGS, ST. LEONARD'S, AND EAST SUSSEX HOSPITAL.—House Surgeon, unmarried. Salary £75 per annum, with residence, board, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormonde-street, London.—Two House Surgeons to Out-patients, for six months. Salary 25 guineas each.

HULME DISPENSARY, Dale-street, Stretford road, Manchester.—House Surgeon. Salary £130 per annum, with apartments, attendance, coal, and gas.

INFIRMARY OF THE WANDSWORTH AND CLAPHAM UNION, St. John's-hill, Clapham-junction, S.W.—Third Assistant Medical Officer for twelve months. Salary £70 per annum, with board, lodging, and washing.

KENT AND CANTERBURY HOSPITAL.—Assistant House Surgeon, unmarried. Salary £50 a year, with board and lodging.

KENT COUNTY OPHTHALMIC HOSPITAL, Maidstone.—House Surgeon. Salary £100 per annum, with board and lodging in the Hospital.

KING'S COLLEGE, London.—The Sambrook Medical and Surgical Registrarships (open to King's College students only).

LIVERPOOL NORTHERN HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance in the house.

LONDON COUNTY ASYLUM, Hanwell.—Junior Assistant Medical Officer. Salary £150 per annum, with board, furnished apartments, and washing.

MERCER'S HOSPITAL, Dublin.—Vacancy on the Surgical Staff.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Assistant Physician and Pathologist, Surgeon for Diseases of Women, and an Assistant Surgeon.

MIDDLESEX HOSPITAL, W.—Assistant Physician.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road.—Junior Resident Medical Officer for six months. Salary at the rate of £40 per annum, with board, attendance, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Salary £140 per annum, all found except board, unmarried.

Royal Hants County Hospital, Winchester —House Surgeon, unmarried Salary £65 per annum, rising to £75, with board, residence, &c.

Royal Sea Bathing Hospital, Margate.—Resident Surgeon Salary £100, with board and residence Apply to the Secretary, Royal Sea Bathing Hospital Offices 30, Charing-cross, London

Salford Royal Hospital.—House Surgeon for twelve months Salary £100 per annum, with board and residence

St Thomas's Hospital.—*Vacancy for a Physician*

Seamen's Hospital Society (*Dreadnought*) Greenwich —Senior House Surgeon Salary £75 per annum, with board and residence and an additional £25 per annum conditionally Also House Surgeon Salary £50 per annum, with board and residence. These vacancies are for Officers at the Branch Hospital in the Royal Victoria and Albert Docks

Stockport Infirmary —Junior Assistant House Surgeon for six months Salary £2 per mensem, with residence, board, and washing

Surrey Dispensary, Southwark S E —Physician Honorarium 50 guineas per annum

Tottenham Hospital.—Honorary Physician to In patients

Ventnor Royal National Hospital for Consumption and Diseases of the Chest —Assistant Resident Medical Officer Salary £100 per annum Apply to Dr Parry, R M O

Western Dispensary, Rochester row, Westminster —Resident Medical Officer, unmarried Salary 100 guineas per annum, with furnished rooms, coals, gas, and attendance.

Western General Dispensary, Marylebone-road, London.—House Surgeon, unmarried.

West Bromwich District Hospital.—Resident Assistant House Surgeon —Salary £50 per annum with board, &c

West Kent General Hospital, Maidstone —Assistant House Surgeon for six months Honorarium at the rate of £60 per annum, with board and residence.

Western Ophthalmic Hospital, 153 Marylebone-road, London.—Assistant Surgeon

Worksop Dispensary Hospital.—Resident Surgeon, unmarried Salary £120 per annum, paid monthly, with increase when hospital is opened Rooms, coal, gas, furniture, and house keeper provided Apply to Mr Charles A Whall, Worksop

Births, Marriages, and Deaths.

BIRTHS.

Daman —On Feb. 6th, at Oakhurst, Dorridge, Knowle Warwickshire, the wife of Karl A. Daman L D S, of a daughter

Kirkby —On Feb 5th, at Maesteg Glamorganshire the wife of Walter Kirkby L R.C P Edin, L.R.C S Edin, of a daughter

Ross —On Jan. 29th, at Burslem, Staffordshire the wife of William Levingston Ross, L.R.C S & L.R.C P I, of a son.

Wingfield —On Feb 3rd at Winchester, the wife of Hugh E Wingfield, M D, of a daughter

Young —On Jan 26th at Hunmanby Yorks, the wife of Charles A. Young B A. Cantab, M R C S, L.R.C P, of a son

MARRIAGES

East—Triggs —On Feb. 3rd at Holy Trinity, Bishops road, Paddington, by the Rev Edwin Allwright, M.A., William Norwood East, M.B Lond, M R.C.S, L R.C P, of Portland, Dorset, son of W Quartermaine East, to Linnie, only daughter of Mrs. Triggs of 133 Westbourne-terrace, W

Stabb—Huntley —On Feb 5th at the Church of SS Philip and James, Cheltenham, William Wilking Stabb, M D, of Torquay, to Mary Gertrude, only daughter of the Rev Osmond C Huntley, of Boxwell Gloucestershire.

Warden—M Kendrick —In the Bute Hall University of Glasgow, on Saturday Feb. 3rd, by the Very Rev Principal Story, D D and the Rev Joseph Vickery Castle-street Congregational Church Dundee (uncle of the bride), Archd A. Warden, M A M D Paris, to Rachel Mary, elder daughter of John Gray M'Kendrick Professor of Physiology in the University of Glasgow At home after 20th curt., 60, Avenue d Jena, Paris

DEATHS.

Adams.—On Feb 3rd at Loudoun-road N W, William Adams, F R C S aged 80 years.

Grainger Stewart —On Feb. 3rd at Charlotte-square, Edinburgh, Sir Thomas Grainger Stewart, M.D, LL.D, Physician in Ordinary to Her Majesty the Queen in Scotland, and Professor of The Practice of Physic in the University of Edinburgh

Maxwell.—On Dec. 30th, 1899, at Wahroonga, Sydney New South Wales, Charles Mayne Maxwell, M.B, M.R.C S, lately of Lasswade, Midlothian

Myddelton Gavey —On Feb 4th at 16, Broadwater Down, Tunbridge Wells after influenza, Frances Caroline, the dearly loved wife of E. H Myddelton-Gavey M R C S Eng, and daughter of the late Charles Catt of Summerhill, Lindfield aged 41 years

Oakeley —On Feb 4th at Lydart, Pepys road New Cross S E, Charles Edward Oakeley, L.R.C P, L R C S Edin, & L.M, L F P S. Glasg

Turner.—On Feb. 2nd, at St Leonard's, Frank Charlewood Turner, M.D, F R.C P Physician London Hospital, of Warren Wood, Wrotham, Kent.

Wellborne.—On Feb. 2nd, at Brixton, Richard Wellborne, M.D, in his eighty fifth year

N B —A fee of 5s. is charged for the insertion of Notices of Births, Marriages or Deaths.

Notes, Short Comments, and Ans
to Correspondents.

THE MEDICAL PROFESSION IN ENGLAND FROM A
POINT OF VIEW

We have received a French paper—by name *La Parfait Nourri*
February 1900, containing an article entitled ' Les Médecins
Comment ils exercent leur Profession," by Dr Edouard M
The article is amusing and as being the view of a foreigner
a note of some of its more salient passages will interest ou
Dr Montholon commences by pointing out that in ev
country but England the word 'shop and doctor
are in direct opposition and are only combined when it is
insult the profession It is otherwise in England where t
compares with an ordinary tradesman, whom he further rese
selling medicines Dr Montholon gives an amusing descri
"sixpenny practice, but we think he is a little too gener
estimate that such a practitioner may be found in one stre
five He visited many and says "The consultation took f
to five minutes, rarely more and the form of question wa
the same 'Where do you feel bad? What do you com
How long have you been ill? Do you drink?' The answe
the assistant scribbles a prescription chooses a medicine
made up from some within reach of his hand and gi
the lot to the patient mentioning his fee Next
Including the medicine the consultation costs one
shillings and very rarely more than three francs e
the case of a dressing or of an operation We cannot
whether this paper is only one of a series of articles or w
is meant to be a picture of the universal state of medical
in England, but we should fancy that the former was the ca
picture of the state of opinion among a certain class of pati
overdrawn when he says: Public confidence is given to a med
who has lots to do rather than to a man of science and tale
chief practitioners at the large hospitals, or to the learned an
members of the profession. In London men such as Pasteur,
Velpeau, and Pean are considered as amateurs and not as seri
titioners. Sir Joseph Lister and Sir James Paget are much les
than a *rebouteux de faubourg* who sees 200 patients a wee
shop" Then comes the following amazing piece of info
"At the most a cobbler would allow himself to be treate
William Jenner, baronet and physician to the Queen, becau
beginning of his career he *was employed for 10 years in a d*
shop in Albany street and five years in a 'doctor's shop' a
stead' It is well known that when a very young man the
William Jenner had his own way to make. We hardly fan
ever, that this was how he gained the confidence of the
class It must not be supposed that Dr Montholon writ
condemnatory spirit. On the contrary, he bewails the re
measures which prevail in France There of course, no med
is allowed to sell medicines and therefore, according to D
tholon, half the practitioners are perishing from hunger

THE SLAUGHTER HOUSES IN ALDGATE HIGH STRE

Many medical men, especially *those whose student days wer*
at St. Bartholomew's or the London Hospital will rec
picturesque if somewhat odoriferous, row of some 15 b
shops in Aldgate High-street. Behind them were slaughter
the *operations* in which were very fairly visible from the st
which though *necessary*, were neither edifying nor pleasant.
of the shops the gutters often ran with blood and altoget
establishments were thoroughly out of place in a large city
from the *City Press* that a motion for their abolition is to be
forward at a near meeting of the Common Council An
archæologist might hope *that the buildings will be left,*
are interesting *specimens* of architecture and there is none t
of Old London left, but for the abolition of the trade
carried on we have nothing but praise

' THE MACKEY FUND

To the Editors of The Lancet

Sirs,—On behalf of the Mackey Fund' I beg to acknowle
following subscriptions —Amount previously acknowledged,
Sir Thomas Smith £5 5s., Mr O F B. Limrick, £1 1s M
Brady, 2s 6d, A Friend £10 An Old Friend, £5; Dr J
Benson, £1 1s I am Sirs yours faithfully,

Leonard Dobson, M D.

59, Addison gardens Kensington *Feb 7th, 1900.*

"A DISCREDITABLE CIRCULAR"

On several occasions in October and November last we comme
medical advertising by a firm of chemists carrying on busi
19, North Earl-street Dublin and on Nov 4th (page 1275) we
a letter stating that the same address was given in the
Register and Medical Directory as that of a Mr J C. Mc
L.R.C S I and L.A.H Our correspondent made the rema
perhaps Mr McWalter could offer some explanation, an
stated that the Royal College of Surgeons in Ireland has
to give him an opportunity

"IMPROPER ADVERTISEMENT."

To the Editors of THE LANCET.

SIRS,—Referring to the letter published by you in your issue of the 23rd of December, 1899 (page 1790), in which a correspondent made a charge of improper advertisement against me, and referring to the letter from me to you, published by you in your issue of the 30th of December, 1899 (page 1870), informing you that the statements contained in the said letter signed "Ethics" were absolutely untrue, I was advised to commence an action for libel against you in respect of the false statements which you were led through your correspondent to make against me. In view, however, of the fact that you have in your issue of the 3rd inst. (page 355) unreservedly withdrawn all the imputations made upon me in the said letter of your correspondent and apologised for making the same and have done everything in your power to make reparation to me for the injury you have done me I am prepared to accept the apology which you have made and so end the matter. I may add that my only object in prosecuting the action was to absolutely clear myself from any imputation made against me, and this having been done I am satisfied.

I am, Sirs, yours faithfully,

Harley-street, 7th Feb., 1900. KARL FÜRTH.

PROFESSIONAL UNION.

WE have always maintained that for redressing the grievances and improving the position of the medical profession no course of action affords such hopeful prospects of success as the cultivation of a fraternal spirit. Wherever disunion prevails there will be no lack of patients and others ready to take advantage of the conditions imposed by the overcrowded state of the profession and to obtain the services of medical practitioners on terms incommensurate with the outlay of money and time which has been incurred in their education and acceptable only to the necessitous. No further illustration of this is required than the fact that associations exist by means of which large populations, not necessarily of the poorest, can obtain medical attendance for a payment of 2*d.* per week or less. For this reason we were glad to be able to make the announcement of the formation of the Birmingham and District General Medical Practitioners' Union (THE LANCET, Dec. 30th, 1899, p. 1866), a list of the officers of which will be found in THE LANCET of Jan. 27th, p. 278. A statement issued by the three joint honorary secretaries explains that the union has been formed during the last few months and has been constituted on thoroughly democratic lines, giving every practitioner an opportunity of bringing forward his individual opinions in a constitutional manner and securing united action of the local profession through direct representatives. The area included in this organisation is that which is known as "Greater Birmingham," extending on all sides to some five miles from the centre of the city, and has been divided into 14 medical wards. The members in each ward are invited to elect representatives who form a central council for conducting the actual business of the union. Already nearly 200 members have been enrolled, including men in every grade of general practice, and the moving spirits of the organisation expect that when it is completed it will gain the support of all practitioners who have at heart the welfare of their profession. The union is not intended to compete with existing medical societies or associations and will be limited entirely to medico-political and medico-ethical matters. Its objects are defined to be (*a*) to provide an effective organisation for the purpose of dealing with all matters affecting the interests of general practitioners; (*b*) to promote union and good-fellowship amongst neighbouring practitioners; (*c*) to endeavour to establish, as far as possible, an improved scale of fees; (*d*) to discourage advertising of every kind and other unfair and unprofessional competition; (*e*) to promote more satisfactory relations between the different branches of the profession; (*f*) to consider and take action upon all legislative proposals calculated to affect the interests of general practitioners; (*g*) to endeavour to obtain increased representation for general practitioners on the General Medical Council and other public bodies; (*h*) to endeavour to remedy, as far as possible, the abuses of hospitals and dispensaries; (*i*) to establish a medical club house, with such accommodation as may be considered desirable for the purposes of the union; (*j*) to provide facilities for the collection of members' accounts; and (*k*) to oppose any attempt on the part of public bodies to exploit the services of any member of the profession to the detriment of the others. The scope of this laudable programme is obviously a very large one and will require considerable business capacity on the part of those who may be charged with carrying it into execution, but where is that talent to be found if not in Birmingham? Above all things it must be remembered that comparatively little can be accomplished without unanimity, and for this reason it is to be hoped that the new association may receive hearty support from those whose interests it seeks to protect. Medical practice has its business side as well as its scientific and its philanthropic side, and it is the duty of each member of the profession to do what in him lies to maintain its rights and privileges intact.

◆

Yeoman.—We have not seen the "puff" in question. It should be remembered that in these cases the medical man generally suffers from the indiscretion of his friends.

Easy.—Probably the candidate would be accepted.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 8th, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Feb. 2	29·66	E.	...	45	40	34	33	35	Overcast
" 3	29·73	N.E.	0·75	37	37	34	35	36	Overcast
" 4	29·73	W.	...	41	38	35	35	36	Overcast
" 5	29·60	E.	...	43	39	35	36	37	Overcast
" 6	29·70	N.E.	...	71	42	35	34	36	Overcast
" 7	29·89	N.	...	59	37	28	Fzn.	29	Fine
" 8	29·94	N.E.	...	43	33	25	Fzn.	26	Hazy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (14th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (15th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-Wes London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (17th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (12th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Clinical Meeting. Mr. F. C. Wallis: Resection of Small Intestines in a Child.—Mr. F. Jaffery: Urticaria Pigmentosa (?).—Sir Hugh H. Beevor, Bart.: Pulsus Bisferiens.—Mr. A. J. Barker: Congenital Dislocation of the Hip (with skiagrams).—Dr. W. Ewart: Emphysema treated by continuous Elastic Pressure.—Mr. W. H. Battle: Tumour of Femur.—Dr. W. J. Hadley: Two Rare and Interesting Cases of Rheumatism.—Mr. McAdam Eccles: (1) Interstitial Inguinal Hernia; (2) Cruro-scrotal Inguinal Hernia.—Dr. C. W. Chapman: Cyanosis from Birth, absence of Cardiac Murmur.—Dr. S. Mullick: Displacement of the Heart to the Right Side.—Dr. E. Cautley: The Heart of a Case of Aortic Stenosis exhibited at the previous Clinical Meeting.—Mr. J. L. Thomas: A New Tourniquet. Patients will be in attendance at 8 P.M.

TUESDAY (13th).—CHILDHOOD SOCIETY (Library of the Sanitary Institute, 72, Margaret-street, W.).—8 P.M. Dr. W. Garnett: Early Stages of Technical Education.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Adjourned Discussion on the following Papers:—On the Conduct of the Mastoid Operation for the Cure of Chronic Purulent Otorrhœa, with special reference to the Immediate Healing of the Cavity in the Bone left by the operation by means of Epithelial Grafts, by C. A. Ballance (with lantern demonstration); with remarks on the Selection of Cases for the Operation, by Sir William Dalby.—The Complete Mastoid Operation for the Cure of Chronic Suppurative Disease of the Middle Ear; observations on the Selection of Cases for Operation, by Mr. A. E. Cumberbatch.

WEDNESDAY (14th).—HUNTERIAN SOCIETY (Theatre of the London Institute, Finsbury-circus).—8.30 P.M. Dr. F. J. Smith: The Influence of Modern Medicine on Surgery (Annual Oration).

THURSDAY (15th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road).—8.30 P.M. Papers:—Dr. G. F. Blacker: Experiences in Feeding Delicate and Premature Children with Modified Milk.—Mr. F. Jaffrey: Calculous Suppression of Urine treated by Operation.

FRIDAY (16th).—EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Paper: Dr. E. W. Hope: Insanitary Property and Workmen's Dwellings in Liverpool.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (12th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Mr. E. T. Collins: The Anatomy and Pathology of the Eye. (Erasmus Wilson Lecture.)

LONDON THROAT HOSPITAL (204, Gt. Portland-street, W.).—4.30 P.M. Dr. Cathcart: Impaired Movements of Vocal Cords. (Post Graduate Course.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Morris: Consultation. (Skin.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—6 P.M. Mr. Beddard: Transfusion and Venesection.

TUESDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. C. T. Williams: Consultation. (Medical.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, W.C.).—3.30 P.M. Dr. Buzzard: Hysteria.

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. E. Ray Lankester: The Structure and Classification of Fishes.

WEDNESDAY (14th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Mr. E. T. Collins: The Anatomy and Pathology of the Eye. (Erasmus Wilson Lecture.)

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—4.30 P.M. Dr. Eddowes: Urticaria. (Post-graduate Course.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. F. Payne: Consultation. (Medical.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Wethered: The Prognosis of Pulmonary Tuberculosis.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M. Discussion on Insanitary Condition of the London Streets (opened by Mr. W. N. Blair).

THURSDAY (15th).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—5 P.M. Clinical Demonstration:—Dr. H. Campbell: Cases of Facial and other Cranial Nerve Paralyses.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Lees: Demonstration of Selected Cases.

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Galloway: Dermatological Demonstration. (Post-graduate Course.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—3 P.M. Roentgen Ray Cases:—Dr. H. Low: Demonstration. 4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. Beddard: Nature and Treatment of Shock and Collapse.

FRIDAY (16th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Mr. E. T. Collins: The Anatomy and Pathology of the Eye. (Erasmus Wilson Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. D. Grant: Consultation. (Eye, Ear, Nose and Throat.)

During the week marked copies of the following newspapers have been received: *Norfolk Weekly Standard, Rangoon Times, Madras Times, Birmingham Daily Gazette, Liverpool Daily Post, Health, Weekly Budget, Christian World, Sanitary Record, Sheffield Independent, Western Mail, Bradford Observer, Glasgow Herald, Times of India, Pioneer Mail, Citizen, Builder, Scotsman, Architect, Leeds Mercury, Hertfordshire Mercury, Yorkshire Post, Reading Mercury, Brighton Gazette, City Press, [illegible], Bristol Mercury, Local Government Chronicle, Mining Journal, Cork Constitution, Surrey Advertiser, Local Government Journal, National Review, Manchester Guardian, Leicester Daily [illegible], Chorley Standard, Irish Society, Daily Telegraph, Huddersfield Examiner, Carmarthen Reporter, Bakers' Times, Hull Daily News, Eastern Morning News, League Journal, Le Parfait Nourricier (Paris), [illegible] Journal, Preston Herald, Empire, Derby Advertiser, Eastern Post (London), [illegible] Gazette, Public Health, Waterford Chronicle, Munster Express, [illegible], Warwick Advertiser, [illegible] Herald, &c., &c.*

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1899, which was completed with the issue of Dec. 30th, and the Title-page to the Volume were given in THE LANCET of Jan. 6th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1899 are now ready. Bound in cloth, gilt lettered, price 18s., carriage extra.

Cases for binding the half year's numbers are also ready. Cloth, gilt lettered, price 2s., by post 2s. 3d.

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year ...	£1 12 6	One Year ...	£1 14 8
Six Months ...	0 16 3	Six Months ...	0 17 4
Three Months ...	0 8 2	Three Months ...	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues, and agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

Communications, Letters, &c., have been received from—

A.—Dr. H. E. Annett, Liverpool; Messrs. Armour and Co., Lond.; Accrington Corporation, Medical Officer of Health of; Aston Hall, Sutton Coldfield, Secretary of; Mr. W. R. Alexander, Lond.; Mr. W. H. Austin, Lond.; Alpha, Lond; Advertiser, Marsfield; Mr. W. E. Alderson, Newcastle-on-Tyne; Mr. John Allan, Lond.

B.—Dr. J. T. Brown, Cyphergat, Cape Colony; Mr. F. W. Beville, Lond.; Messrs. H. K. Bushell and Sons, Reading; Messrs. Burroughs Welcome and Co., Lond.; Bureau fur Wissenschaftliche Berichte, Vienna; Messrs W. H. Bailey and Son, Lond.; Mr. J. Barton, Dublin; Bristol Eye Hospital, Secretary of; General Hospital, Registrar of; Birmingham City Hospital, Medical Superintendent of; Mr. H. Brown, Lond.; Burton-on-Trent Infirmary, Secretary of; Bone Setters' Institution, Lond.; Mr. A. L. Barnard, Lond.; Mr. F. R. Bolton, Lond.; Mr. A. H. Burgess, Manchester.

C.—Mr. Treacher Collins, Lond.; Carpenters, Clerk to the Company of; Dr. J. B. Coleman, Lond.; Coöperative Advertisers, Lond.; Mr. T. J. Croke, Harrogate; Messrs. Carnrick and Co., Lond.; City Asylum, Nottingham, Secretary of; Mr. W. F. Clay, Edinburgh; Chelsea Hospital for Women, Lond., Secretary of; Cardiff Infirmary, Secretary of; *Charlotte Medical Journal*, Editors of; Mr. J. D. Campbell, Lond.

D.—Dr. J. H. C. Dalton, Cambridge; Mr. O. M. Doy, Greenham. Messrs. W. Duff and Co., Lond; Dundee Royal Infirmary, Medical Superintendent of, Dumfries and Galloway Royal Infirmary, Secretary of.

E.—Mr. E. F. Eliot, Southampton; Mr. N. W Eley, Batley; Etna Chemical Company, New York; Mr. C. Estcourt, Manchester; Equitable Life Assurance Society, Lond.

F.—Messrs. Fassett and Johnson, Lond.; F.R.C.V S., Nottingham; Dr. J. Fleming, Stockton-on-Tees.

G.—Mr. A. Goodall, Great Yarmouth; Dr A. V Geoghegan, Mickleton; Mr J. W. Griffin, Small Heath; General Hospital, Nottingham, Secretary of

H.—Miss Hichens, Lond.; Mr. W. Henry Hillyer, Harlech; Mr. J. Hughes, Brisbane; Hastings, &c., Hospital, Secretary of; Hulme Dispensary, Manchester; Hovis Bread Flour Co., Macclesfield; Surgeon R Hill, R N., H.M.S *Canopus* Mediterranean Squadron; Dr. S Habershon, Lond.; Mr P. H. Hammersley, Hanley; Dr W K. Hunter, Glasgow.

J.—Dr. P. Jakins, Lond.; Mr. Otto Jaffe, Belfast; Messrs. Jewsbury and Brown, Manchester.

K.—Dr. H. R. Kenwood, Lond.; Kent County Ophthalmic Hospital, Maidstone, Secretary of; Messrs. P. S. King and Son, Lond.; *King's College School Magazine*, Wimbledon, Editor of; Mr. S. Keith, Lond; Kent County Hospital, Maidstone, Secretary of; Kent and Canterbury Hospital, Secretary of; Messrs. J. Keiller and Son, Lond.; Mr. B. V. H. Kuhn, Leytonstone.

L.—Mr. S. J. Lilley, Leicester; Liverpool Northern Hospital, Secretary of; Mr. H. C. Linden, Compton Martin; Mr. J. I. Lock, Cambridge; Messrs. W. H. Lowdermilk and Co, Washington, U S.A.; Messrs. Sampson Low, Marston, and Co., Lond.

M.—Dr. K. Majewski, Vienna; Dr. J. Meredith, Wellington, Somerset; M., Motcombe; Mr. A. G. Matthews, Mill Hill; Messrs. C. Mitchell and Co., Lond.; Mutual Life Insurance Company of New York, Lond.; Dr. O. St. J. Moses, Edinburgh; Medical Graduates' College, Lond., Medical Superintendent of; Mercers' Hospital, Dublin, Registrar of; Messrs. H. Marshall and Sons, Lond.; Dr. J. L. Martin, Chelmsford; Montpellier Fruit Agency, Lond.; *Medical Review*, Lond.; Messrs. J. Martin and Co., Leith; Medical Society of Victoria, Melbourne, Hon. Treasurer of; M. R. R.; Dr. S. Martin, Rotherham.

N.—Mr. V. H. Norman, Great Yarmouth; Mr. F. Newland-Pedley, Lond.; National Telephone Co, Lond.

O.—Odontological Society, Hon. Secretary of; Dr. W. Overend, Clacton-on Sea; Mr. T. Ottey, Edgbaston.

P.—Mr. J. Pond, Norwich; Messrs. Philip, Son, and Nephew, Liverpool; Messrs. Parke, Davis, and Co., Lond.; P.; Dr. L. A. Parry, Lond.; A Patient; Mr. Y. J. Pentland, Edinburgh; Dr. R. J. Probyn-Williams, Lond.

Q.—Quarrelsome; Mr. S. Quennell, Lond.

R.—Mr. T. W. Robinson, Lond.; Ross Memorial Hospital, Dingwall; Messrs. Reynell and Son, Lond.

S.—Mr. C. J. Symonds, Lond.; Dr. A. Stewart, Manchester; Hon. W. F. D. Smith, Lond.; Dr. S. Sunderland, Lond.; S. G. E.; Stockport Infirmary, Secretary of; Schloss, Lond.; S. W.; Salford Royal Hospital, Secretary of; Messrs. Street and Co., Lond.; Messrs. W. Sugg and Co., Lond.; Mr. James Startin, Lond.

T.—Dr. J. C. Thresh, Lond.; T. F.; Thresh Disinfector Co., Lond; Torquay Publishing Co; Messrs. C. Tayler and Co., Lond.; Tottenham Hospital, Clerk of; T. W. C. Nottingham.

V.—Vinolia Co., Lond.; V. C.; Dr. C. Virchow, Berlin.

W.—Mr. T. J. Webster, Merthyr Tydvil; Messrs. J. Wright and Co., Bristol; Sir H. T. Wood, Lond.; Wyleys, Ltd., Coventry; Dr. Woods, Lond.; Western General Dispensary, Hon. Secretary of; Mr. J. Williams, Bradford; W. H.; Mrs. Walker, Lond.; Dr. F. R. Walters, Lond.; Mr. Jason Wood Bradford; Mr. G. B. F. White, Lond.

X.—X. Y. Z.

Y.—Yeoman.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. J. R. Armstrong, Treorchy; Messrs. Arbuthnot and Co., Lond.; A. G. B.; A. L.; A. W.; A. C.; Messrs. Allen and Hanburys, Lond.; Aberystwyth Corporation, Accountant of; Mr. F. C. Angear, Chatham; A. B, Lond.; A. E. L. P.; Dr. J. Althaus, Lond.; A. G

B.—Dr. S. K. Basu, Kashimpore, India; Bristol General Hospital, Secretary of; Mr. G. C. Bell, Leytonstone; Dr. R. W. Branthwaite, Rickmansworth; Blackburn Infirmary, Secretary of; Bolton Infirmary, Secretary of; *Dr. G. Brown, Cults*; Mr. W. H. Best, Ilford; Dr. W. Burns, Cambridge; Birmingham City Asylum, Clerk of; Dr. W. H. Bishop, Wylam-on-Tyne.

C.—Mr. S Campbell, Agmere; Mr. J. N. Gregeen, Liverpool; Messrs. A. Cohen and Co., Lond.; Dr. T. Colvin, Glasgow; C. K.; Dr. C. Childs, Lond.; C. A. C.; Dr. R. Caton, Liverpool; C. J.; C. and F. K.; Mr. F. W. J. Coaker, Bromsgrove; Dr. T. C. Craig, Wolverhampton; Messrs. W. and R. Chambers, Edinburgh.

D.—Mrs. Dale, Barnham Junction; Mr. P. Dudley, Lond.; Messrs. H. Dawson and Co, Lond.; Dr. M. Dockrell, Lond.; Dr. W. H. Davies, Gloucester

E.—Miss F. E. T. Evans, Lond.; Messrs. Elliott, Son, and Peyton, Lond.; E W. W.; E G. B.

F.—Mr. J. J. Fanning, Roscrea, Ireland; F. W.; F W. B.; Messrs Festersen and Co., Basle; F.R.C S., London; Mr. R. F. Flood, Bundoran.

G.—Mr. J. J. Griffiths, Lond.; Mr. H. E Gamlen, West Hartlepool; G. A. W. F.; G. B; Mrs. Gordon, Lond.; Dr. A. Gardner, Kirby Moorside; Dr. H W Garden, Bradford; Messrs. G Gale and Sons, Birmingham; Dr. W. Grant, Treherbert; Dr. D. Gannon, Buenos Ayres; General Medical Council, Lond.; Messrs. A. E. Gibson and Co., Lond.

H.—Dr. H. W. Hake, Lond.; Dr. G. S Hatton, Newcastle-under-Lyne; Dr. P. W Hampton, Buxton; H. J. J.; Harvard Co., Lond.; Messrs. Hastings Bros.

J.—Mr. E. O. Jones, Amlwch; Mr. W. A. Johnston, Caergwrle; J. L. C.; J. W. B; J. F. Y.; J. W. G.; J. S. L.

K.—Mr W. Kirkby, Maesteg; Messrs. Keith and Co, Edinburgh; Mr H. Knevitt, Ealing; Messrs. G. Kelly and Co., Lond.; Dr. W. Kirkpatrick, Stourbridge.

L.—Dr. S H. Long, Norwich; Liverpool School of Tropical Medicine, Hon. Secretary of; Leeds Union, Clerk of; Messrs. Lee and Nightingale, Liverpool; Dr. J. S. Lyttle, *Cilfynydd*.

M.—Dr. A. Marriott, Aldeburgh; Mrs. Moorshead, Bristol; Mr. J. Murray, Lond.; M. P. H.; C. M. Moullin, Lond.; Medicus, Sawston; Mr. W. S. Mayne, Blackndon; Medicus, Newcastle-on Tyne; Mr. W. A. Mushé, Lond.; Messrs. J. MacLehose and Sons, Glasgow; Messrs. Macfarlan and Co, Lond.; Manchester Corporation, Treasurer of; Mr. C. B. Moss-Blundell, Hampton-on-Thames; Mr. S H. Modi, Lond.; Dr. J. F. Macara, Durness; Medicus, Liverpool; M.R.C.S, London; Mr. A. J. Morkill, Middlesbrough.

N.—Mr. G. T. W. Newsholme, Sheffield; National Hospital for Consumption for Ireland, Dublin, Secretary of; National Anti-Vaccination League, Lond., Secretary of; Northern Medical Association, Glasgow.

O.—Mr. M. J. O'Doherty, Middlewich.

P.—Mr. R. Pelton, Tunbridge Wells; Messrs. W. Porteous and Co., Glasgow; Dr. G. A. Pirie, Dundee; Dr. A. R. Paterson, Stockton-on-Tees; Portsmouth Royal Hospital, Secretary of.

R.—Mr. H. Rainbird, Saxilby; Mr. O. H. Rogerson, Bradford; Dr. T. H. Redwood, Rhymney; R. H.; Dr. J. H. Rowe, Bradford; Dr. D. R. Rowlands, Llandovery; R. H.; R. T. W.; Mr. A. T. Rimell, Long Sutton.

S.—Mr. J. F. Somerville, Harrold; Mr. W. A. Savage, Lond.; Springfield House Asylum, Clerk of; Dr. J. Selkirk, Boston Spa; Mr. J. P. Stilwell, Yateley; Salop County Council, Shrewsbury, Clerk of; Smith's Advertising Agency, Lond.; Messrs. Spiers and Pond, Lond.; Messrs. W. H. Smith and Son, Manchester.

T.—Mr. F. B Thompson, Lond.; T. L. W.; T. M.; Mr. J. Thin, Edinburgh; Mr. W. P. Thornton, Canterbury; T. S.

W.—Mr. C. H. Whiteford, Plymouth; Mrs Wight, Roehampton; Dr. A. E. Wells, Cuckfield; Dr. J. H. Waterhouse, Maltby; Mr. C Willmer, Lond.; Dr. E Wills, Wimbledon; Dr. J. G. Williamson, Southend; Dr. T. M. Watt, Bedlington; Dr. S. West, Lond.; W. M. M.; Dr. J. L. Williams, Beckenham; Messrs. Whittaker and Co., Lond.; W., Sheffield; W. F. G.; Wrexham Infirmary, Secretary of.

Y.—Mr. C. A. Young, Hunmanby

EVERY FRIDAY. THE LANCET. PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

For the United Kingdom.		To the Colonies and Abroad.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.
Terms for Position Pages and Serial Insertions on application.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière, Asnières, Paris.

The Erasmus Wilson Lectures

ON

THE ANATOMY AND PATHOLOGY OF THE EYE

Delivered at the Royal College of Surgeons of England on Feb 12th, 14th, and 16th, 1900

By E TREACHER COLLINS, F R C S Eng ,
ASSISTANT SURGEON TO THE ROYAL LONDON OPHTHALMIC HOSPITAL.

LECTURE I

Delivered on Feb 12th

Mr President and Gentlemen,—There is a law in biology to the effect that the various stages of development through which an individual passes typify to a great extent the history of the race In the course of these lectures I shall have several opportunities of showing that in the study of the embryology of the human eye arrangements of parts are met with differing from what is present in the adult but simulating what is present in lower animals and, further, that when arrests of development occur conditions comparable to what are met with in lower animals, and not in man, sometimes persist

The Eyelids of Animals and the Human Fœtus

As an example I may first draw your attention to the development of the eyelids In a human fœtus of six weeks no eyelids are present, the surface of the eye is directly continuous with the surface of the head In eels and certain other fish there is no covering whatever for the eyes, the skin of the head is uninterruptedly continuous with the anterior layers of the cornea In a human fœtus of about eight weeks the eyelids may be seen just commencing to bud out as little processes of mesoblast covered with epiblast above and below the eye In most of the teleostean fish there is a little fold of projecting skin at the margin of the orbit, which varies in length in different species but does not usually reach the corneal margin In a human fœtus the eyelids having budded out continue to grow over the front of the eyeball until they meet, when the epithelium along the margins becomes connected together, the conjunctiva being formed for a time into a closed sac In the ophidia and some lacertilia the eyelids are permanently united in front of the eye, they are transparent and consist from without inwards of a continuous layer of laminated epithelium fibrous tissue and a single row of epithelial cells The surface of the cornea is covered by but a single row of cells The conjunctiva is a permanently closed sac through which the lacrymal secretion circulates In the human fœtus the eyelids become separated again before birth In many mammals of the feline tribe separation of the eyelids does not occur until some days after birth so that their young are during birth protected from risks of infection of the conjunctival sac by secretion from the maternal passages—a protection which is unfortunately denied to man

Cryptophthalmos

Amongst the congenital malformations met with in connexion with the eyelids there is a condition of which I only know two cases that have been recorded in man but of which I have met with one example in a chick It is termed by Zehender[1] cryptophthalmos In his case there was a total absence of the eyelids and their appendages the eyebrows, the lacrymal glands, and the lacrymal ducts The whole of the front of the eyes was covered by skin, continuous with that of the face and connected with the surface of the eyeball by a subcutaneous cellular membrane The absence of the lids had, as Zehender says, prevented the formation of a conjunctival sac The eyeballs themselves of which Manz made a pathological examination, presented several abnormalities, the chief of these were the imperfect development of the lens and the filling of the anterior chamber with vitreous The optic nerve, retina and its pigment epithelium were quite normal

The second case, which was precisely similar as regards the absence of eyelids and the presence of skin over the front of the eyes, has been described by Van Duyse[2] There was also imperfect development of the parietal bone with meningo encephalocele The hen, the mother of the chick in which I found this condition of cryptophthalmos present, was the daughter of the cock which was the chick s father The same cock had also been the father of a chick with two beaks, of one without any beak, and one with four legs. On removing the feathers from the blind chick I could not find a vestige of the eyelids The skin passed continuously over the orbits and front of the eyes These latter after removal were found to be of normal dimensions Microscopical examination of them shows beneath the laminated epithelium on the surface a dense mass of fibrous tissue, amongst which, near the surface, are collections of round cells and blood vessels, whilst deeper down it is less cellular and vascular, more regularly laminated like the substantia propria of the cornea Attached to the posterior surface of this fibrous tissue and displaced backwards in the eye by it is the iris there being no anterior chamber The iris, the rest of the uveal tract and the retina are very imperfectly developed The pigment epithelium is much broken up and irregularly arranged The lens is small but well formed

It would appear that in these cases the eyelids and the conjunctival sacs having failed to develop and the individuals not living in a fluid medium like fish the epithelium covering the surface of the eyes became desiccated and a tissue similar in character to skin formed in front of them

Congenital Ankyloblepharon

Several cases of congenital ankyloblepharon have been recorded in man, but they are rare The union of the lids may not only be due to a cementing together of the epithelium at the margins but there may be a real membranous union It has most frequently been met with in cases of congenital absence or very extreme mal development of the eyeball Thus out of a series of 30 recorded cases of so-called bilateral congenital anophthalmos which I collected I found that a certain amount of ankyloblepharon was mentioned as being present in nine Middlemore[3] says "I have seen three cases in which the tarsal margins have been coherent from birth The defect has occurred in both eyes; the eyelashes have not been formed and in the situation of the intertarsal slit there has been a narrow sulcus, lined by a delicate vascular portion of skin, which admitted of extension but not of absolute separation In one of the cases the eyeball appeared to be imperfectly developed " Travers[4] mentions a case of co adhesion of the tarsi in a full grown boy whose eye was found perfect after the division though he had been thus blind from his infancy De Haas[5] described an infant in whom the lids were united by several thin tracts of skin attached to the lid margins between the cilia and the mouths of the Meibomian glands When these bands were divided the eyes were found to be normal

Dermoid Growths of the Eye

The cases of cryptophthalmos in which the whole surface of the eyeball is covered with skin though rare, are interesting as offering an explanation of the much commoner malformation in which small patches of skin are found on the surface of the eye Sometimes a portion of the upper eyelid fails to develop, a deep cleft or notch being left in it which is spoken of as a coloboma of the eyelid In many of such cases the surface of the eyeball opposite the gap presents some abnormality In a case recorded by Manz[6] in which the inner portion of the upper lid on each side was absent, bands of skin arose on the surface of each cornea where it was left exposed, and extended upwards in the region of the gaps to the skin of the forehead In a case described by De Wecker[7] there was a small congenital notch in the border of the upper lid and on the surface of the globe was a small nodule of skin which when the eye was closed exactly filled the deficiency left in the lid Little isolated patches of skin spoken of as dermoids are not very uncommonly met with on the surface of the globe apart from any deficiency in the lids They occur most frequently at the sclero-corneal margin opposite the palpebral aperture, more often on the outer than the inner side and a little below the horizontal meridian of the eyeball—that is, in the region of the eye which would remain longest uncovered by the eyelids in their extension over it during fœtal life. Many years ago Ryba[8] suggested—and I think his observations are well borne out by the above cases—that the reason skin formed on the surface of the eye opposite the gap left by a coloboma of the lid was that the lining membrane there not being covered over failed to become mucous membrane, and he further suggested that the dermoid nodules opposite the palpebral fissure probably resulted from an incomplete apposition and union of the margins of the lids, portions of the surface of the eye being left uncovered.

---

[1] Report of the Fourth International Congress of Ophthalmology p. 86

[2] Annales d'Oculistique 1829 tome x. p 69

[3] Treatise on Diseases of the Eye vol ii p. 542

[4] Synopsis of Diseases of the Eye p. 109

[5] Ned Weekblad 1894 p. 4

[6] Archiv für Ophthalmologie 1868, Band xiv Abtheilung 2, p 1

[7] Archives of Ophthalmology and Otology vol 1. p. 91

XEROSIS OF THE CORNEA AND CONJUNCTIVA.

The epithelium of the surface of the cornea and conjunctiva differs from that of the skin in the absence of a horny layer; the cells nearest the surface in these parts, unlike those in the superficial layers of the skin, are not shrunken and all possess nuclei. It is the presence of moisture and the constant friction of the lids over the front of the eye in the act of winking which accounts for this difference. That this is so is shown by what happens when their agents are absent. If a staphylomatous cornea protrudes between the lids and is so prominent that a portion of it is not covered by them during sleep, then the surface epithelium on the exposed part is not removed and layers of dry horny cells devoid of nuclei accumulate on the surface. In cases of severe granular ophthalmia or other destructive affections—such as pemphigus, when what is termed symblepharon posterior is formed—much of the retro-tarsal fold of the conjunctiva and its glands are destroyed by cicatricial contraction, and the lacrymal secretion is to a great extent cut off. Then the epithelial cells on the surface of the cornea and conjunctiva, instead of being removed, accumulate and form a dry horny layer on the surface. I have had the opportunity of examining microscopically the whole conjunctival sac and cornea of one such case and the cornea in two others.

Besides the marked thickening of the epithelium and the dryness of its surface layers, I have found in each case numerous down-growing finger-like processes of epithelium, making the base line of the epithelium over the cornea, which is normally straight, very irregular, and so causing its appearance on section still further to resemble that of skin. The down growths have a peculiar and definite arrangement, those in the centre of the cornea passing vertically downwards, those towards the periphery gradually sloping more and more outwards and downwards. These finger-like processes are probably first started by shrinking of the surface due to contraction of the cicatricial tissue in the subjacent structures. To quote another example of the readiness with which the conjunctiva will, under favourable circumstances, take on the characters of skin, I may refer to the operation for ectropion devised by Mr. Tweedy, in which after cutting out a flap of the whole thickness of the lid he utilises a portion of the conjunctival surface to fill up a gap left below the lid after it has been stitched into its required position. The transplanted and exposed piece of conjunctiva is found after a short time to take on all the appearances of skin.

THE INFLUENCE OF FRICTION OF THE LIDS ON THE SURFACE OF THE CORNEA.

The influence which the friction of the lids has in the preservation of the character of the surface epithelium of the cornea is well illustrated by some observations described by George Bull of Paris.[9] He examined the changes produced on the surface of the cornea by a method of entoptic observation in which he allowed the light from a small candle flame five metres distant to be thrown in circles of diffusion upon the retina by a convex lens of about five centimetres' focus, held within two centimetres from the eye. The field seen by this method is circular, more or less uniformly granular, and limited by the dark shadow of the iris. By the passage of the eyelids over the front of the eye Bull has pointed out that two sorts of bright bands bounded by darkened areas may be produced in the field. The first, which he calls temporary, are due to changes in the curvature of the lubricating fluid which the eyelids push before them over the front of the cornea. These temporary bright bands are seen to advance and recede with the movements of the lids, and a single sweep of the lids as in natural winking instantly effaces them. The second sort of bands are termed by Bull persistent; they are produced when stronger and more enduring pressure of the tarsal edge of the lid is made against the cornea and are due to a disturbance of the epithelial surface. These persistent bands are less bright than the temporary ones, indicating that when the disturbance of curvature is in the epithelium it is less in degree than the disturbance of curvature created by a wave of viscous fluid. The act of winking instead of making the persistent bands disappear makes them brighter as they tend to fade. Bull concludes from his observations, all of which I have repeated and am able to confirm, that the tarsal edge of the lid evidently acts as a kind of scraper over the front of the eye. By so doing it must constantly remove any epithelial débris from the surface of the cornea as well as provide fresh supplies of lubricating fluid.

ENTOPTIC EXAMINATION OF THE CORNEA UNDER THE INFLUENCE OF COCAINE AND ERYTHROPHLÆINE.

I have further examined by this entoptic method the condition of the cornea after the application of certain drugs to the eye such as cocaine and erythrophlæine. As is well known, after the application of cocaine to the eye, unless the lids be kept closed the surface of the cornea becomes dry. That this is largely, if not entirely, due to the retraction of the eyelid from stimulation of the unstriated fibres of Müller is well shown by this method of examination. When the eye is well under the influence of the drug the bright temporary bands hardly ever make their appearance in the field, and when they do only at the extreme upper margin. After a while the whole of the field, instead of presenting a comparative uniform granular appearance, becomes irregularly mottled and marked out with a number of very irregular, bright, branching lines like the cracks seen in the glaze of china. Vision with an eye fully under the influence of cocaine, if the eyelids have not been kept closed, is, even for distant objects, somewhat misty, and a dim halo of colours can be seen round bright lights when viewed against a dark background.

The microscopical appearances of the cornea when under the influence of cocaine have been described by Wurdinger[10] who experimented on rabbits, dogs, and guinea-pigs. He found that there was an unevenness of the surface which was due to an irregular diminution of the thickness of the tissues. The anterior layers of the epithelium gradually became thinned and flattened, later the deeper layers began to shrink, and ultimately the external cells were in places cast off at the spots where the epithelium was most damaged. Wurdinger attributed the xerotic condition of the cornea partly to diminished lymph supply from contraction of the blood-vessels, as well as to the dryness produced by exposure. That diminished lymph supply from contraction of blood-vessels alone will not produce the change in the cornea is shown by no alteration occurring after the application of the extract of suprarenal capsule to the eye, which gives rise to a more marked constriction of the conjunctival and scleral blood-vessels than cocaine. In ten normal eyes in which W. H. Bates[11] instilled this drug at short intervals for three hours no desquamation followed. The field examined by the entoptic method after its use shows no alteration whatever from its normal granular appearance.

Erythrophlæine is an alkaloid obtained from an African arrow-poison called "haya." In 1888, when experimenting with a 0 125 per cent. solution of the hydrochlorate to test its reputed local anæsthetic properties, I found that the instillation of a drop into the eye was followed by considerable smarting and irritation, lasting about from 10 to 30 minutes. Slight anæsthesia of the cornea was produced, but hardly any of the conjunctiva, never sufficient to obliterate the smarting caused by a 1 in 40 solution of carbolic acid. After about two hours the sight of the eye in which it had been put became very much blurred, everything appearing as if in a fog, and all lights having a pronounced circle of coloured rings around them, the red rays being the outermost. The position of the red rays was not altered by changes in the refraction of the eye. The nearer the light was to the eye the smaller were the halos, and *vice versâ*. The halos remained stationary whether the light was fixed by the eye or not. The blurring of vision was not due to any alteration in the accommodation of the eye. The cornea on careful examination was found to be slightly steamy. There was no increase in the tension of the globe. The first specimen of erythrophlæine that I used produced slight dilatation of the pupil. A second specimen produced slight contraction. After the use of both of these solutions the coloured halos were seen.

---

[8] Prager Vierteljahrschrift, 1853, Band iii.

[9] Transactions of the Eighth International Congress of Ophthalmology, 1894, p. 107.

[10] Klinisches Monatsblatt für Augenheilkunde, 1886, Band xxiv. S. 140.

[11] Archives of Ophthalmology, vol. xxviii, No. 3, 1899.

Examination of the cornea, when under the influence of the erythrophlæine by the entoptic method above described, shows it to be mapped out with a number of very dark branching lines bounded on each side by light ones, the field retaining its uniform stippled character in the spaces between the lines. These lines commence to appear about three quarters of an hour after the application of a drop but are at first very faint, and do not reach their maximum intensity for two hours—i.e., until the coloured rings are also plainly visible. They last as long as these and are seen for about 12 hours. Slight pressure on the globe so as to increase its tension causes the lines to change so that the part that was dark becomes bright and that which was bright becomes dark. If the pressure is increased they disappear altogether, the field becoming uniformly granular. I find it difficult to conjecture the nature of these lines. The cornea when they are present does not become stained with fluorescine. I made a drawing of them as they appeared in one of my eyes and a few weeks later after a fresh instillation I compared the drawing with their arrangement as then seen. So similar were the number, grouping, and branching of the lines on the two occasions that I cannot help thinking that they represent some definite anatomical structure.

IRIDESCENT VISION.

The halos produced by erythrophlæine cannot be in any way connected with dilatation of the pupil, for they were seen equally well after the use of a specimen which produced slight contraction of the pupil. They cannot in any way be connected with the lens, for they were seen by a patient after a cataract had been extracted to whose eye I applied a drop. They cannot be due to pressure on the retina for there is no increase of tension. The irresistible conclusion is that they are due to the haze of the cornea.

CHANGES IN THE SURFACE OF THE CORNEA IN GLAUCOMA.

In glaucoma, too, when halos are seen, a haze or steaminess of the cornea is present. The changes which give rise to this haze were first pointed out by Fuchs[12] to be due to the collection of minute drops of fluid, which sometimes contain albumin and coagulate in the anterior part of the cornea, between the surface epithelium and the anterior limiting membrane, in the channels in the anterior limiting membrane through which the nerve fibres pass, and in the spaces between the anterior layers of the fibrous tissue forming the substantia propria. In eyes in which increased tension has existed for some time, what appear to the naked eye to be little vesicles may be met with on the surface of the cornea. Microscopically I have found these apparent vesicles to be composed of a loose network of fibres and branching cells with fluid in its mesh situated between the anterior limiting membrane and the epithelium. In some eyes, as these apparent vesicles form, great pain is experienced which is due probably to the stretching of the nerve filaments which pass to the epithelium. This pain lasts until the apparent vesicle collapses, when it is at once relieved. After a condition such as this has existed in an eye for some time a formation of dense fibrous tissue makes its appearance between the epithelium and the anterior limiting membrane, and the anterior limiting membrane in certain positions appears broken in its course by the extension through it from behind forwards of considerable collections of fibrous tissue.

The interpretation of these several changes seems to be that at first, as the result of the increased tension, there is a disturbance in the lymph flow in the cornea, a disturbance which results in œdema and which manifests itself naturally at the part where the pressure is least—namely, towards the anterior surface. The epithelium in places becomes separated from the anterior limiting membrane. The communications between the intercellular clefts within the anterior epithelium and the corneal spaces through the anterior limiting membrane become distended, and some of the spaces between the anterior layers of fibrous tissue are enlarged. At first the distended spaces are filled with the ordinary circulating lymph of the cornea, but if the œdema persists for some time cells find their way into it which proliferate, and a network develops. This loose network and cells later become transformed into dense fibrous tissue resembling that of the substantia propria, but much of it lying anterior to the limiting membrane and in the clefts formed by the immensely distended lymph spaces in it.

TRANSVERSE FILMS OF THE CORNEA.

An avascular development of fibrous tissue between the anterior limiting membrane and the epithelium, together with breaks in its continuity, through which pass bands of fibrous tissue, is met with, not only in eyes which have glaucoma, but also as a localised condition in what is spoken of as transverse films of the cornea. These transverse films are either primary—i.e., occurring in eyes apparently perfectly healthy—or secondary, occurring in eyes otherwise diseased, most frequently in eyes which have for some time been blind. It is probable, however, that both primary and secondary films have the same pathological characters. C. H. Usher, while working with me in the laboratory of the Moorfields Hospital, made a careful examination of the cornea of 13 eyes with secondary transverse films and published a description of them in the hospital's reports.[13] The results of his examinations may be summarised as follows: 1. The antero-posterior diameter of the cornea is increased in the situation of the film and this is usually the thickest part of the cornea. 2. A formation of laminated fibrous tissue is present at the anterior part of the cornea between the epithelium and the normal situation of Bowman's membrane, which in most cases contains a granular material. No blood-vessels are found in this new fibrous tissue. 3. Granular hyaline or entirely granular bands, frequently with a space in front of them, are found at the posterior part of the new tissue, in some cases forming a sharp line between it and the substantia propria. These bands vary much in length, shape, and arrangement. Their breadth varies only to a limited extent, being about equal to that of a normal Bowman's membrane. The number of granules in the bands varies considerably. 4. At parts where the hyaline granular bands exist Bowman's membrane is never found in contact with the epithelium. They may be found directly continuous with Bowman's membrane where it lies in contact with the epithelium. So that there can be no doubt that they are portions of Bowman's membrane which have become granular and divided up. 5 Degenerative changes are found in the epithelium in the situation of the film. 6 A portion of the film treated *en masse* (by cutting a piece off from the anterior part of the cornea), either with strong hydrochloric or acetic acid, showed by the evolution of bubbles that there was calcareous material present in every case in which it was tried.

As I have said in cases of glaucoma of long standing a formation of fibrous tissue similar in appearance to that met with in these films may be found between the epithelium and the anterior limiting membrane which appears to be the result of lymph stasis. The avascular formation of fibrous tissue in these films is probably brought about in the same way, but whilst the changes following glaucoma are comparatively acute the formation of the films is exceedingly slow, often extending over a period of several years. Hence the presence in these latter of calcareous granular-looking incrustations. In glaucoma the formation of vesicles or the later superficial development of fibrous tissue may be met with in all parts of the cornea. In the transverse films the change is confined to the portion of the cornea corresponding to the palpebral aperture and is usually a band situated a little below the middle line. The reason that this area is affected has been usually attributed to its being the part most exposed to irritation from external agents. There is, I would point out, another important cause which appears to have been overlooked and which accounts, moreover, for the way in which these films begin and extend. I refer to the effect of the pressure of the lids on the cornea. A transverse film is never seen to extend quite up to the margin of the cornea, a narrow band of clear tissue being always left between it and the extreme margin. The opacity usually commences to form in two places, on the outer and inner sides of the cornea, and then each patch gradually extends inwards until they meet and one complete horizontal band results. It always, however, remains thickest and densest at its two starting points. In a complete film the lower border is nearly straight whilst the upper is curved, the convexity being downwards.

---

[12] Archiv für Ophthalmologie, 1881, Band xxvii., Abtheilung 3, S 66.

[13] Vol. xiii., 1893, p. 508.

We have seen from the observations of Bull that the pressure of the margin of the lid on the cornea may be such as to cause a lasting depression in the surface epithelium, and it is not difficult to understand that this sort of squeegee action of the lids in their passage over the surface of the cornea would tend to prevent the accumulation of œdematous fluid in spaces beneath the epithelium, unless the obstruction to flow of lymph in the cornea was fairly acute. The part of the cornea least affected by this lid pressure is opposite the palpebral aperture, and as the central portion of it projects most from the surface of the globe it is pressed on more than the sides, so that the peripheral portions of the cornea opposite the palpebral aperture are the least affected by lid pressure and are the parts in which the transverse film commence and are most intense. That a film does not extend quite up to the corneal margin is probably accounted for by that region being directly under the influence of the terminal vascular loops which tend to absorb any œdematous exudation in their immediate vicinity.

VESICLES IN THE CORNEAL EPITHELIUM AND FILAMENTARY PROCESSES.

Besides the vesicle-like formations at the anterior surface of the cornea, which are due to the separation of the epithelium from the anterior limiting membrane, others are met with which make their appearance in the substance of the epithelium itself. I published a drawing and description of these in the Moorfields Hospital Reports[14] for 1890. They are most frequently met with in glaucomatous eyes, but may occur where no increase of tension is present. J. P. Nuel,[15] who has more recently investigated this form of epithelial change, finds it to be due to a hyaline or mucoid degeneration of the cells. He has been able to trace all the stages in the gradual alteration of the cells, showing how they first become enlarged and then distended by the formation of a hyaline or mucoid substance in them, how several contiguous cells are often affected, their cell-walls ultimately becoming so attenuated that they break through into one another, little vesicles resulting. As these vesicles form the cells immediately surrounding them, from the pressure to which they are exposed, become flattened out. The ones in front and behind the vesicle become flattened so that their long axis is horizontal, whilst those at the sides have their long axis vertical. When two vesicles form close together a ridge of cells arranged vertically separates them. When, as ultimately happens, the vesicles open out this ridge of vertically placed cells remains as a filamentary process on the surface of the cornea. The way in which these vesicles tend to produce elevations of vertically placed cells helps us, I think, to understand how the filamentary formations met with in what is termed by Leber "filamentary keratitis" may be started. The filamentary formations in this disease have been shown by Nuel and Hess to be composed of a central core of twisted and much elongated epithelial cells, the long axis of which is for the most part vertical to the surface, and they have further shown that cells removed from the surface of the cornea in the neighbourhood of the filiform processes are frequently undergoing a hyaline change.

THE DEVELOPMENT OF THE CORNEA AND ITS POSTERIOR LIMITING MEMBRANE.

The development of the cornea in the chick has been described as follows:[16] "The substantia propria corneæ first appears in the chick as a thin homogeneous layer lying immediately within this epithelium (the surface epithelium). Into this homogeneous layer mesoblastic cells pass from the margin, greatly thickening it and producing eventually the regular layers of fibrous tissue which are characteristic of the cornea. No cells pass into the most anterior or into the most posterior stratum which remains homogeneous (anterior and posterior homogeneous lamellæ of Bowman). The epithelium of the posterior homogeneous lamella or membrane of Descemet is derived from mesoblast cells, which grow in like the corneal corpuscles from the margin and spread themselves over the posterior surface of the cornea, thus separating this from the iris and anterior surface of the lens." With regard to the origin of the homogeneous layer which first separates the lens vesicle from the surface epithelium in the chick and which remains ultimately as the anterior and posterior elastic laminæ two different views have been put forward. Kessler regards it as a secretion of the epidermis and Kölliker as of mesoblastic origin. In mammals this homogeneous layer has not been met with. Hertwig says[17]: "As soon as the lens vesicle in mammals is fully constricted off it is already enveloped by a thin sheet of mesenchyma with few cells, which separates it from the epidermis. The thin layer is rapidly thickened by the immigration of cells from the vicinity. Then it is separated into two layers, the pupillary membrane and the fundament of the cornea." He makes no mention as to the mode of origin of the anterior and posterior elastic laminæ in mammals.

In fœtal mice which I have examined I find at one stage the surface epithelium separated from the lens by a collection of round cells, but no vestige amongst them whatever of a hyaline membrane. In sections of a human fœtal eye of between the first and second months I find the cornea to consist from before backwards of the following layers. Epithelial cells in places appearing two rows thick; immediately in contact with them, and not separated by any homogeneous membrane, layers of cells with elongated nuclei and fibres. The nuclei of these cells are very much closer together than those of the corneal corpuscles in the adult cornea, the amount of fibrous tissue between them being very much less. Behind this laminated fibrous and cellular tissue is seen an extremely thin hyaline layer, posterior to which are closely packed cells with round nuclei, showing a tendency to arrangement into two layers, the anterior evidently being the lining endothelium of Descemet's membrane and the posterior the commencement of the antero-fibro-vascular sheath of the lens. I am unable to find any blood-vessels amongst the round cells, though there are many already formed at the posterior part of the lens. In a specimen I have of a human fœtal eye of the fourth month blood-vessels are distinctly seen in the antero-fibro-vascular sheath. The posterior elastic lamina is still only seen as an exceedingly delicate line, and nothing of a homogeneous layer is yet visible between the anterior epithelium and the substantia propria of the cornea. In a human fœtal eye, said to be of the sixth month, Bowman's membrane, the anterior elastic lamina, is very distinctly seen, and the posterior elastic lamina is considerably wider than it was at the fourth month.

It is evident, then, from this that in mammals there is a stage in the development of the cornea where no elastic membrane is present. In man, when a very delicate rudiment of the posterior elastic lamina is just discernible, it is already lined by endothelial cells, and from this time onward it gradually increases in thickness. That there are physical and chemical differences between Bowman's and Descemet's membranes has been repeatedly pointed out, the former being similar in character to the substantia propria whilst the latter resembles closely elastic tissues. This difference I have lately further been able to emphasise by treating sections with acid solutions of orcein. After they have been allowed to soak in it for some hours Descemet's membrane can be made to stand out a reddish-brown colour, while the substantia propria and Bowman's membrane stains a dull pink. How then is Descemet's membrane formed? Is it the product of the endothelial cells lining it? In determining this point a study of the pathological changes observed in connexion with it are of considerable assistance. On the inner surface of Descemet's membrane in diseased eyes little hyaline nodules are sometimes seen indistinguishable in structure from the membrane itself. It seems unlikely that an inert basement membrane would give rise to such outgrowth and much more probable that the active endothelial cells lining it should undergo some change which results in their production. The nodules, moreover, are never met with except on the inner surface where the cells are situated. If they were simply thickenings of the membrane itself it seems reasonable to expect that they should sometimes be met with on both surfaces.

PATHOLOGICAL NEW FORMATIONS OF DESCEMET'S MEMBRANE.

Sometimes after perforating wounds of the cornea a new formation of a hyaline membrane may be met with thus.

---

[14] Vol. xiii.

[15] Archives d'Ophtalmologie, October, 1893.

[16] Quain's Anatomy, tenth edition, vol. i., part 1, p. 87.

[17] Text-book of Embryology, translation of the third German edition, p. 477.

B. Gepner, jun., described (in 1890[18]) the case of a man, aged 21 years, who had an iridectomy performed several years previously for iritis. The eye was removed on account of inflammation following a blow. A gap was found in Descemet's membrane in the region of the cicatrix, which was bridged across by a layer of hyaline membrane of the same structure as Descemet's membrane and lined by endothelial cells. Wagenmann (in 1891[19]) recorded the case of a patient, aged 57 years, who two and a half years previously had had a cataract extracted from his eye by the modified linear operation of von Graefe, and who while in the hospital for operation on his other eye died from pneumonia. The eye first operated on was removed shortly after death, and on microscopical examination of the seat of the wound the two cut extremities of Descemet's membrane could be seen, separated by a slightly protuberant film of tissue, posterior to which was a layer of newly formed hyaline substance lined by endothelial cells. Wagenmann has no doubt that the hyaline layer was derived from the endothelium. Alt mentions a case[20] in which there was a considerable new formation of fibrous tissue on the inner surface of Descemet's membrane, which was covered on the surface towards the anterior chamber by a newly formed secondary membrane of Descemet lined by endothelium, and he says: "I think that this case shows that Descemet's endothelium cannot only form lamellated connective tissue, similar to that of the corneal tissue, but that it can form, and, perhaps, originally forms, the vitreous membrane, which we call that of Descemet."

I have myself recorded two cases with a similar new formation and I have met with a third. My first case was that of a man, aged 46 years, who 26 years previously to excision had received an injury to his eye from a piece of steel. There was a faint scar at the lower part of the cornea and in the eye a small fragment of metal two millimetres square. Microscopical examination of sections of the cornea in the line of the scar showed on the posterior surface the two divided ends of Descemet's membrane turned forwards and separated from one another by fibrous tissue, whilst a thin hyaline layer bridged over the gap posteriorly. This hyaline layer could be traced for a short distance in contact with, but distinct from, Descemet's membrane with which a little further on still it became blended. Endothelium continuous with that on Descemet's membrane lined its posterior surface.

The second case was that of a man, aged 44 years, who three years previously to excision had had an iridectomy performed for glaucoma. The divided ends of Descemet's membrane in the region of the scar were found to be widely separated; the more peripheral end was curved a little backwards. Between the two ends there projected backwards some new-formed fibrous tissue, which at one part was dense and laminated, resembling closely normal corneal tissue. Some of this new-formed fibrous tissue extended a short distance inwards towards the centre of the cornea behind Descemet's membrane. On the posterior surface of this dense new-formed laminated fibrous tissue was seen a thin hyaline membrane of the same structure as the posterior elastic lamina to which on the inner side it became united at an acute angle. It was lined by endothelium continuous with that on the posterior surface of the cornea elsewhere.

The third case was that of a girl, aged 16 years, the subject of congenital syphilis, who had had interstitial keratitis and in whom the eye had been operated on two and a half years previously to its enucleation. Two scars were found in the cornea; part of the iris and the lens had been removed. Extending backwards from each scar in the cornea to the lens capsule was a mass of fibrous tissue. At either side of each of these bundles of fibrous tissue the hyaline layer of Descemet's membrane seemed to divide into two. The anterior parts, of the same thickness as the membrane elsewhere, were continued on for a short distance lying embedded in the fibrous tissue and then terminated abruptly; they had no endothelial cells lining them. The posterior divisions which were thinner than the anterior, but lined by endothelial cells continuous with the endothelial cells of Descemet's membrane elsewhere, and ran for some distance along the margins of the bands of fibrous tissue connecting the lens capsule with the back of the cornea.

If, then, as seems to be shown by the above cases, under some abnormal stimulus the endothelial cells lining the posterior limiting membrane are capable of producing nodules or a layer of a substance indistinguishable in structure from that membrane, it seems fair to assume that it itself is originally developed from them.

FORMATION OF HYALINE MEMBRANES ON THE ANTERIOR SURFACE OF THE IRIS.

The anterior surface of the iris, like the posterior surface of the cornea, is covered by a single layer of flattened endothelial cells, but beneath the endothelial cells of the iris there is not, as beneath the endothelial cells of the cornea, a hyaline membrane. It is interesting, however, to note that under certain abnormal conditions a hyaline membrane like that of Descemet's may be developed immediately underneath the cells on the surface of the iris. I have met with it as what was probably a congenital abnormality, and also as the result of a pathological change late in life. The eye in which this change was probably congenital was a buphthalmic one, which was removed from a girl, aged seven years. It had been noted as larger than its fellow since birth and there had never been any inflammation in it. There was an adhesion of the iris to the back of the cornea a little above its centre; where it was attached Descemet's membrane was thickened. The endothelium lining the latter turned round the edge of the synechia and was continuous with that on the surface of the iris, which was unusually well defined. On one side of the synechia starting from the thickened part of Descemet's membrane and extending for some distance beneath the endothelium on the anterior surface of the iris was a thin hyaline layer.

The eye, in which the formation of a hyaline membrane in the iris probably occurred late in life, was removed from a woman, aged 67 years, who had had absolute glaucoma of some years' duration. The angle of the anterior chamber was closed by adhesion of the root of the iris to the periphery of the cornea. The chamber itself was filled by a loose network of fibrous tissue in which blood-vessels had developed, and in the meshes of which were numerous cells of an endothelial type, probably derived from those on the back of the cornea, and cholesterine crystals. The whole of the surface of the iris was covered by a hyaline membrane, thicker in some parts than in others.

LECTURE II.

Delivered on Feb. 14th.

RELATIVE SIZE OF THE CORNEA TO THE EYEBALL IN MAN COMPARED WITH OTHER MAMMALS.

MR. PRESIDENT AND GENTLEMEN,—The cornea in man's eye is smaller relatively to the size of the globe than in any other mammal. In all mammals below man the diameter of the cornea measures more than half the antero-posterior diameter of the globe. In the chimpanzee it is about half. In man alone is it considerably less than half. The following table (Table I.) shows the dimensions of the eyeballs and corneæ of a series of different mammals which I have had the opportunity of measuring:—

TABLE I.

—	Diameters of the eyeball		Diameters of the cornea.	
	Antero-posterior	Lateral.	Lateral.	Vertical.
Man	24·8 mm	24·4 mm	11·6 mm	11·0 mm.
Chimpanzee ...	19·0 ,,	18·0 ,,	10·5 ,,	—
Rhesus monkey (India)	19·5 ,,	19·0 ,,	12·0 ,,	11·0 mm.
Capuchin monkey (South America)	18·5 ,,	19·0 ,,	11·0 ,,	10·5 ,,
Rabbit	16·0 ,,	20·0 ,,	15·0 ,,	—
Mouse	4·0 ,,	5·0 ,,	3·0 ,,	—
Civet cat	11·0 ,,	17·0 ,,	13·0 ,,	—
Cat	22·0 ,,	21·0 ,,	18·0 ,,	—
Horse	45·0 ,,	51·0 ,,	26·0 ,,	—
Sheep	27·0 ,,	23·0 ,,	19·0 ,,	15·5 mm
Ox	36·0 ,,	33·0 ,,	27·0 ,,	22·0 ,,
Pig	23·5 ,,	24·0 ,,	17·0 ,,	14·0 ,,
Wallaby	18·0 ,,	19·0 ,,	14·0 ,,	—

---

[18] Archiv für Ophthalmologie, Band xxxvi., Abtheilung 4, S. 255.
[19] Ibid., Band xxxvii., Abtheilung 3, S. 21.
[20] American Journal of Ophthalmology, vol. xiii.

[It is this alteration in the relative size of the cornea to the eyeball in man which gives to him the characteristic feature of having a portion of the sclerotic and conjunctiva exposed to view in the palpebral aperture, and which renders him liable to two affections of the conjunctiva not met with in animals—namely, pinguecula and pterygium.

Relative Size of the Cornea to the Eyeball in Fœtal Eyes of Different Ages compared with the Adult Eye.

In the human eye during fœtal life the relation of the size of the cornea to the globe resembles what is met with in other mammals in the adult state. That is to say, the lateral diameter of the cornea is always more than half the antero-posterior diameter of the eyeball. This is shown in Table II., which gives the measurements of the eyeballs and corneæ from a series of human fœtuses of different ages.

Table II.

Age	No. of eyes examined.	Measurements of the eyeball in millimetres.			Measurements of the cornea in millimetres.	
		Antero-posterior	Vertical.	Lateral	Vertical	Lateral
Fourth month	2	8·5	8·0	8·0	4·5	5·0
Sixth month	2	10·3	9·75	10·0	5·5	6·0
Seventh to eighth month	8	14·3	12·6	13·2	7·5	8·0
Ninth month ..	1	17·0	15·5	16·0	10·0	10·5
Adult		24·8	24·0	24·4	11·0	11·6

Diminution of the size of the cornea in relation to the size of the eyeball lessens the space occupied by the filtration area relatively to the amount of contents in the globe.

The Relation of Parts about the Angle of the Anterior Chamber in Man and Other Mammals.

I shall now proceed to show that this lessening of the space occupied by the filtration area in man's eye, as compared with other mammals, is accompanied by considerable alteration in arrangement of parts about the angle of the anterior chamber. In man the ligamentum pectinatum begins by the splitting up of the hyaline layer of Descemet's membrane into a number of trabeculæ, which, lined by endothelial cells, are prolonged outwards. Some of the innermost of these turn round the angle of the chamber and pass to the root of the iris; others give origin to the ciliary muscle and the outermost are inserted into the sclerotic. The structure in antero-posterior sections has a laminated appearance and between the trabeculæ are narrow slit-like spaces. The distance between the point where Descemet's membrane begins to split up into the ligamentum pectinatum and the extreme angle of the anterior chamber measures on an average 0·8 of a millimetre. The canal of Schlemm overlies the ligamentum pectinatum and the extreme outer part of the angle of the chamber, so that if a line vertical to the surface of the eye were drawn backwards through the centre of the canal of Schlemm it would pass into the angle of the anterior chamber. If the same line were continued backwards it would almost pass through the large circular artery at the base of the iris and only a small portion of the ciliary processes would lie to its inner side.

The ligamentum pectinatum reaches its greatest development in the ungulata. Amongst them I have examined sections from the eyes of horses, sheep, oxen, and pigs. In these it is composed of an external laminated part with slit-like spaces having much the same arrangement as the ligament in man, and an inner part consisting of an irregular network of trabeculæ with large cavernous spaces between them, whilst in some sections on the side bounding the anterior chamber a prolongation of fibrous tissue, like that on the anterior surface of the iris, passes forwards to be attached to the back of the cornea. It is these fibrous tissue prolongations occurring at regular intervals which give the ligament its notched appearance. The angle of the anterior chamber in these animals does not extend outwards beyond the point where Descemet's membrane begins to split up, so that a line drawn backwards vertically to the surface of the eye through the centre of Schlemm's canal will not pass through the angle of the anterior chamber, but will be some distance outside of it, and the large circular artery of the iris together with a large portion of the ciliary processes will be to its inner side. In the kangaroo the arrangement is very similar to that in the ungulata, the cavernous part of the ligamentum pectinatum, however, not being quite so extensive.

In the carnivora, amongst which I have examined the eyes of dogs, cats, and foxes, the trabeculæ of the ligamentum pectinatum are very delicate, the laminated portion small, but the cavernous portion very extensive, extending backwards a considerable distance beyond the termination of Descemet's membrane and having very large spaces in it. The angle of the chamber, as in the ungulata, ends where Descemet's membrane begins to split up, and the line drawn back through the canal of Schlemm would be some distance outside of it and have the circular artery of the iris and a large part of the ciliary processes to its inner side. The same applies to the eyes of rodents, in whom the laminated portion of the ligament is still less marked than in the carnivora, while the space between the trabeculæ of the cavernous portion are very large.

Among the quadrumana I have examined sections of the eyes of a South American monkey (capuchin) and Indian monkeys (rhesus) and a chimpanzee. In them the arrangement of parts about the angle of the anterior chamber has a much closer resemblance to that met with in human eyes than that in other mammals. There are, however, slight differences to be observed. In them, and especially in the chimpanzee, the innermost trabeculæ of the ligamentum pectinatum are more widely separated, bend down sooner to be attached to the root of the iris, and have larger spaces between them than in the human eye. They form a modified cavernous zone.

No prolongation forwards of fibrous tissue from the anterior surface of the iris to the back of the cornea on the anterior chamber side of the ligamentum pectinatum is met with in them as in other mammals. The angle of the anterior chamber is not so rounded as in man. A line drawn vertically backwards through the canal of Schlemm would, as in man, pass into the extreme angle of the anterior chamber and leave the greater part of the ciliary processes external to it.

Development of the Ligamentum Pectinatum in the Human Eye.

The fibres of the ligamentum pectinatum when treated with reagents and stains behave in precisely the same way as the hyaline layer of Descemet's membrane. In sections stained with acid orcein I have found them picked out a reddish-brown colour like Descemet's membrane. As I have shown, there is considerable evidence to prove that Descemet's membrane is the product of the endothelial cells lining it. It would seem probable, therefore, that the fibres of the ligamentum pectinatum are the products of the endothelial cells lining the spaces of Fontana. In sections of a human fœtal eye in which the iris is just beginning to bud out from the ciliary body and to insinuate itself between the cornea and lens I find that the site of the ligamentum pectinatum is occupied by a collection of round cells radiating from the single row lining the back of the cornea and blending, without any line of demarcation, with others which form the basis of the ciliary muscle. Schlemm's canal can be distinguished as a ring of cells. In a human fœtal eye of about the fourth month the ligamentum pectinatum and ciliary muscle are distinctly differentiated; the former consists of very delicate fibres with cells lining them and spaces between. Though the parts are small there is a portion of the ligamentum pectinatum comparable to what I have described as the cavernous zone in lower mammals. The angle does not extend outwards beyond the termination of Descemet's membrane, and a vertical line drawn backwards through the canal of Schlemm is external to the angle of the anterior chamber, while the large circular artery of the iris and the ciliary processes are internal to it. In a fœtal eye of the seventh month the trabeculæ of the cavernous zone are more spaced out, but a line drawn vertically backwards through Schlemm's canal still passes externally to the angle of the anterior chamber. In the sections of a human fœtal eye at birth I have found delicate trabeculæ of fibres stretching across what would have ultimately become the angle of the anterior chamber, much in the same way as I have found fibres of the ligamentum pectinatum bend down to the root of the iris in the eye of the chimpanzee.

It will be seen, then, that the diminution in the relative size of the cornea to the globe in man's eye, as compared with other mammals, is accompanied by a simplification of the structure of the ligamentum pectinatum and a prolongation of the anterior chamber outwards Further, in the process of development the human eye passes through stages in which the relative size of the cornea to the globe and the relation of parts about the angle of the anterior chamber resemble that met with in animals.

CONGENITAL ABNORMALITIES OF THE LIGAMENTUM PECTINATUM AND THEIR RELATION TO CONGENITAL GLAUCOMA.

The congenital abnormalities which are met with in connexion with the ligamentum pectinatum are of special interest in the connexion which they have with some forms of buphthalmos. It must be borne in mind that the condition of buphthalmos is simply a manifestation of increased tension in a child's eye, and that as there are many causes which may give rise to increase of tension, so buphthalmos may be brought about in a variety of ways. As can be easily understood, congenital defects in the network of fibres at the angle of the anterior chamber, through which the aqueous humour filters out of the eye, would be exceedingly liable to cause some obstruction to its exit resulting in increase of tension. In a congenitally buphthalmic eye, removed from a boy, aged 14 years, I have found the ligamentum pectinatum to be completely absent. The posterior limiting membrane, instead of splitting up into a number of fibres at the angle of the anterior chamber, continued round it and extended for a short distance along the anterior surface of the iris as a hyaline structure lined by endothelial cells which terminated rather abruptly. Externally to the angle of the chamber in this eye there was a broad adhesion of the root of the iris to the sclerotic, to which also the ciliary muscle was attached, but neither fibres of the ligamentum pectinatum nor a canal of Schlemm could be detected.

Out of six congenitally microphthalmic human eyes which I have measured (Table III.) I have found four in which the lateral diameter of the cornea was more than half the antero-posterior diameter of the globe, one in which it was exactly half, and one in which it was slightly less than half. So that in all except one of these eyes the relation of the size of the cornea to the globe resembled the pre natal or pre-human condition.

TABLE III.

No.	Eyeball.			Cornea.	
	Antero-posterior.	Lateral	Vertical	Lateral.	Vertical.
1	19·0 mm.	18·0 mm.	18·0 mm.	9·5 mm.	8·5 mm.
2	17·0 „	18·0 „	16·5 „	8·25 „	7·5 „
3	15·5 „	—	14·0 „	9·0 „	—
4	13·5 „	12·0 mm	12·0 „	8·5 „	5·5 mm.
5	19·0 „	20·0 „	20·0 „	11·5 „	10·5 „
6	20·0 „	20·0 „	20·0 „	11·0 „	10·5 „

No. 2 in the above table was an eye which had coloboma of the iris, displacement of the lens backwards, and other congenital defects (a full description of it is published in the Transactions of the Ophthalmological Society of the United Kingdom, vol. xiii, p. 116). In sections of it the extreme angle of the anterior chamber is seen to be almost on a level with the termination of Descemet's membrane. Directly this membrane has split up into the ligamentum pectinatum some of the fibres of the latter curve back almost at a right angle and pass to the root of the iris. Between the trabeculæ of the ligamentum pectinatum nearest the angle of the anterior chamber the spaces are large. A line drawn vertically backwards through the canal of Schlemm passes through the ligamentum pectinatum, not through the angle of the anterior chamber. The position of the ciliary processes is much distorted owing to the faulty position of the lens.

No. 3 in the table was an eye with a congenitally persistent and patent hyaloid artery and fibrous tissue formation in the vitreous chamber (a detailed description of it is given in the Royal London *Ophthalmic* Hospital Reports, vol. xiii., p. 92). In sections of it the canal of Schlemm is seen some distance externally to the angle of the anterior chamber. The ciliary processes and large circular artery of the iris are well external to a line drawn vertically backwards through it. There is a well-marked cavernous zone to the ligamentum pectinatum.

No 4 in the table was a microphthalmic eye, a description of which I will give later. In it the condition of the ligamentum pectinatum and the relation of parts about the angle of the anterior chamber are seen to be similar to that in No. 3

No. 5 in the table had considerable defect in the development of the iris in its whole circumference, which led to its being described clinically as a case of irideræmia (a detailed description of it is published in the Transactions of the Ophthalmological Society, vol xiii., p. 128). The condition of the ligamentum pectinatum in this case closely resembles that met with in the ungulata. In some sections portions of the fibrous tissue from the anterior part of the iris seem to pass forwards to the posterior surface of the cornea in the position where Descemet's membrane ends and the ligamentum pectinatum begins. Externally to this prolongation forwards of iris tissue are some irregular trabeculæ with large spaces between them, and anteriorly and externally to this cavernous zone are the laminated fibres of the ligamentum pectinatum with slit-like spaces between them.

In these eyes the structure of the ligamentum pectinatum and the relation of parts about the angle of the anterior chamber seem to have remained in their fœtal condition and to have simulated that met with in lower mammals. Probably on account of the smallness of the eyeballs these abnormalities in the filtration area did not cause sufficient obstruction to the exit of the aqueous humour to give rise to increase of tension. In several congenitally buphthalmic eyes bands of adhesion have been seen stretching across the angle of the anterior chamber between the root of the iris and the periphery of the cornea. These sometimes consist of delicate fibres only and are sometimes quite broad adhesions. As the eyeball enlarges and the anterior chamber becomes deepened these adhesions may break through, then loose tags of fibres are met with. Mr. Richardson Cross[21] published the description of a careful microscopical examination which he had made of three congenitally glaucomatous eyes Speaking of the filtration area in these eyes he says: "There was in No. 1 a definite adhesion of the root of the iris to the ligamentum; No. 2, no definite adhesion, but strands of tissue suggestive of a former contact of iris and cornea which has given way; No. 3, distinct block of considerable width occluding the angle" I have elsewhere described these adhesions as due to a congenital failure in the complete separation of the anterior surface of the iris from the posterior surface of the cornea. This they certainly are, but the more extended examination which I have recently made of the eyes of animals leads me to think that some of them are better spoken of as an abnormal persistence of the pre-human or pre natal condition of the ligamentum pectinatum.

ARRANGEMENT OF PARTS ABOUT THE ANGLE OF THE ANTERIOR CHAMBER IN BIRDS, REPTILES, AND FISH.

Before passing from the consideration of the arrangement of parts about the angle of the anterior chamber I wish to refer briefly to the examinations of this region of the eye which I have made in animals other than mammals. In birds, in whom the cornea is very convex, the front portion much prolonged forwards, and the anterior chamber very deep, the ligamentum pectinatum is an extensive structure. Thus in a pigeon's eye I find it to consist of a number of radiating delicate fibres and branching cells. Starting at the sclero corneal margin a little anterior to the level of the root of the iris it extends backwards a considerable distance between the striated muscle of Crampton and the portion of the ciliary body connected with the ciliary processes. The canal of Schlemm is large and in the sections remains widely open. In a snake's (coluber natrix) eye the ligamentum pectinatum is seen as a definite collection of fibres stretching from the back of the cornea to the rudimentary ciliary body and the canal of Schlemm is a channel of considerable size. In fish, in which the anterior portion of the eye is much flattened and the anterior chamber very shallow, the arrangement of parts about its angle is of a much simpler character, though they vary considerably in different species. Thus in a carp (carassius auratus) I find at the angle of the anterior chamber, filling a considerable part of the space between the iris and posterior surface of the cornea, a mass of large endothelial cells. No canal of Schlemm is present, but at one part of the circumference of the chamber large blood channels on the surface of the choroid extend forwards between this mass of cells and the iris, and their lumen is only separated from the chamber by a thin vessel wall. In the other teleostean fish which I have examined this mass of cells at the angle of the chamber is much less extensive, the cells themselves being elongated, sometimes branching and forming a network. In none have I met with any regular canal of Schlemm, only the prolongation forwards of a choroidal vessel as above described. In the elasmobranch fish the cells at the angle of the chamber branch more and form a more pronounced network. In the lesser spotted dog fish (scyllium catulus) in the portion of the chamber in the neighbourhood of the campanula and of the ocular cleft, there are some fibres lined by cells which present an arrangement much like the ligamentum pectinatum in mammals, and external to it is a large channel which can be traced back to communicate with the choroidal and anterior perforating vessels.

---

[21] Transactions of the Ophthalmological Society of the United Kingdom, vol xvi.

The Ciliary Body the only Source of Intra-ocular Nutrient Fluid in Mammals.

In man and other mammals anatomical, clinical, and experimental evidence goes to show that the fluid which circulates in the vitreous and aqueous chambers, and which gives nutriment to the lens, is secreted by the ciliary body. In them it would seem that this is its only source and that the other vascular structures in the eye play no part in its production, for we find that each of them may be absent without any diminution of the intra-ocular tension taking place. In cases where the iris is absent congenitally or as the result of traumatism normal tension is as a rule fully maintained. So also is it when the retinal circulation is completely blocked by embolism of the central artery, or when there is almost complete congenital absence of the choroid, as in a remarkable case shown at the Ophthalmological Society by J. Tatham Thompson last year.[22] In it ophthalmoscopically the fundi presented throughout the appearance of dazzling white sclera, with retinal vessels coursing over it as seen in coloboma of the choroid, no chorio-capillaris or red reflex being seen except at the macular region. The following is a case in which as the result of the operation of optico-ciliary neurectomy, performed for the relief of pain in glaucoma, the retina and choroid became completely atrophied and yet the tension remained increased.

The patient was a man, aged 44 years, who had had an iridectomy performed on the eye for acute glaucoma which did not, however, relieve the tension. The eye became blind and the pain continued but he refused to have it removed, so five months after the iridectomy an optico ciliary neurectomy was performed. The pain was then for a time relieved, but two years later it had again become so severe that he consented to have the eye excised. The tension at that time was noted as + 3 On pathological examination of the eyeball the lens, which was clear, appeared to be healthy. The vitreous was only slightly shrunken. The choroid and retina, as far forwards as the equator of the globe, were most extremely atrophied. Microscopically no blood-vessels could be detected in the former, its elastic lamina being the only part of it that could be made out, while the latter was represented by a strand of fibrous tissue with a few scattered pigment epithelial cells in it. In front of the equator the atrophy of these structures was less marked; a few blood-vessels were present in the choroid, while in the retina the two nuclear layers could be differentiated though just behind the ora serrata it had some cystic spaces in it. The ciliary body was not more atrophied than was to be expected in a case of glaucoma of such long standing.

Comparative Anatomy of the Ciliary Body.

In other animals than mammals and in the human fœtal eye there are other, sources for nutrient supply to the intra-ocular structures in place of, or in addition to, the ciliary body. In eels both the common and conger (anguilla anguilla and conger vulgaris) and in a species of carp (carassius auratus) I find there is no ciliary body, no pars ciliaris retinæ. The retina proper ends at the base of the iris and is then continued, on the back of that membrane, as a single row of cells which are at first unpigmented and only become pigmented a short distance from where they turn round at the tip to join the outer deeply pigmented layer of the secondary optic vesicle. In the other teleostean fish, of which I have examined sections—viz , whiting (gadus merlangus), cod (gadus morrhua), mackerel (scomber scombrus), and plaice (pleuronectis platessa)—the termination of the retina does not extend quite so far forwards, it does not quite reach up to the root of the iris, and whereas in the former it extends as far as, or farther than, the anterior margin of the cartilage in the sclerotic, in these latter it is situated behind that point. The pars iridis retinæ has, however, the same arrangement. Amongst the elasmobranch fish I have sections from the thornback (raja clavata), the lesser spotted dog-fish (scyllium catulus) and the spring dog-fish (acanthus vulgarus). In them I find the displacement backwards of the anterior termination of the retina still more marked. The area which exists between it and the root of the iris is thrown into shallow folds laterally and has some slight elevations and depressions antero-posteriorly. The inner row of cells which line this area, which may be regarded as the pars ciliaris retinæ, are unpigmented, whilst both layers of the secondary optic vesicle on the back of the iris are pigmented. Immediately outside the pigmented layer of the rudimentary ciliary body large blood-vessels are seen. In sections of the spring dog-fish passing across the campanula elevations and depressions much more pronounced and closely resembling the ciliary processes in a mammal's eye are met with.

I have sections of the eyes of the following reptiles: the land tortoise (testudo Græca), the slow worm (anguis fragilis), the sand lizard (lacerta agilis), and the common ringed snake (coluber, natrix). In all except the last the ciliary body is represented by a short area, without any elevations or depressions, situated between the termination of the retina and the root of the iris, which is lined by a single row of unpigmented cells inside the pigment epithelial layer. In the snake there is a well-marked fold protruding inwards in the ciliary region lined by columnar-shaped unpigmented cells.

The source of the intra-ocular nutrient fluid in animals, in which there is no ciliary body or in which it is only very rudimentary, can only definitely be determined by experiment. The following anatomical points are, however, very significant. In fish the anterior chamber is comparatively very shallow and the amount of aqueous humour very small. In all those of which I have examined sections the blood-vessels in the iris situated immediately external to the pigment epithelium are large and numerous. In eels I find blood-vessels attached to and forming a network in the hyaloid membrane of the vitreous humour. The main trunk from which these vessels are derived passes in from the choroid along the lower border of the optic nerve through a cleft in the two layers of the retina. In the other teleostean fish which I have examined the line of the ocular cleft in the retina is discernible in its whole length. Blood-vessels pass through it, forming a vascular process which projects slightly into the vitreous chamber. These vessels start from a rete mirabile which is met with in the choroid of these fish surrounding the optic nerve, and which has been termed the choroidal gland. In the elasmobranch fish in which ciliary processes are met with there is no rete mirabile in the choroid and no persistent cleft with a projecting vascular process.

In many reptiles a collection of blood-vessels termed the falciform process protrudes into the vitreous chamber which in birds is modified into the pigmented plicated structure called the pecten. I have bleached sections of the pecten from a cock's eye. I find it composed of some large main blood-vessels and many very small ones the latter having entirely cellular walls. In fact, it closely resembles in structure the choroidal coat of which it is a prolongation, having, however, a rather finer capillary plexus. Birds, therefore, not only possess well-formed ciliary processes but also a special vascular arrangement in the vitreous chamber. In neither of the two lowest and very exceptional mammals the ornithorrhynchus and the echidna is any trace of a pecten to be found. The ciliary processes in these animals, though not so markedly convoluted as in other mammals, show in antero-posterior sections many well-developed folds. The length and amount of plication of the ciliary processes vary considerably in different mammals, but in all except the quadrumina the extent of the non-plicated area of the ciliary body is markedly less than in man.

---

[22] Transactions of the Ophthalmological Society of the United Kingdom, vol. xix., p. 140.

Development of the Ciliary Body in the Human Eye.

In a human fœtal eye of the sixth week no iris or ciliary processes can be detected. The cells composing the outer layer of the secondary optic vesicle are not pigmented and the inner layer, which is composed of undifferentiated round cells with large nuclei, is as thick at its anterior termination near the sclero-corneal margin as elsewhere. Even at this early age a blood channel is to be detected passing through the cleft in the secondary optic vesicle into the rudimentary vitreous humour. At the tenth week the anterior termination of the secondary optic vesicle, which lies for some distance in close contact with the sides of the lens, has begun to insinuate itself between the lens and cornea to form the posterior layers of the iris. It has also a little further back, where it lies in contact with the sides of the lens, become slightly corrugated, forming the commencement of the ciliary processes. Its outer layer is by this time deeply pigmented and its inner layer, from the point where it first touches the lens forwards is much thinner than elsewhere, though it apparently consists of more than one row of cells. It remains unpigmented until just before it begins to turn round to join the outer layer. The blood-vessels in the posterior part of the fibro-vascular sheath of the lens are by the tenth week well developed, but I am unable in my sections to detect any in the anterior part of the sheath By the fourth month the ciliary processes have considerably grown; their apices still touch the sides of the lens. The inner layer of the secondary optic vesicle covering them, as in the adult, consists of a single row of unpigmented cells, while on the inner surface of the iris they are pigmented, not, however, so deeply pigmented as they become later. The ora serrata of the retina is situated where the ciliary processes end posteriorly, there being no non-plicated area to the ciliary body. The non-plicated portion of the ciliary body commences to form after the fourth month, gradually lengthening, and the ora serrata gradually being displaced further and further back until the eyeball reaches its full dimensions. The plexus of blood-vessels around the lens I have found still patent in sections of the fœtus at the sixth month: by the seventh month they have quite disappeared. In many congenital microphthalmic eyes which I have examined the non-plicated portion of the ciliary body is seen to be relatively smaller than the rest of the structure

Microphthalmic Eye with Persistent Fœtal Vascular System and Absence of Ciliary Processes.

I have only met with one human eye in which there was anything approaching complete absence of the ciliary processes, and in it the vascular system of the vitreous and lens which exists during fœtal life had failed to become obliterated, its vessels remaining patent and carrying blood. It was a congenitally microphthalmic eye removed from a child two months old by Dr Hector Mackenzie of Torquay, to whom I am indebted for the specimen. It measured only 12 millimetres antero-posteriorly and 11 5 millimetres vertically and transversely. The cornea was clear but small, measuring six millimetres transversely. No iris could be seen through it. The lens appeared opaque and calcareous Microscopical examination of sections of the eye show an exceedingly small rudimentary iris, better formed on one side than on the other. Where best developed it does not measure more than one millimetre in length but possesses a sphincter muscle On the opposite side no sphincter muscle is to be seen; the pigmented epithelium turns forward at the tip to form a nodulated mass. Extending from the anterior surface of the rudimentary iris on one side across the pupil in contact with the anterior surface of the lens to the anterior surface of the iris on the other side is a thin membrane composed mainly of flattened cells with large nuclei. Extending also from the anterior surface of the iris round its pupillary margin and backwards to the sides of the lens is a membrane composed in part of the same flattened cells but having in it besides a plexus of blood vessels. These vessels in the sections are seen to be patent and to contain blood corpuscles; they can be traced forwards to the stroma of the iris, where they join the blood-vessels in that structure Continued backwards they are seen to start from the posterior pole of the lens, where an artery, passing through the centre of the vitreous, breaks up in a thin membrane into numerous branches. The lens is very small and presents a very irregular outline; its nucleus is the only part in which the lens fibres appear well formed; in the cortical portions there is much irregularly arranged hyaline substance. Cells line the whole of the posterior as well as the anterior part of the capsule. At the anterior pole the capsule is much corrugated and on its inner surface is some dense laminated tissue with flattened cells between the laminæ and calcareous deposit, like what is usually met with in anterior polar cataracts. A ciliary muscle is present composed entirely of longitudinally arranged spindle-shaped cells. Its inner surface forms an even curve lined by pigment epithelial cells. On either side of the sections only one small knob-like projection is seen to protrude inwards from it.

The unpigmented layer of cells forming the pars ciliaris retinæ, together with some pigmented cells and the anterior extremity of the retina in the region of the ora serrata, are seen to be in great part in contact with the fibro-vascular sheath surrounding the lens. The sides of the lens, owing to its small size, are separated some distance from the ciliary body. Nowhere is the unpigmented layer of the pars ciliaris retinæ seen in contact with the pigmented layer. The retina at the ora serrata is also separated from the choroid; it is well formed but has several rucks in it radiating from the optic disc. The choroid shows no abnormality. The central artery of the vitreous starts from that in the optic nerve; it is for a short distance surrounded by a sheath composed of long spindle-shaped cells, but anteriorly lies without any sheath in a canal separated only by a hyaline membrane from the vitreous. The detached folds of the pars ciliaris retinæ and the retina itself at the ora serrata where they lie in contact with the fibro-vascular sheath of the lens have cellular connexions with it, while in places very much elongated cells can be seen, apparently partly developed fibres of the suspensory ligament.

The probable explanation of the appearances of the ciliary body in this eye is that at the stage of fœtal life when the portion of the secondary optic vesicle which comes to line the ciliary body lay in contact with the sides of the lens adhesion formed between them which should later have developed into fibres of the suspensory ligament. Owing, however, to the persistence of the blood-vessels in the sheath these adhesions became of a tougher character than usual; consequently when the ciliary body in the process of growth became separated from the sides of the lens, instead of these adhesions stretching out into fibres, a part of the inner layer of the secondary optic vesicle became torn from the outer layer and remained in contact with the lens.

I have previously had the opportunity of examining and recording the appearances of several eyes in which the central artery of the vitreous had remained persistent and patent, but in none of these have I been able to trace the branches into which it broke up round the sides of the lens to join the vessels of the iris, as in this case In the specimens which I have previously examined, so far as I could make out, the vessels terminated in a mass of fibrous tissue in the anterior part of the vitreous. In the present case there is none of this abnormal fibrous tissue formation in the vitreous.

Microphthalmic Eyes with Cystic Protrusions.

The case just recorded is an example of a microphthalmic eye without any defect in connexion with the fœtal cleft; in it the choroid and sclerotic were complete and well formed. In many microphthalmic eyes there is an imperfect closure of the cleft, accompanied by a protrusion of a portion of the retina through the gap Sometimes the protuberant retina becomes distended into a cyst Such a cyst may be so large and the eyeball with which it is connected so small that the latter is clinically completely concealed from view. The apparent absence of the eyeball in such cases has led to some of them being described as cases of anophthalmos, a title which, strictly speaking, is not applicable Of recent years quite a number of records have been published of the microscopical appearances of microphthalmic eyes with protrusions of retinal tissue I have myself recorded the details of seven such eyes, and Kundrat, Rindfleisch, De Lapersonne, Gallemaerts, Czermak, Mitvalsky and Hess have recorded others. A study of the descriptions of all these specimens shows that though they are alike in being microphthalmic eyes with a protrusion of retinal tissue through a gap in the choroid and sclerotic, they present considerable variations, both as regards the character of the protrusion and as to the state of development or mal-development of the other structures of the eyeball. The protuberant portion of retina consists of varying amounts from simply a knuckle of tissue to quite two-thirds of that membrane. In some cases it forms a solid mass surrounded and intermixed with bands of fibrous tissue. In others folds of retina have become distended into one or more fluid-containing cystic protrusions which are bounded externally by a fibrous-tissue coat and have a lobulated outline

The degree of development of the protuberant retina is also very different in different cases. When folds of it have become distended in the form of cystic protrusions it may be so atrophied as merely to be represented by a few groups of nuclear bodies and a little retiform tissue. On the other hand, it may remain so well developed that some of its different layers are easily distinguished. In the latter cases it is found that sometimes the inner surface of the retina is turned towards the interior of the cyst, and at other times just the reverse, the inner surface of the retina being directed towards its fibrous outer wall. The region of the globe in which the protrusion is situated is nearly always its lower and posterior part, sometimes a little further forwards than others. In one case, besides the gap in the sclerotic there was a considerable deficiency in the outer sheath of the optic nerve.

Speaking generally, the larger the amount of the retinal protrusion the smaller and more imperfectly developed is the eyeball. When the protrusion is not very extensive the eyeball may present little external evidence of malformation beyond its defect in size. The lens and vitreous may also appear quite normal. On the other hand, there are numerous congenital defects which may be met with in association with it, such as vascularity of the cornea, formation of cartilage in the sclerotic, coloboma of iris, persistent pupillary membrane, displacement of ciliary processes, cataract, persistence of blood-vessels in the vitreous and formation of fibrous tissue in it, detachments of the retina elsewhere than at the protrusion, and hyaline nodules in the choroid.

In considering the causation of this congenital malformation I would first like to point out that in none of the seven specimens which I have examined is there anything which would lead me to suppose that the changes shown were inflammatory in origin. In one case there were some collections of round cells found in the cyst wall which might have been inflammatory; if so they were of recent production, and as the eye was not removed until the patient was 18 years old they cannot be considered as having had anything to do with the causation of the congenital defect. I lay stress on this point because Deutschmann in 1881, from his investigation of a case of bilateral coloboma of the iris and choroid in a rabbit, advanced the theory, which has been widely accepted and quoted, that so-called arrests of development were only changed developments of the eye the result of intra-uterine inflammation. Hess brought forward several cases which, like those which I have examined, go to show that inflammation has very much less to do with the production of congenital malformations than has generally been supposed. The difference in the position of the retina in these cases suggests that they are not all produced in precisely the same way. When the normal outer surface of the retina is external in the cyst it is possible, as Alt has suggested, that part of the lower wall of the globe, where there was a defect in the choroid and partial defect in the sclerotic, may have been stretched before the intra-ocular pressure and the lining retina pushed into the depression formed. Where, however, the normal outer surface of the retina is towards the interior of a cyst and where the amount of retina which protrudes is very large, such an explanation cannot be accepted, and Kundrat's view, that the cystic formations are due to the projection during development of a portion of the retinal tissue through the fœtal cleft into the subjacent mesoblastic tissue, would seem more applicable. The retina in the human fœtal eye is normally thrown into folds and it is not difficult to understand how, as the result of some imperfect development of the vitreous humour or delayed closure of the cleft, one or more of these folds of the inner layer of the secondary optic vesicle might become extruded through the fœtal ocular cleft into the surrounding mesoblast, and subsequently become expanded into one or more fluid-containing cysts.

A CASE OF INTERSTITIAL FIBROID TUMOUR SLOUGHING "EN MASSE" AND SOME OTHER CASES OF FIBROID TUMOURS OF THE UTERUS.[1]

BY ARTHUR H. N. LEWERS, M.D. LOND.,
OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

AMONG the following nine cases of fibroid tumour of the uterus Case 7 is especially interesting on account of its rarity. It was a case where a large interstitial fibroid tumour situated in the posterior wall of the body of the uterus suddenly sloughed and the sloughing mass protruded, not through the os uteri, but through an opening spontaneously formed in the posterior lip of the cervix. As no operation was done the case may, I think, fairly be classed as one in which a fibroid tumour of the uterus was the direct cause of the patient's death. Such a thing is certainly a rare event, though perhaps not quite so rare as is sometimes supposed. The other cases are interesting chiefly as typical examples of current methods of treatment.

Case 1 was one of uterine fibroids complicated by suppurating ovarian cyst; both sets of uterine appendages were removed, and the fibroid has diminished very much in consequence. Cases 2, 3, and 9 are instances of abdominal hysterectomy with intra-peritoneal treatment of the stump. In Case 3 a point of interest was that the fibroid had undergone cystic change and that one cavity so produced contained puriform fluid. Case 4 was one of pregnancy complicated with large subperitoneal fibroid, in which expectant treatment was adopted with a good result as regards the labour and in which at present symptoms are absent. Cases 5 and 6 illustrate the removal by morcellement of submucous fibroids from the cavity of the body of the uterus after dilatation of the cervix; and Case 8 is an example of myomectomy for large subperitoneal fibroid with intra-peritoneal treatment of the stump. In this case the diagnosis between fibroid and ovarian tumour was doubtful till the abdomen had been opened.

CASE 1. *Suppurating ovarian tumour (left side) and fibroid tumours of the uterus; ovariotomy (left side) and removal of uterine appendages on the right side; marked diminution in size of the fibroid after operation with complete relief of symptoms.*—The patient, a single woman, aged 37 years, was admitted under my care into the London Hospital on Jan. 11th, 1897. She was sent to me by Dr. Deane of Leytonstone. About two years previously she noticed that the lower abdomen was bigger than it ought to be, but she never felt any particular lump there. For the previous two years the quantity lost at the menstrual periods had been excessive and for the previous month there had been a constant sanious discharge. A month previously she noticed swelling of both legs, principally the left, also aching in the legs. Both conditions were somewhat relieved by lying down. During the same time (one month) there had been pain in the lower abdomen, which was chiefly referred to the left iliac region. The catamenia began when she was fourteen years of age and had recurred regularly every four weeks till the beginning of the present illness. The quantity lost was moderate and there was very little pain at the periods; what little pain she had occurred on the first day of the period and was relieved as the flow became established. Her general health had been good till the present illness began.

On admission the patient was found to be thin, sallow-looking, and anæmic. On abdominal examination a hard irregular swelling was felt in the lower abdomen rising out of the pelvis and reaching half way to the umbilicus. It extended outwards to within two inches of the left anterior superior iliac spine. On vaginal examination the tumour in the hypogastric region was found to be the body of the uterus, considerably enlarged, and a good deal less moveable than it should be. There was a softer swelling in the left lateral fornix such as might be produced by a dilated Fallopian tube or a small ovarian cyst. The sound passed three inches and five eighths of an inch with some difficulty. The case appeared to me to be one of uterine fibroids probably complicated by a small ovarian cyst on the left side. The patient was kept in bed for nearly three weeks prior to operation with the view of improving her general condition, and during this time the swelling in the legs became much less marked.

---

[1] A paper read before the Harveian Society of London on Nov. 16th, 1899.

Operation was performed on Feb. 5th, 1897. The abdomen was opened in the usual way. The central tumour, as was expected, was then seen to be the uterus enlarged by fibroids, and there was an ovarian cyst on the left side of the size of a cocoanut, which was intimately adherent to the sigmoid flexure and in the pelvis. During the separation of the cyst it burst and pus escaped. A satisfactory pedicle was obtained and the ovarian cyst was removed in the usual manner. The uterine appendages on the right side were practically normal, but I thought it well to remove them with the object of influencing the uterine fibroids As some pus had escaped during the removal of the cyst the peritoneum was washed out with warm normal saline solution and a drain of iodoform gauze was left in the pelvis; the rest of the wound was closed as usual Examination of the parts removed from the left side showed that the left Fallopian tube was greatly thickened so as to be equal in diameter to the ball of the thumb. No trace of its fimbriated extremity could be seen, the outer end of the tube being firmly attached to the suppurating ovarian cyst, but not communicating with it. The patient made an uneventful recovery and left the hospital on March 6th, 1897.

I have seen the patient on several occasions since and she has remained quite well. There was a slight show about June, 1897; then nothing was seen for nine months, then she had three periods lasting ten days, six days, and four days respectively When I saw her in Feburary, 1899, there had been nothing seen since March, 1898. The case illustrates that the establishment of the menopause after removal of the uterine appendages may be gradual and be spread over an interval of 18 months or two years. The tumour has diminished in size very much. Only on deep pressure can anything be felt of it at all on abdominal examination alone.

CASE 2 *Abdominal hysterectomy with intra peritoneal treatment of the stump; uterus enlarged by multiple fibroids forming a large abdominal tumour extending to the epigastric region, good recovery.*—A married woman, aged 43 years, was admitted under my care into the London Hospital on Nov. 11th, 1898, She was sent to me by Dr Fennell of Tulse hill The patient stated that she had been married five years but had not been pregnant. Her husband was 69 years old. The catamenia began when she was about 15 years of age and had recurred quite regularly till three months previously. She always had lost a rather large quantity at the periods and as a rule they lasted from seven to nine days. Till ten years previously the periods were accompanied by biliousness and sickness. During the three months preceding admission the periods had occurred every fortnight and had lasted a fortnight, so that there had been an almost continuous loss of blood. The last period occurred a month previously and lasted three weeks. There was then a week without any loss and then it began again. There had been no dysmenorrhœa. She first noticed a swelling in the abdomen 12 months previously but thought it was due to flatulence. Six weeks previously she consulted her own medical man as the swelling had rapidly increased. She had noticed that the swelling became larger just before the period and decreased slightly when the flow began. She had lost flesh of late.

On examination the abdomen was seen to be prominent especially on the right side from the epigastrium downwards The surface of the prominence was slightly irregular. The highest point of the tumour was 13½ inches from the pubes measured along the convexity The girth at the umbilicus was 34 inches; three inches lower down it was 35 inches. The umbilicus was level with the skin On palpation a hard irregular tumour was felt rising from the pelvis and reaching the level mentioned above in the epigastric region. One portion of the tumour which measured three inches by two inches just to the right of the umbilicus could be moved rather freely on the deeper seated portion of the mass. The whole tumour could be moved a little from side to side and also about one and a half inches upwards. A well-marked uterine souffle could be heard over various parts of the tumour. On vaginal examination there was seen a good deal of recent blood about the parts. The hymen was tight and the vagina was greatly distended The vaginal portion of the cervix was so much drawn up that the os uteri could only just be touched even when the tumour in the abdomen was pushed towards the pelvis. Under the circumstances I did not try to pass the sound as it seemed impossible to do so without giving the patient an anæsthetic and the diagnosis was obvious without it.

Operation was performed on Nov. 13th, 1898. The abdomen was opened by a long median incision extending from the middle of the epigastric region to within one and a half inches of the pubes. The tumour was then brought outside and the upper portion of the incision as far as the umbilicus was then closed with silk sutures. The upper portion of the right broad ligament was then ligatured in two places and the part between the ligatures was divided. The outer of these ligatures was so placed that the right ovary was not removed. The left broad ligament was treated in a similar way and divided, but on this side the ligatures were so placed that the left ovary remained attached to the tumour and was subsequently removed with it. Anterior and posterior flaps of peritoneum were then made, the flaps being stripped to what was judged to be the level of the internal os uteri. The uterine arteries, which could be well seen, were then tied at this level and the body of the uterus with the fibroids was cut away. The stump consisted of the cervix; its cut edges were approximated with stout silk sutures and the peritoneal flaps were then stitched over the stump by numerous interrupted Lembert's sutures. A Keith's drainage tube was inserted and the rest of the abdominal wound was closed. The patient had some slight rise of temperature during the first few days after the operation, but at the end of the first week the temperature was normal. She subsequently did quite well and she left the hospital on Dec. 14th, 1898.

The tumour weighed 7 pounds 11 ounces some time after it had been cut into and after what fluid it contained had drained away. It consisted of the uterus greatly enlarged by multiple fibroids The cavity of the uterus was much elongated, so that the sound would have passed seven or eight inches The specimen illustrated beautifully every variety of fibroid except submucous fibroids with distinct neck and fibroid polypi; but peritoneal fibroids, interstitial fibroids, and tumours partly submucous were all represented.

I heard from this patient a year after the operation that she was in very good health and during the past year had been able to nurse her invalid husband, which she certainly could not have done in the state of health existing prior to the operation.

CASE 3. *Large abdominal tumour composed of uterus with large sub-peritoneal fibroids, one of which had undergone cystic change with formation of puriform fluid; abdominal hysterectomy with intra-peritoneal treatment of the stump; good recovery.*—A single woman, aged 38 years, was admitted into the London Hospital under my care on Jan. 31st, 1899. She was sent to me by Dr. Surtees Sumner of Guilford street, Russell-square. The patient first noticed a small lump of the size of a pigeon's egg in the right side of the abdomen five years previously. It then caused no pain or inconvenience and she did not trouble to consult a medical man about it. The lump gradually increased in size and about three years previously she thought it moved to the left side. It had increased more rapidly during the last year and had become very hard. She had also had pain in the region of the tumour just before menstruation. On Dec. 31st, 1898, she was seized with a violent attack of pain in the abdomen; she then sent for her medical adviser and she was in bed about a week. The pain was so severe that she could not stand upright. It was relieved by hot flannels and hot-water bottles. She had a second attack of pain similar to the first, but not so severe, a week before admission. Her general health had been as a rule good. In 1892 she had influenza followed by pneumonia and phlebitis During the last year she had lost flesh considerably. Menstruation began when the patient was 16 years of age and she had been quite regular every four weeks, losing a normal quantity and not having much pain. She had not menstruated since November, 1898. On admission the abdomen was found to be irregularly prominent, the most prominent part being at the right of, and a little below, the umbilicus. On palpation the greater part of the abdomen was found to be occupied by a hard irregular tumour. It had a fair degree of mobility from side to side and also slight mobility up and down. Nothing was heard over the tumour. On vaginal examination the hymen was found to be extremely tight and was torn by examination. The cervix was high up, far back, and consequently difficult to reach A hard mass was felt in the anterior fornix, apparently continuous with that in the abdomen; it had some degree of mobility. The sound was passed with great difficulty a distance of three inches.

Operation was performed on Feb. 2nd, 1899. The abdomen was opened by the usual median incision, beginning just below the umbilicus to within one and a half inches of the pubes, but before the tumour could be brought outside the wound had to be extended nearly to the ensiform cartilage. When the tumour had been drawn outside the wound the upper part of the incision as far as the umbilicus was at once closed. The remaining steps of the operation were similar to those in Case 2. The left ovary was not removed.

The tumour weighed nine pounds. It consisted principally of two subperitoneal fibroids of unequal size attached to the body of the uterus, which was moderately enlarged. The larger of these was attached to the uterus by a pedicle so thin that it could be rotated through almost a complete circle The smaller was attached by a thicker, shorter pedicle, but it could be rotated through two-thirds of a circle. The dimensions of the larger fibroid were: length, nine inches; breadth, six and a half inches; and thickness, five inches. The dimensions of the smaller were six and a half inches by four and a half inches by three inches respectively. There was besides a small subperitoneal fibroid of the size of an egg attached to the uterus by a pedicle allowing considerable rotation. The portion of the uterus (body) removed with the tumours was three inches long, three inches broad, and one and a half inches thick. On section, several smaller fibroids were seen in the body of the uterus. On section of the larger subperitoneal fibroid it was seen to have undergone cystic degeneration at one place producing a cavity the cut edge of which measured two and a half inches by three inches. This cavity contained pus. The smaller subperitoneal fibroid showed evidence of commencing cystic changes.

The patient made a good recovery and she left the hospital on March 1st. The scar measured seven and a quarter inches.

I have seen the patient once since she went out. She was then quite well and had then been able to resume her work.

As regards the attacks of severe pain which were noticed prior to the operation it appears probable that they may have been caused by the axial rotation of either of the large subperitoneal fibroids, which, as mentioned above, were very freely moveable on the long axis. The pain might also have been due to a loop of bowel getting nipped between the two large subperitoneal fibroids. The larger of these had undergone cystic change at one place with formation of puriform fluid, and, apart from operation, it is practically certain that other serious symptoms must have arisen before long.

CASE 4. *Large subperitoneal fibroid tumour complicating pregnancy; expectant treatment; normal labour; subsequent moderate diminution in size of the fibroid; absence of symptoms at present.*—The patient, a married woman, aged 29 years, was admitted into the London Hospital under my care on April 25th, 1899. She was sent to me by Dr. Dent of Woodford. She stated that she was married 12 months previously and that up till then she had always enjoyed very good health. The catamenia began when she was 13 years old and she had always been regular every four weeks, the period lasting five days. The last period had occurred in August, 1898. The patient believed herself to be eight months pregnant. About six weeks after the last period she noticed a swelling in the left side of the abdomen; it was not very big but she had to let out her clothes. This swelling gradually increased till January, 1893, since which time it appeared to have remained stationary. About December, 1898, she noticed another swelling in the right side of the lower abdomen (the pregnant uterus), and this had continued to enlarge up to the date of her admission. On Jan. 17th she had a sudden attack of pain in the right side of the abdomen. The pain was very severe and lasted for nine hours She had more or less pain for a week after this and then remained free from pain for a month. She then had another attack of pain, not quite so severe as the first and not lasting so long. Since then she had had similar attacks about once a month and had been obliged to remain in bed since January—i e, three months.

I may say that I saw the patient in consultation with her own medical man in January and I diagnosed a large subperitoneal fibroid on the left side complicating pregnancy, and expressed the opinion that there was no reason for interrupting the ordinary course of the pregnancy. On admission the abdomen was found to be irregularly enlarged. There were two prominences divided by a depression; the larger one to the right was the pregnant uterus. The tumour of the left side extended well down into the flank; it met the pregnant uterus in the middle line and extended as low as a finger's breadth from the left anterior superior iliac spine. It was smooth in outline, hard, and slightly tender. There were various areas of resonance between the uterus and the tumour corresponding to the depression between them. As low as the umbilicus the tumours were easily differentiated, but below that level they appeared to merge into one. On vaginal examination there were the ordinary signs of pregnancy and there was no evidence that the tumour encroached on the true pelvis.

On June 7th the patient was delivered naturally of a female child. There was no post-partum hæmorrhage. On the 17th the highest part of the tumour to the left seemed to be about two fingers' breadth below the ribs in the left nipple line. The uterus lay to the right of this swelling but could not be separated from it. The patient went home on June 21st, 1899, with directions to come to the hospital in two or three months. She did so, and on examination then the tumour to the left had become very much smaller, but still formed a swelling that could be felt in the lower abdomen on abdominal palpation alone. It seemed on bimanual examination to be connected with the uterus and to have all the characters of a sub-peritoneal fibroid. As the patient was feeling perfectly well and not complaining of any inconvenience at all I advised her for the present not to have anything done, but to come up to the hospital again if she had any symptoms.

CASE 5. *Menorrhagia and metrorrhagia due to submucous fibroid of the body of the uterus; marked anæmia; dilatation of the cervix and removal of the fibroid by morcellement and enucleation; good recovery.*—A married woman, aged 38 years, was admitted into the London Hospital under my care on May 13th, 1898. The patient was sent to me by Dr. C. O. Scott of Twickenham She had been married four and a half years but had had no children. There was one miscarriage nearly three years previously, when she was about three months pregnant. This followed a slight accident. The patient had not been quite herself since the miscarriage. Any little over-exertion caused her, as she said, "to come on unwell." The bleeding was stopped if she was able to rest. She was regular if she could rest up to Christmas, 1897. The first period after this lasted a fortnight; since then there had been irregular hæmorrhage, only going a week or two between the losses. She had lost a great deal of blood since Christmas and had had severe pain in the lower part of the back.

On admission the patient was very markedly anæmic, the mucous membranes being very white. On examination slight bleeding was still found to be going on; the uterus was enlarged, but the os uteri was not patulous. A specially prepared laminaria tent was inserted with all antiseptic precautions and the next day the patient was anæsthetised and the dilatation of the cervix completed with Hegar's dilators up to No. 26. The finger was then passed into the uterus and a submucous fibroid of the size of an orange was found attached on the posterior wall of the uterus. Although the greater part of the tumour was no doubt projecting into the cavity of the uterus a considerable portion of it was embedded in the uterine wall. The tumour was removed with considerable difficulty by cutting away piece after piece of it with long scissors and enucleating the embedded portion from the wall of the uterus with the finger. The pieces removed were collected and tied up tightly in a layer of gauze in the shape of a ball, thus giving a very good idea of the size of the tumour within the uterus before the operation. I could not detect the presence of any other fibroid. The patient subsequently did very well; she had no rise of temperature after the operation.

CASE 6 *Menorrhagia and metrorrhagia due to submucous fibroid in the body of the uterus; dilatation of the cervix: removal of the tumour by morcellement; good recovery.*—A single woman, aged 44 years, was admitted under my care into the London Hospital on July 14th, 1899. The patient was sent to me by Dr. McMullen of Brixton. She stated that she was quite well and that menstruation was perfectly regular till two years before admission She then noticed that the loss of blood at the periods was greater than it had been before. This went on for a year and did not affect her much. During the past twelve months not only had the loss at the periods increased but she had had losses of blood between the periods These losses at first only occurred occasionally, but latterly she had had a constant loss of slight quantities of blood between the periods and also she had had a dull aching pain in the left iliac region This pain had been worse during menstruation, especially just before the flow became fully established She had not lost flesh but felt somewhat weaker owing to the constant loss of blood

On examination the uterus was found to be distinctly enlarged In the normal position and freely moveable The external os was not patulous there was a small mucous polypus at the external os of the size of a pea The cervix was dilated as in the preceding case and a submucous fibroid of the size of a Tangerine orange was removed by enucleation and morcellement The patient made an uninterrupted recovery and left the hospital on August 16th

CASE 7 *Septicæmia due to spontaneous sloughing "en masse" of an interstitial fibroid in the posterior wall of the body of the uterus, spontaneous extrusion of a portion of sloughing tumour through an opening in the posterior lip of the cervix manual removal of the remainder, continued septic symptoms and death at the end of three months*—A married woman, aged 40 years, was admitted into the London Hospital on July 20th, 1899 The patient was sent to me by Dr Charles Grant She had been married 12½ years and had had one child eight years previously, but had had no miscarriages The patient had never been really strong, but the present illness dated from Christmas, 1898 The first thing that she noticed wrong was that her menstrual period then lasted three weeks as compared with four or five days its previous duration She sent for her medical man who ordered her to stay in bed and gave her some medicine Between Christmas, 1898, and April, 1899 she had had two similar attacks, each lasting three weeks, and which caused her to feel so ill that she was obliged to stay in bed In April, May, and June the periods lasted longer than they should have done, but the loss was not so great as during the attacks above mentioned I saw the patient for the first time on May 30th and found the uterus enlarged by fibroids so as to form an abdominal tumour reaching nearly to the umbilicus The os was a little patulous but the vaginal portion of the cervix was not at that time at all invaded by any of the fibroid tumours The patient was advised to take ergotin pills and a mixture containing tincture of hydrastis canadensis About the third week in July, some six weeks after I had first seen her, her medical attendant wrote to me to say that the patient had an extremely offensive discharge and that on examination he found the upper part of the vagina occupied by a brittle offensive mass so that he was afraid she had cancer The patient was admitted to the hospital a few days afterwards—i e , on July 20th

On admission she was found to have a horribly offensive discharge and the temperature was 101° F She was very anæmic and looked very ill On examination the uterus was felt reaching to within a finger s breadth of the umbilicus The upper half of the vagina was occupied by a large mass generally convex downwards very irregular in places, and very friable so that it could be easily broken down with the finger Under an anæsthetic a better examination was made The external os was a slit-like opening in front of the offensive mass The os readily admitted the finger The anterior lip of the cervix was very thin with a sharp edge, but the posterior lip could not be recognised as such The sloughing fibroid was not coming through the os at all but had evidently gradually made its way through the whole of the posterior wall of the cervix and had then burst through an opening which had formed on the posterior lip of the cervix itself The sound passed five and a half inches The patient was in a profoundly septic condition, as may easily be understood She seemed to me to be in much the same condition as a patient after confinement where the placenta has not been removed and has decomposed, except that in the present instance the decomposing mass was not in the cavity of the uterus at all, but embedded in the posterior uterine wall except the lowest portion of it, which had burrowed through the posterior lip of the cervix, producing the fungating mass occupying the upper part of the vagina All I did in the case was to remove handfuls of the sloughing mass with the fingers the pieces removed weighing two pounds and eight ounces the manipulation was to some extent like that of removing a putrid placenta The "bed" from which the mass was removed was mopped out thoroughly with tincture of iodine and washed thoroughly with iodine water The cavity of the uterus was also washed out with iodine water The uterus which before removal of the sloughing mass had reached to within a finger s breadth of the umbilicus, contracted down like a uterus after a five months miscarriage so as to lie completely in the pelvis Subsequently for a long time vaginal douches of iodine water were given every four hours and the uterus was also washed out once or twice a day for a considerable time The patient was, however, in a profoundly septic condition on admission, and although she lived for some three months after the expulsion of the mass, fever persisted more or less and she finally died worn out by it

The only alternative in the way of dealing with the case when the sloughing fibroid was found projecting through the posterior lip of the cervix as described would have been to let it alone to come away by itself What the chance of recovery would have been with a putrid mass of tissue weighing two pounds eight ounces embedded for the most part in the posterior wall of the body of the uterus may be easily imagined Although the patient finally died three months afterwards I think that removing the mass as soon as possible gave her the only chance of recovery The case appears to me to be an extremely interesting one for many reasons The spontaneous sloughing and extrusion *en masse* of a large intestinal fibroid such as that described is a rare event, I have not myself in nearly 15 years' experience at the London Hospital met with a similar case Again, the direction in which the extrusion took place—i e , through the substance of the posterior lip of the cervix—is a remarkable thing The more natural direction would seem to be through the mucous membrane of the body of the uterus Whether the course of treatment—of ergotin and hydrastis—had anything to do with the sloughing of the mass I cannot say These drugs are very commonly prescribed in cases of fibroids and for long periods of months and even years without producing any such effect Again, I feel little doubt that if abdominal hysterectomy had been performed when I first saw the case the patient would have been alive now The occurrence of such a case illustrates at all events that what may be called the expectant treatment of large fibroids has certain definite risks and that at present it is impossible to say as regards any particular case whether such an accident as sloughing *en masse* is likely to occur or not

CASE 8 *Large subperitoneal fibroid (five pounds and six ounces) with a thick pedicle, adhesions to several inches of intestine removal of the tumour and uterine appendages on both sides (hydrosalpinx left side), good recovery*—The patient, a married woman, aged 50 years was admitted into the London Hospital on July 31st 1899 She was sent to me by Dr. Spencer of Stoke Newington She had been married 24 years and had had three children, the last 17 years previously She had had no miscarriages Menstruation had always been regular and normal up to the time of admission to the hospital The patient stated that she had noticed that the abdomen had been getting larger for the previous two years and much larger during the previous six months She had also had pain in the right side of the abdomen for some time Her general health had usually been good

On admission a large somewhat rounded tumour was felt occupying the greater part of the abdomen and extending to within three and a half inches of the costal angle The tumour was hard and nearly symmetrically situated as regards the middle line, extending outwards on each side to within a short distance of each anterior superior iliac spine The surface of the tumour was slightly irregular The tumour had a considerable range of mobility from side to side, but less in the vertical direction The circumference of the abdomen at the umbilicus was 36½ inches On vaginal examination a lump was felt bimanually to the left which was taken for the body of the uterus, and the sound passed into this lump a distance of three inches I was not sure whether the tumour was a large subperitoneal fibroid or an ovarian tumour

Operation was performed on August 3rd, 1899 On opening the abdomen the tumour was found to be a large subperitoneal fibroid of the uterus attached to the uterus by a pedicle as thick as the wrist A loop of intestine some eight inches long was festooned across the front of the tumour and was adherent to it by broad membranous adhesions containing large vessels In commencing to separate and tie these the surface of the tumour from which the adhesions were detached bled so freely that it was necessary to put an elastic ligature tightly round the pedicle of the tumour. This controlled the bleeding. After separating all the adhesions peritoneal flaps were made from about two inches above the elastic ligature and the tumour (which weighed five pounds and six ounces) was then cut away. On loosening the elastic ligature the cut surface bled freely, but this was stopped by successive silk sutures passed rather deeply and tied as tightly as possible. The flaps of peritoneum were then sewn over the stump. The left Fallopian tube formed a hydrosalpinx and it was accordingly removed. The right uterine appendages were also removed with a view to check the development of other small fibroids. The body of the uterus in this case was not removed. A Keith's drainage-tube was inserted and the rest of the abdomen was closed in the usual way. The patient did perfectly well. Some months after leaving the hospital she came up again to tell us that she continued quite well.

CASE 9. *Uterus enlarged by fibroids forming a tumour rising to two inches above the navel; portion of the tumour firmly fixed by adhesions in Douglas's pouch bulging down the posterior vaginal wall; abdominal hysterectomy with intra-peritoneal treatment of the stump; good recovery.*—A single woman, aged 29 years, was admitted into the London Hospital on August 8th, 1899. The patient was sent to me by my colleague, Dr. G Schorstein. The patient was a Russian Jewess and could speak very little English, so that the history was obtained with some difficulty through an interpreter. She seemed to have had pain in the lower abdomen more or less for three years. The periods had lasted eight days and during the first three days she had lost a great deal of blood. Her pain was much worse during the period. There had been no intermenstrual loss. I believe the obvious enlargement of the abdomen was one cause of considerable concern to the patient.

On examination a firm, rounded, irregular tumour was felt occupying the lower part of the abdomen and reaching to three fingers' breadth above the umbilicus; it extended outwards some four inches from the middle line on each side. The tumour was fairly moveable from side to side but not vertically. Vaginal examination had to be made under anæsthesia as the hymen was perfect and did not admit the finger without tearing. The os uteri was very high up, about half an inch above the pubes and to the right, it ould only be felt by pressing down the tumour. A hard onvex portion of the tumour lay in the posterior fornix ulging down the posterior vaginal wall to within one and half inches of the vaginal orifice. This mass, which evidently formed part of the abdominal tumour, was practically fixed. The sound could only be passed three inches.

Operation was performed on August 18th, 1899. A large incision was made, which extended some three inches above the umbilicus. A large tumour was found in the fundus and posterior wall of the uterus extending well out to the sides, so as to leave very little room for manipulation. There was a second tumour almost distinct from the first growing from the posterior wall of the uterus and lying in the pelvis to which it was firmly adherent. This was the mass that had been felt lying in the posterior fornix on vaginal examination There was also on the right side an ovarian tumour of the size of a goose's egg. On the left side the ovary was larger than normal and slightly cystic. With great difficulty the upper part of the broad ligament was secured and divided on each side; a peritoneal flap was reflected from the anterior wall of the uterus and the uterine arteries were tied. Owing to the tumour described as growing from the lower part of the posterior wall of the uterus being firmly adherent in the pelvis no posterior flap of peritoneum could be made in this ase. The tumour in question was freed from its adhesions, aving a rather extensive raw surface in the neighbourhood Douglas's pouch It was not till after this step of the eration that the uterus could be drawn out of the wound. e uterus and fibroid tumour were removed at the level of internal os. Both uterine appendages were removed h the tumour. The stump was covered as well as possible h the anterior flap of peritoneum, which had been cut g. A Keith's tube was inserted and the rest of the wound, ch measured seven inches in length, was closed as al. The patient made a very good recovery and left the ital on Sept. 19th. I have seen her once some months wards and she was then quite well.

ley-street, W.

ON THE RESTORATION OF COORD MOVEMENTS AFTER NERV SECTION.[1]

BY ROBERT KENNEDY, M.A., D.Sc., M.D.

IT is now well known that after reunion of a nerve by means of suture function may return later, and that not only does this restoration of imply simple return of sensation and of the cap making voluntary movements, but the re-establ of complete localisation of sensation and of coord of movements. When it is remembered that th vidual nerve fibres are supposed to be paths b well-defined centres and peripheral endings it is that so perfect a restoration of function is in respects remarkable. Thus in coapting a divided it is not likely that this can be effected wit great accuracy that the corresponding ends of divided nerve-fibres can be brought into apposition. more likely that in coapting the nerve most of the ends of nerve-fibres which are brought into contact are ends wh do not correspond; and thus it would be expected tha the reunited nerve new paths for the nervous impulses wo be established. And yet, despite this complexity of structu and of function, the reunited nerve seems to be as capable before the division of subserving its functions. In sutur divided nerves, care is usually given to secure that the tw segments are approximated as nearly as possible in their ol relationship Thus the perfect recovery of localised an coordinated function might be due to a majority of the fibres being thus placed in a position for union of corresponding ends to take place.

To investigate this subject, three experiments were performed on dogs, the sciatic nerve being chosen. In two experiments the peripheral segment, before reunion by means of suture, was twisted so as to bring the maximum number of non-corresponding nerve-fibre ends into juxtaposition, while in the third experiment reunion was made as accurately in the old position as possible. The object of this was to ascertain (1) if the time taken for the first evidence of recovery of coordinated movements and the course of development of the same were identical or different in the two cases; and (2) if the resulting cicatricial nerve segments showed microscopically any important differences in the arrangement of the nerve-fibres. In all three experiments, the animal being anæsthetised, the sciatic nerve was divided at the level of the trochanter; but in the first two, before coapting the two ends by suture, the peripheral segment was rotated to the extent of a semicircle. Thus, on coaptation, the fibres of one side of the central segment were brought into apposition with fibres with which formerly they did not connect—i e., the fibres of the opposite side of the nerve. In the third experiment the nerve was divided at the same point and accurate coaptation in the old relationship was effected by suture. The following is the course which the experiments exhibited with reference to recovery of function.

EXPERIMENT 1 *Division of the sciatic nerve at the level of the trochanter; rotation of the peripheral segment to the extent of a semicircle and suture.*—Until the seventh day after the operation the animal showed no sign of returning function. It walked on the limb which was supported by plaster-of-Paris bandages. The paw was left unsupported for examination purposes and until the seventh day while the animal walked on the limb the paw was dragged along the ground with the dorsal surface down. But on the seventh day the paw was first used normally in walking, the plantar surface being placed correctly on the ground. This was taken as evidence of returning coordinated movements. Frequently while walking the paw turned over and the animal rested on the dorsal surface, but on these occasions the normal position was voluntarily regained after a step or two. Restoration of localised sensation could not be ascertained, but undoubted evidence of sensation was obtained on the tenth day. On the fourteenth day the supporting plaster-of-Paris splint was removed and the wound was found to be healed. The animal then used the leg perfectly, almost always placing the plantar surface of the paw on the ground correctly. By the nineteenth day the dog had practically completely recovered from the effects of the operation. On the fifty-fourth day the nerve was again exposed and was found to be united in the position in which it had been sutured. Stimulation above, below, and on the seat of reunion gave the normal contractions in the muscles of the leg.

---

[1] The research is published *in extenso* in the Transactions of the Royal Society of Edinburgh, vol. xxxix., No. 27, 1899, and was communicated by Professor McKendrick.

EXPERIMENT 2. *Division of the sciatic nerve at the level of the trochanter; rotation of the peripheral segment to the extent of a semicircle and suture.*—In a few days the animal was walking about on its splinted leg, but dragging the paw along the ground with the dorsal surface down. On the seventh day it was first noticed that the plantar surface of the paw was correctly placed and, although occasionally turning over on the dorsal surface, it was on these occasions voluntarily replaced in position after two or three steps. By the twenty first day distinct evidence of sensation was exhibited and the recovery of the normal use of the limb was practically complete The physiological examination of the nerve on the thirtieth day showed it to be united in the position in which it was sutured and to have regained its normal irritability and conductivity.

EXPERIMENT 3. *Division of the sciatic nerve at the level of the trochanter; accurate coaptation by suture in normal position*—On the seventh day the animal first showed signs of recovery of function, as for the first time it was then noticed that it walked placing the plantar surface of the paw on the ground. It was not, however, able voluntarily to re-adjust the paw when it happened to turn over with the dorsal surface down. This power was, however, exhibited on the following day. By the eleventh day evidence of sensation was obtained and by the fourteenth day the recovery of function was complete. On the forty-ninth day the physiological examination showed that reunion of the nerve had taken place both anatomically and physiologically.

As regards recovery of function, therefore, these three experiments followed a practically identical course. The microscopic examination of the three sciatic nerves showed the following characters. The central segments showed the characters of the normal sciatic nerve, except in so far that the lymphatic spaces were somewhat distended, thus accounting for the increased thickness of the nerve which was macroscopically evident This character was maintained to within five millimetres of the seat of section. The peripheral segments agreed in showing no old nerve fibres in any part examined either close to the seat of reunion or in the terminal divisions of the nerve. In their place were abundant young nerve-fibres with well-defined characters. Lying between the young nerve-fibres were degenerated remains of the old fibres, showing that Wallerian degeneration had taken place. The cicatricial segments were also all three practically identical in structure. In no case could continuity of nerve-fibres from the central to the peripheral segment be traced in a single section. The arrangement of the young fibres was very irregular, the fibres running a very tortuous course and showing, therefore, in the section cut in all directions. The sections closely resembled the appearance of a neuroma. The microscopic appearances of the seat of reunion leave it, therefore, doubtful whether the restoration of function in the two first cases was due to the re establishment of the old paths for the nervous impulses by decussation in the cicatrix, or to the production of new paths by connexion made between non-corresponding ends of nerve-fibres.

The conclusions from the physiological and histological results of the experiments are. 1. That after section and immediate coaptation of a nerve, restoration of conductivity and of voluntary function may be effected in a few days. 2. That this early restoration of conductivity need not be the result of reunion of the old nerve-fibres—i e, reunion by so called first intention, or without Wallerian degeneration, but may be the result of regeneration of young nerve-fibres in the peripheral segment. 3. That voluntary coördinated movements are regained equally soon, whether the two ends of the divided nerve are united as accurately as possible, so as to bring the corresponding ends of the nerve-fibres into contact as nearly as possible, or whether previously to reunion the peripheral segment is twisted so that when united to the central segment non corresponding ends of the nerve-fibres are brought into contact. 4. That in the latter case the microscopic examination of the seat of reunion leaves it doubtful whether the restoration of function is due to the re establishment of the old paths by decussation in the nerve cicatrix or to the reunion of ends of nerve fibres which do not correspond but which happen to be brought into apposition. 5 That in suturing a divided nerve no trouble need be taken to secure that coaptation of the two segments is effected in the old relationship, the simple approximation of the two ends, no matter in what relationship, being all that is required.

Glasgow.

A BRIEF REVIEW OF OUR KNOWLEDGE CONCERNING BACKWARD DISPLACEMENTS OF THE PELVIC ORGANS.

BY FREDERICK HOLME WIGGIN, M.D.

THE most frequent causes of displacements of the pelvic organs are injuries of the perineum occurring during childbirth and septic infection of the uterine tissues, generally due to one of three causes—namely, abortion, gonorrhœa, or the intra-uterine use of unsterilised instruments. Could these etiological factors be done away with—and in time let us at least hope that they will be, for all of them are either preventable or amenable to proper methods of treatment—there would be little left for the gynæcologist to do, and womankind, to say nothing of mankind, would be not only benefited but made happier thereby. As anterior uterine displacements are seldom pathological we will pass them by and come at once to backward displacements of the organ. These may be congenital or they may occur during early life as a result of an improper mode of life, of the use of improper clothing, of falls, blows, the lifting of heavy weights, and, I believe, more frequently still from neglect to empty the bladder at proper intervals of time, the over-distension of this viscus tending to push the uterine body backward. In married women the trouble is chiefly due to injuries of the perineum and inflammatory disorders of the uterus, tubes, and ovaries. Retroflexion of the uterus occurs generally after the occurrence of septic infection following an abortion or childbirth, and is frequently due to the fact that the convalescence following these conditions is not sufficiently prolonged.

The symptoms which patients complain of who are suffering from backward uterine displacements are backache, more or less severe, referred to the upper portion of the sacrum, a feeling of weight extending down to the thighs, general bodily weakness, inability to stand long or walk far, pain at the top of the head and in the ovarian region, dysmenorrhœa, leucorrhœa, and frequently menorrhagia.

The diagnosis must of course be finally made by means of a bimanual vaginal or rectal examination, with the patient in the dorsal position, the patient having first been requested to empty her bladder. When the finger is introduced into the vagina if this condition exists the cervix will be found to point either towards the symphysis pubis or to lie parallel to the long axis of the vagina instead of being at right angles to it, as it should. Often more useful information about the pelvic organs can be obtained by means of a rectal examination than by a vaginal one, and in unmarried women it should always be first made.

The treatment of backward uterine displacements may be either by the use of mechanical supports or by operative means. The former method of treatment is less often used than it formerly was, as it is palliative rather than curative. It is indicated only in those cases where the condition is due to relaxation of the tissue and ligaments, or where operative measures are contra-indicated or declined. It should not be used in any case where there is a laceration of the cervix or any inflammatory disease, past or present, of the uterus and its appendages, or where there is a prolapse of one or both ovaries. If it is determined to adopt this line of treatment the patient should be placed in the knee chest position, the posterior vaginal wall retracted, and the cervix exposed by means of a Sims speculum. The cervix is next—after having been washed off with a mercuric chloride solution of 1 in 4000—grasped by a double tenaculum forceps and drawn down. The fundus is next pushed towards its proper position by means of uterine dressing forceps in the jaws of which a piece of cotton is held. The organ having been returned as nearly as possible to its proper position should be retained there by means of pledgets of cotton, wet with a boroglyceride solution, packed into the posterior vaginal fornix, and other pieces placed anteriorly to the cervix. This packing should be removed on the following day and a douche given, the patient lying on her back. The procedure just described is then to be repeated daily for several days, when the uterus can generally be retained in position by means of a hard rubber pessary. While this instrument is being worn the patient should take a daily douche in the dorsal position and she should be under the observation of her physician. If the instrument causes discomfort or pain it should be at once removed, as these symptoms indicate that the instrument is not adapted to the patient, or that she should not be treated in this manner. After the instrument has been worn for three or four months it should be removed, and the patient should be examined at short intervals of time to see whether the uterus remains in its proper position or not. If the displacement soon recurs the pessary must be at once replaced and the patient informed that she will either be obliged to wear the instrument permanently or submit to operation.

Of the surgical procedures devised to rectify backward uterine displacements giving rise to symptoms the best in my opinion is that which was first described by Mackenrodt of Berlin, and which was known by the name of "uterine vagino-fixation." The simplicity of its technique, he safety, ease, and rapidity with which it can be performed, s well as the good results obtained, make it a valuable eans of relief for these patients. Before the operation is performed the uterus should be replaced, as already described, and the patient should be kept in bed for several weeks, her bowels meanwhile being thoroughly unloaded by means of small doses of cathartic medicines and high enemas of saline solution. The patient is then prepared as for a vaginal hysterectomy, and being under the influence of an anæsthetic agent is placed on the table in the dorsal position with the thighs flexed and held in place by means of a Clover crutch. The cervix is then exposed by means of a weighted speculum and is drawn forward by means of a tenaculum forceps. As in this class of cases there is more or less endometritis it is well to begin the operation by curetting the uterus with a sharp curette, gauze not being placed in the cavity. Any existing laceration of the cervix should be repaired, sutures of chromicised catgut being used. These steps having been taken, the cervix is grasped and then drawn downward and forward by the aid of a pair of bullet forceps. Then a portion of the anterior vaginal wall about three-quarters of an inch below the meatus urinarius is taken up in the same way and drawn forward and upward, thus stretching the wall. An incision is made, beginning at the last-named point and continuing to the cervix. If this wall is more or less prolapsed the incision, instead of being straight, should be oval, allowing for the removal of sufficient tissue to overcome this defect when the sutures which close the vaginal wound are placed. These flaps are dissected from the inferior surface of the bladder, into which a sound is passed and by its aid the thickness of the bladder-wall is estimated and its lower border defined. A needle threaded with pedicle silk is passed through the inferior edge of either flap and tied, the ends being kept long. These serve as retractors, and the flaps being held aside a curved transverse incision is made at the cervico-vesical junction. The bladder is freely separated from the uterus by blunt dissection with the finger, the vesico-uterine fold of the peritoneum being divided by the aid of scissors. The patient's hips are elevated, which allows the bladder and intestines to gravitate from the uterus, the fundus of which is brought into view and is seized by a pair of bullet forceps and drawn forward. The ovaries and tubes are inspected after any existing adhesions have been broken up and if the organs on both sides are found to be diseased it is best to remove the uterus with them. If, however, the diseased condition is unilateral, the parts involved are removed and the uterus is left. A suture of chromicised catgut is next passed by means of a curved needle through the left vaginal lap, at a point slightly distant from its superior margin, hen through the muscular tissue of the anterior uterine all close to the fundus, and then through the right vaginal ap near its upper margin. A second suture is passed the same way about one-third of an inch below e first. The uterus being well anteverted, the sutures e tied loosely. The rest of the wound in the terior vaginal wall, after free irrigation with ne solution and the application of hydrogen dioxide if there is much oozing, is closed by mean sutures of horsehair or catgut, and the wou painting it over with a 10 per cent. solution ether. A small quantity of gauze is placed in the purpose of effecting drainage, and an ant applied to the vulva. The time occupied by th usually 20 minutes. The patient's urine is dr of a new catheter (which should preferably be glass, to which is attached a rubber tube) t voided voluntarily, which is generally at the third day. The vaginal gauze is removed abo and is not replaced. A daily douche of weal solution is given, after which the iodoform solut painted over the wound. The vaginal sutures a at the end of a week or sooner if they begin tissues. The patient is retained in the horizont for three weeks and then is allowed to assume posture. At the end of the fourth week she is pe leave the bed and move about and soon thereafter t her ordinary duties.

The left ovary is more frequently prolapsed than t The condition may be of congenital origin, or it ma from a sudden strain, but its most frequent cause, w carried down by a displacement of the uterus or Fallopian tube, is undoubtedly sub-involution. Wh organ lies at the bottom of Douglas's pouch betwe posterior vaginal wall and the rectum the patient plains of dyspareunia, and of pain when standi walking and during and after defecation. This which is referred to the inguinal region and ra down the thighs, often lasts for several hours. The disturbances which accompany this condition are ma and all symptoms are increased during the mens period. The disorder is usually diagnosed without diffic by a bimanual examination of the pelvic organs, wh if the ovary is not found in its normal place to right or left of the uterine body, the examining fing which should be the right or left according as the patien right or left side is to be examined, is carried high behind the cervix and its palmar surfaces gradually turne downward, when the organ if displaced downward ca generally be easily felt and pressed against the sacrum When this is done, if the body felt is the ovary the patien will complain of a sickening sensation, or it may be found near the vaginal outlet. Of course, it is hardly necessary t say that these examinations in order to be successful should only be made after the thorough emptying of the patient's intestinal tract. When the malposition of the organ is due to a displacement of the uterus the correction of this difficulty will generally relieve the trouble. When the prolapse is due to congestion or sub-involution the organ should be replaced by means of the knee-chest position and retained there by tampons of cotton wet with boroglyceride solution. These should be removed daily and followed by prolonged vaginal douches of hot water, the patient lying on her back during this procedure, after which the tampons are to be re-applied. While this is in doing the patient's bowels should be kept relaxed and much benefit is often derived from rest, general tonic treatment, and massage. When, however, these mild measures after a reasonable trial do not suffice operation is demanded, and oöphorectomy is often avoided by drawing the ovary back to its proper position and holding it there by means of a few stitches taken through the ovarian and broad ligaments. This procedure can be accomplished either by means of a small abdominal incision or by the one already described through the anterior vaginal wall, which I much prefer.

There are few ills, if any, that womankind is subject to, other than malignant disease, which produce greater disability and discomfort than procidentia of the uterus, accompanied as it is, in the first instance, by chronic inflammatory changes of the organ and by the displacement of both bladder and rectum, with marked interference of their functions, this often being followed by cystitis and proctitis. The condition under consideration is that of a reducible hernia through the pelvic floor and, as is well known, the most frequent cause of the difficulty is an unrepaired rupture of the perineum and inability or carelessness on the patient's part to confine herself to bed for a proper length of time after the birth of her child, thus causing a strain on the relaxed ligaments of the enlarged and heavy uterus. Therefore, it may be said that we have, first, a damaged perineum, accompanied by constipation, then a rectocele, then a cystocele, and finally the gradu escape of the uterus from the body. The sign of the disease is a local tumour, and the chief symptoms are backache, bearing-down pains, difficult and painful micturition, and more or less inability to walk. To determine the degree of prolapse the patient is suffering from she should be examined both while standing and in the dorsal position, and should be encouraged while in the latter posture to strain or bear down, a piece of cotton being meanwhile held firmly over the anal orifice to prevent escape of fæcal matter or gas. The patient on coming under control should be placed in bed and the parts reduced and held in position by tampons previously moistened with boro-glyceride solution, attention being paid to the intestinal canal and bladder. The mechanical devices for the relief of the condition are numerous. The best may be said to be Gehrung's pessary and Braun's colpeurynter, but in my opinion the treatment in a majority of instances should be in the line of restoration of the damaged parts to their normal condition. If the patient is seen before the uterus has descended very far an operation on the posterior and anterior walls, combined with curettage, may suffice, but when the prolapse is complete additional means must be employed if we would permanently retain the displaced parts in their proper place. The patient having been prepared in the usual manner and placed under the influence of an anæsthetic agent in the proper position, and the cervix exposed and drawn down, as previously described, the uterus is to be thoroughly curetted. The cervix if lacerated and indurated is to be amputated, after which the anterior vaginal wall is incised, the bladder is separated from the uterus, the peritoneal cavity is opened, and the fundus of the uterus is brought forward and attached to the anterior vaginal wall in the manner already described. The necessary portion of this wall, to correct the cystocele, should at the same time be removed. After the wound is closed the perineal injury should be repaired. For some time past I have done this by a method which consists of bringing the separated muscular structures together by means of buried sutures of kangaroo tendon, which by not passing through the mucous lining of the vagina lessen the danger of infection and hold the parts firmly together for several weeks after the wound has healed. Where the degree of prolapse of the uterus is great, I have been in the habit for several years of first opening the peritoneal cavity by means of an abdominal incision, the patient being placed in the Trendelenburg posture and after drawing the uterus up to its proper position fastening it there by means of stitches placed on either side through the broad and round ligaments, thus giving the uterus new supports on either side near the pelvic brim. After closing the abdominal wound the uterine cavity is to be dilated and the organ curetted and whatever is necessary is done to repair the damage to the anterior and posterior vaginal walls. In some cases where the patient is near the menopause and the uterine body is much enlarged it is well to amputate it near the internal os and to proceed as before. In old and feeble women good results have been obtained by me by means of the following procedure, first described by Fritsch, which can be done under local anæsthesia. The cervix is seized with a double tenaculum forceps and drawn forward and a buried suture of kangaroo tendon is carried round the vagina a little above the cervix, which is then to be pushed up. The suture, the ends of which emerge from the same opening, is then drawn tight, tied, and the ends cut off short, causing the knot to disappear from view and to be buried in the tissues. This procedure is to be repeated until six or more similar sutures are placed encircling the vagina at various points, which will result in an entire obliteration of the prolapsed tissue and of the greater portion of the calibre of the canal. The perineum is next to be repaired and the wound protected in the usual manner. At the end of three or four weeks the patient is allowed to be up.

My chief aim in this paper has been to show that displacements of the pelvic organs are largely an unnecessary ill, due to preventable causes. Mothers should be told to instruct their daughters as to the importance of a proper mode of life, of the use of proper clothing, of emptying the bladder at proper intervals, of the danger of falls and of lifting heavy weights. After parturition we should always at once examine our patients for the purpose of finding out whether or no any local damage has been done, and when any is done it should be at once repaired. We should also encourage them to "make haste slowly" during convalescence and not to resume ordinary labours till the pelvic organs and parts have had time to regain their natural size and condition. They should be advised further to return within three months after confinement in order that a careful local examination of the cervix can be made, and more care should be taken than is often done to sterilise the hands, instruments, vagina, and cervix before exploring the uterine cavity.

Women should be taught that miscarriages, abortions, and venereal disease bring their own penalty and that they are seldom as well after the occurrence of these mishaps as before; even so, much can be done to limit these troubles and lessen their after-effects by their prompt recognition and intelligent treatment.

New York.

DIPHTHERIA OF THE CONJUNCTIVA.

BY SYDNEY STEPHENSON, F.R.C.S. EDIN.,

OPHTHALMIC SURGEON TO THE EVELINA HOSPITAL FOR SICK CHILDREN, TO THE *NORTH-EASTERN HOSPITAL FOR CHILDREN*, AND TO QUEEN CHARLOTTE'S LYING-IN HOSPITAL, &c.

IN my experience ophthalmia associated with the Klebs-Löffler bacillus is far from rare in London, although it must often escape recognition unless a routine bacteriological examination be carried out. At the North-Eastern Hospital for Children, where such an investigation is adopted in every doubtful case, we see instances of the disease pretty frequently. Mr. C. G. Burton,[1] the resident medical officer at that hospital, in the course of a recent communication to THE LANCET, calculated that of all the cases of ophthalmia taken there for treatment 2 per cent. belonged to that category. This estimate agrees with our later experience. The cases run in groups, and are more common when ordinary diphtheria is prevalent amongst the poor of East London. Children over three years of age are seldom attacked. On the other hand, the classical conjunctival diphtheria described by Graefe is practically unknown at the hospital and that seems to be the general experience throughout the country. According to figures quoted by Professor Fuchs in his monograph on "The Causes and Prevention of Blindness" diphtheria of the conjunctiva was present in 0.2 per 1000 only of 22,130 patients who were seen at the Royal London Ophthalmic Hospital in Moorfields. It may be presumed that such an estimate includes only cases so extreme that they can scarcely escape recognition. The brawny and board-like lids, the lardaceous and ecchymosed conjunctiva, the depressed patches of false membrane, the rapid destruction of the cornea, and the marked general symptoms make up a clinical picture that once seen cannot be readily forgotten. The other cases, which have long been termed "croupous," vary much in intensity. The lids, however, can be everted and the false membrane detached without much difficulty, the cornea may or may not suffer, and general symptoms are more often absent than present. The disease presents a close resemblance to a common diphtheritic affection of children, viz., fibrinous rhinitis, where constitutional symptoms are practically unknown, although the nares may be the seat of false membranes teeming with diphtheria organisms.

It would therefore appear that croupous conjunctivitis bears much the same relation to diphtherial conjunctivitis as fibrinous rhinitis does to nasal diphtheria. Indeed, even before the advent of the bacteriological era it was conjectured by acute observers that the two forms of ophthalmia mentioned above were at root one and the same disorder—viz., diphtheritic inflammations of mild and of severe type. Faucial diphtheria was known to have been contracted from so-called croupous ophthalmia. Cases of that kind have been cited by Schirmer and by Haab. The mere existence of a membranous exudation on the conjunctiva is in itself no evidence of a diphtheritic process, but the presence of such a product should at once suggest a bacteriological examination. As I have pointed out elsewhere[2] the finding of the Klebs-Löffler bacillus is the only certain way of recognising the disorder, and in my opinion a diagnosis of conjunctival diphtheria should never be made in the absence of such evidence.

It follows from what has been said that the existing ained facts. It aside the ambiguous term to classify cases into mild or severe, or even adopt the anatomical basis of certain continental writers who recognise (1) the superficial membranous cases, (2) the interstitial cases, and (3) the catarrhal cases. Since it has been shown that diphtheria of the conjunctiva need not of necessity coincide with a membranous exudation, there is good ground for belief in the existence of the so-called "catarrhal" cases. The remaining forms of conjunctivitis with membrane would naturally be classed with reference to the micro-organisms present, such as the pneumococcus, &c.

---

[1] THE LANCET, Jan. 20th, 1900, p. 227.

[2] Brit. Med. Jour., June [illegible]th, [illegible]

Our practice with regard to treatment is to inject an adequate dose of antitoxin if we suspect diphtheria, without losing valuable time by awaiting the results of a bacteriological investigation. We do not hesitate to allow the patient to be taken home after the injection, but should the specific microbe be subsequently found, we detain the child in the diphtheria ward until cured. As to local means we generally employ a strong solution (15 per cent.) of potassium permanganate to paint over the exposed conjunctiva once a day and a weak antiseptic lotion, such as corrosive sublimate 1 in 5000, for cleansing the mucous membrane at frequent intervals. Should the cornea be involved atropine drops (two grains to the ounce) are used from three to six times a day.

The following case, besides presenting one or two points of special interest, is fairly typical of the milder type of conjunctival diphtheria.

A boy, aged two and a half years, was brought to the eye department of the North-Eastern Hospital for Children on Sept. 28th, 1899, with the statement that his left eye had been inflamed since the 23rd. He was well nourished and did not look particularly ill. The lids of the left eye were markedly swollen and of a violaceous hue, and there was abundant muco-purulent discharge from the palpebral fissure. On everting the palpebræ (which could be done without much difficulty) a membrane was observed on the con-unctiva, upper and lower. Although thicker upon the lower d than elsewhere it could be easily peeled away. The vollen ocular conjunctiva was free from false membrane. é cornea was cloudy without actual ulceration. The lp showed several impetiginous areas, one of which had en freed from scab at home and was covered, when mined at the hospital, with an adherent grey membrane. erous discharge was present from the nostrils, but no s of diphtheria could be made out either there or in the at. The pre-auricular and angular glands were enlarged. min was present in the urine. The temperature was ., the pulse was 104, and the respirations were 24. e child was admitted to the diphtheria ward, and 2000 of the Royal Colleges of Surgeons and Physicians' xin were injected. The conjunctiva was painted a day with potassium permanganate (15 per cent.) and es were kept clean with a saturated aqueous solution ric acid. The scalp was treated with ammoniated y ointment (five grains to the ounce). Cover-glasses neared with particles of false membrane, which was bed over the surface of blood-serum and agar-agar. The film-preparations, when stained and examined microscope, showed many long bacilli, often curved uped side by side. They stained with Gram's They seemed to be the specific organism of diph-On the media, after incubation for 24 hours, fine vere obtained not only of Klebs-Löffler bacillus but taphylococcus albus and staphylococcus aureus. ltivations were made from the membranous patch alp and staphylococci and (?) diphtheria bacilli

On Oct 6th it was found that the corneal haze present on admission had given way during the ur days to a circular ulcer of that structure. ops (½ per cent.) were prescribed thrice a day. h the membrane was absent from the red and njunctiva. The ulcer on the cornea was neither or were its edges undermined. The patch of n the scalp had healed. On the 20th the junctiva, although congested, was not markedly ere was a slight discharge from the eye. The had healed with the production of a nebula. s discharged on the 20th, after a stay in the days. For the greater part of that time the mained about normal, but a slight rise took eventeenth day, probably as the result of the titoxin.

W.

A SUCCESSFUL CASE OF CŒ FOR INTESTINAL OBSTRUCTION TO PERSISTENT MECKEL' DIVERTICULUM.[1]

BY CHARLES A. MORTON, F.R.C.S. EN
PROFESSOR OF SURGERY IN UNIVERSITY COLLEGE, BRISTOL
TO THE BRISTOL GENERAL HOSPITAL AND TO THE BRI
ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN

THE case which I am about to describe seems to of special interest for two reasons: first, the the disease was quite unlike that of acute in obstruction, and, secondly, the way in which the diver caused obstruction was an unusual one.

The patient was a girl, nine years of age, and wa to me by Mr. F. E. Peake. The illness began w complaint of any abdominal pain. On July 31st, the child began to suffer from headache and vomiting she was kept in bed. On the following day, althoug vomiting persisted, she was up and about. It was not August 2nd—the third day of her illness—that abdom pain situated in the umbilical region was first complai of. The patient continued to vomit frequently and got m worse on the 4th, and when seen by me on admission to hospital at 3 P.M. on the 5th she was obviously very ill w a distended abdomen and dry, brown tongue. The pul however, was only 100, and the temperature was betwe 99° and 100° F. She cried out every now and again with pa in the abdomen but did not vomit at that time. Thre visible coils could be seen in the distended tympaniti abdomen, but they did not contract or dilate with peri stalsis. There was some general tenderness, but the abdo minal walls were not rigid. There had been no passage of blood or mucus from the bowel. No reliable information could be obtained as to when the bowels had acted last or as to the passage of flatus. There was a history that 18 months before she had had an attack of abdominal pain and vomiting lasting for two days but she had not been laid up by it.

The onset of the illness was certainly not like that of acute intestinal obstruction. It was more suggestive of an attack of appendicitis, but the general distension of the abdomen and the evidently serious condition of the child were such that one could not help suspecting that if the disease had begun as a localised appendicitis it had, at any rate at the time of her admission to the hospital, become complicated with a general peritonitis; and yet the abdominal wall was not so rigid as it is usually found in a condition of general peritonitis, nor is visible distension of a few separate coils seen, as a rule, in such a condition. But these coils were not observed to harden from peristalsis, as they so often do in mechanical obstruction. If I had observed this condition in the distended coils I should have felt sure that it was not paralytic distension from peritonitis but some form of mechanical obstruction. The temperature is, I think, of little guide in such cases. It may not be raised at all in the severest forms of septic peritonitis, and, as in this case, may be slightly raised in mechanical obstruction. Whatever the exact condition might be, however, it was clear that there was an acute abdominal condition which demanded immediate operation, and at 5 30 P.M. on the day of admission I operated. On opening the abdomen a considerable quantity of clear serous fluid poured out of the pelvis. A large extent of the small intestine was found to be considerably distended, but some empty coils were at once discovered, and on tracing one of them it was found to pass within a ring of what felt like bowel, and when drawing this to the surface by traction on the empty coil the latter slipped out of the constriction together with a distended portion of bowel, and between the two was seen the groove of constriction. After the liberation of the strangulated bowel it was found that the constricting ring into which the bowel had slipped was formed by a persistent Meckel's diverticulum. The bowel had been strangulated beneath the diverticulum which passed from the ileum at the usual spot to the umbilicus.

Mr. Treves,[2] who has fully investigated the which the diverticulum persists and the mode in which it causes strangulation, says that it is difficult to understand how the bowel can be strangulated under the diverticulum when it extends from the ileum to the umbilicus, and that in nearly all cases in which the strangulation has occurred beneath the diverticulum it has been adherent to some structure other than the umbilicus, usually the mesentery; and he suggests that when the bowel has been said to be strangulated beneath the diverticulum, passing from the ileum to the umbilicus, the condition has probably been one of volvulus in a coil caught under the diverticulum. Therefore, it is interesting that in this case the strangulation did take place beneath a diverticulum passing from the ileum to the umbilicus, and that the groove of constriction on the bowel showed that the obstruction had been caused by strangulation and not by volvulus. I cannot deny that a loop in the diverticulum may possibly have snared the gut and that in drawing out the constricted bowel I may have destroyed the loop. All I can say is that I saw no evidence of such a loop and I think that had there been one I should have observed it.

---

[1] A paper

I excised the diverticulum. It began as a funnel-shaped projection from the ileum of an inch and a half in length and terminated in a round cord attached to the umbilicus. Before excision I applied a clamp to the diverticulum at its attachment to the duodenum, for it had a diameter here of three-quarters of an inch, and then united the margin with Czerny-Lembert sutures. The umbilical end I simply ligated before division The region of the peritoneal cavity in which the stump of the diverticulum lay was drained for a few days to guard against any risk of peritonitis from leakage, which did not, however, occur. The child made an uneventful recovery.

Clifton, Bristol.

A HEPATIC MUCOID CYST.

BY W. CAMPBELL M'DONNELL, M R.C.S. ENG., L R C.P. LOND.

THE following case seems to be worthy of record by reason of the rarity of hepatic single cysts, not hydatid. The patient was a man, aged 53 years, giving a history of severe, sudden, recurrent epigastric pain extending over several years, and I saw him in what was apparently one of these attacks. Tenderness of the whole abdomen developed with pyrexia and the pain increased till death. At the post-mortem examination there was general purulent peritonitis resulting from an old ulcer situated at the pyloric undersurface of the stomach, adherent to the pancreas. Some gastric contents had extravasated and set up the peritonitis. Mr. C. H. Jackman kindly saw the patient with me, and it is owing to his courtesy that I am able to reproduce the appearances of the microscopical section shown below.

On the mid-upper surface of the liver there was a spherical tumour, 9·5 centimetres in diameter, firmly adherent to the diaphragm, less adherent to the inferior vena cava, removeable from the liver without tearing the cyst but exposing an irregular liver surface similar to that of a kidney markedly affected by chronic Bright's disease. There was no renal cyst. The cyst wall was smooth, tough, fibrous, white on section, and 1·5 millimetres thick. The main bulk of the cyst was a firm, pale apple-green jelly, of specific gravity 1029, which was found to be mucin. Through the mucin were sparsely scattered red, brown, or yellow seed-like bodies which in some instances were accumulations of hæmin crystals; in others small masses of shrivelled red blood cells with a few hæmin crystals cemented together by a bright yellow mucin. At one spot there was a small opening in the interior of the cyst wall connected indirectly with a dilated vein of the exterior cyst wall by a long oblique piercing of the wall. At that place there was seen a layer of old blood and of dark seed-like bodies in their greatest accumulations. The mucin had in it many tufts and clusters of tyrosin and a large number of variously-sized cholesterin plates; it contained a small amount of albumin and was devoid of cells; it did not give Pettenkoffer's bile acid reaction or the iodine colour reaction of bile pigments A solution of the jelly in strong nitric acid reduced Fehling's solution very readily. From the slowly evaporated solution and re solution of the residual paste in distilled water chlorides and sulphates were precipitated, the former in large, the latter in much less, quantity; from this solution urea was prepared in crystals. The insoluble deposit was found to consist of calcium oxalate in crystals of large and small octahedrals. Sections of the underlying liver presented no macroscopic abnormality; microscopic specimens taken some three weeks after standing in glycerine formalin showed vacuolation of the hepatic cells beginning in the nucleus, thought by Mr. S. G. Shattock, who kindly examined the microscopic section, not to be merely a post-mortem change; there was also some small cell infiltration of the connective tissue. The vacuoles were not seen anywhere to form microscopic cysts by coalescing. There was therefore a wide difference between this cyst and the multiple cysts of the liver with vacuolation of the hepatic cells described by Eugène Courbis and others in this particular, as also in the appearance and composition of the contents of the cyst.

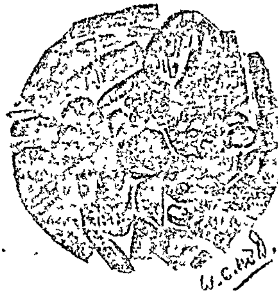


Illustration showing a field of a transverse section of the liver closely underlying the cyst. It shows some of the vacuoles formed in the hepatic cells.

Park lane, Stoke Newington, N.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

NORTHAMPTON GENERAL INFIRMARY.

A CASE OF ADDISON'S DISEASE WITH ASSOCIATED LEUCODERMA AND TUBERCULOUS PERITONITIS.

(Under the care of Dr. F. BUSZARD.)

THERE are probably several distinct morbid conditions which agree in being characterised by the formation of whitish patches on the skin, though the same name, "leucoderma," is applied to them all. The alterations in pigmentation in Addison's *disease* chiefly take the form of marked increase in depth of colour in certain situations, but occasionally, as in the very interesting case recorded below, patches of paler skin appear. These may reasonably be called cases of leucoderma in spite of the association with Addison's disease. Our knowledge of the mechanism by which disease of the suprarenal capsules may lead to alterations in the pigmentation of the skin is at present very indefinite, but it is not improbable that an increase of our knowledge in this direction may assist us in the pathology of true leucoderma. For the notes of the case we are indebted to Dr. Horace Colman, late assistant house surgeon.

A man, aged 40 years, was admitted into the Northampton General Infirmary on August 20th, 1898 He complained of general weakness of some long standing and of changes in [illegible] anything [illegible] cited from [illegible] onset of his [illegible] He could [illegible] him that might be supposed [illegible] symptoms and anything to do with the onset. The weakness had increased of late and owing to his being too feeble to work he had not been getting sufficient food.

In appearance the patient was a very thin man of about the average height; his weight was only 8 st. 3 lb. He looked extremely ill and was very feeble indeed. The most striking feature was the pigmentation of the skin. Generally the skin presented a dirty-brown "unwashed" appearance which the patient said was of one or two years' standing. On the mucous membrane of his lips were deeply pigmented patches, but there were none inside the mouth, and there was no excessive pigmentation in the axilla or on the nipples or genitals—that is to say, there was no change in the proportion between those parts and the surrounding skin. In contrast to the general darkening of the skin there were patches of pure white. These were situated on the side of the nose, one cheek, and upper lip (the hair in the patches on the upper lip was perfectly white). Patches were also seen on the front of the knees and the abdomen. The palms of the hands were of a fresh, clean, white colour, as were the dorsal surfaces of the last two digits. On the dorsum of each hand there were irregular patches as well. (The patient had been a stableman and groom when able to work, so that there does not seem to be any probability of his occupation having any particular bearing on the state of his hands.) The margins of the various patches were even more deeply pigmented than the surrounding skin, the appearance suggesting that the pigment had been carried out and heaped up peripherally, and the manner in which the patches increased seemed to confirm this suggestion. Physical xamination revealed nothing further except an exceedingly eak pulse, small and rapid. The heart sounds were very int. The temperature occasionally rose to 99° F. at ght, but was subnormal during the day. The urine s alkaline, the specific gravity being 1010; there was albumin or deposit, but on heating phosphates were ecipitated.

While in the infirmary the patient improved for the first days, doubtless owing to good food and complete rest. n, however, the weakness gradually increased and he was bled with diarrhœa that could only be partially checked he use of opium. For the last few days of his life he red from constant and uncontrollable vomiting which nued in spite of rectal feeding. 14 days after admis- he died. During that fortnight a marked increase was d in the size of the white patches. This was very s on his upper lip, where almost the whole of his ache had become perfectly white. The treatment con- at first of a tonic of iron and strychnine, then it was d to stopping the diarrhœa, and just before the vomit- rted he was given suprarenal tabloids but he only took three.

psy.—A post-mortem examination was made by Dr. on the following day. The lungs were found to be except that the right one was completely adherent est wall and to the diaphragm. The heart was very he valves were healthy, and the muscle appeared so ked eye. The whole of the peritoneum was studded tubercles varying in size from that of a pin's head f a hemp-seed. These were also present on the the liver, spleen, bladder, and small intestine, the large intestine or stomach. There was some nt of the retro-peritoneal glands, but there was ulceration of the intestines. The liver, spleen, eas appeared to be healthy. The left kid- ealthy, but the right had several small cold in it. These were unconnected with one without any communication with the pelvis of or the surface. The suprarenal capsules were ely destroyed by tuberculous disease. The left nd almost entirely caseous. The right was not ensively diseased and contained one or two m and apparently healthy tissue. In order ould be no doubt as to the nature of the r. Colman submitted the capsules to Dr. H. D. t. George's Hospital, who very kindly under- ne them. He pronounced them both to be estroyed and infiltrated by fibro-caseous

Dr. COLMAN.—The interest of this case lies tion of leucoderma with the excessive pigmentation of Addison's disease and, as re necropsy, the tuberculous lesions of the per kidney. The leucoderma increased rapidly whil was in the infirmary and seemed undoubtedly t some change in the nutrition and innervation which carried the pigment (previously in ex localised areas and heaped it up all round; the size and shape of the patches could be noticed day. Another point was that the areas normally did not show any increase out of proportion occurring to the skin generally. The small expected in the light of the small and we and the faintness of the heart sounds. The was really astonishing and I much regret that when the post-mortem examination I had no means of careful measurements of the organ, but a heart of of 14 years of age would about represent it. The culous peritonitis gave rise to no symptoms unless i to the general weakness and increased the diarrhœa abscesses in the right kidney were evidently not cau direct spreading from the suprarenal capsule as the healthy tissue between. It is probably impossible to m definite statement of the order of infection but the di was most marked in the capsules and least advance the peritoneum, and in an intermediate stage in the kidney.

About the same time there was in the infirm another case of Addison's disease. This case was fatal but in spite of all my endeavours I was unable gain permission to make a post-mortem examinati The chief point of interest in this case was the long durati and the sudden termination. Three years before admissi the patient began to feel weak and faint at his work and the same time was troubled with causeless vomiting. Th onset was rather sudden, but he knew of nothing to which might be attributed. He had no pain in the back and n diarrhœa. Two years before admission a change in the colour of his skin was noticed which had gradually become darker. He had been unable to work for some weeks, but he walked up to the infirmary and walked upstairs with apparently little fatigue. His skin was of a dusky hue all over and the nipples were very dark. On the palate there was a dark, purplish patch of about the size of a sixpence. The pulse was full and soft. Two days after admission, on rising to go to stool, he fainted and collapsed on to the next bed. Nine days after admission I took some notes on the history. After about half an hour or so he seemed very tired and vomited; though no examination had been made and he lay on his back all the time. He took his tea soon after, but half an hour after that his heart suddenly failed and he died within five minutes of the first alarm.

I am indebted to Dr. Buszard for permission to publish the above case.

CUMBERLAND INFIRMARY.

TWO CASES OF INTUSSUSCEPTION; OPERATION; RECOVERY.

(Under the care of Dr. H. A. LEDIARD.)

THE trend of surgical opinion of recent years as to the treatment of acute intussusception has been very distinctly in the direction of primary laparatomy, that is to say, laparotomy which has not been preceded by ineffectual attempts to reduce the intussuscepted bowel by injection or inflation. This change in treatment is amply supported by statistics. For instance, in the Transactions of the Clinical Society of London[1] Mr. A. E. Barker records 15 cases in which he did laparotomy and nine of these recovered. If only the large intestine be involved, as in the first case recorded below, the symptoms are less acute, but in any case the earlier the operation is performed the greater the chance of success, and the operation should be carried out as rapidly as possible. Dr. Lediard is to be congratulated on his satisfactory results. For the notes of these interesting cases we are indebted to Dr. Cairns, late house surgeon.

CASE 1.—A boy, aged two years and five months, was admitted into the Cumberland Infirmary on the foren Nov. 1st, 1899. The illness commenced with sl on Oct 29th On the 30th the vomiting was more severe and was accompanied by diarrhœa and the passage of bloody mucus As the child became steadily worse and was evidently suffering great pain Dr J W Crerar of Maryport was called in on the evening of the 31st He diagnosed intussusception and, all attempts at reduction failing, advised immediate operation On admission the boy was well under the influence of opium and his general condition was remarkably good considering that this was the fourth day of the illness The temperature was normal, the pulse was 110, and the respirations were 30 per minute On abdominal examination an elongated mass, apparently about five inches long, could be felt lying obliquely in the left iliac fossa and extending upwards well above the brim of the pelvis The liver dulness was diminished, and there was some general abdominal distension, but no evidence of fluid was present On rectal examination the lower end of the mass could just be felt above the brim of the pelvis Attempts at reduction by enemata, inflation, &c, all proved unsuccessful, and at 4 30 P M on Nov 1st (i e, almost exactly four days from the appearance of the first symptoms), laparotomy was performed by Dr Lediard An incision about four inches long was made over the tumour and the peritoneum was opened with the usual precautions, the intussusception was readily found and proved to be colon into colon, forming a large elongated mass nearly seven inches long The bowel was extremely congested, but not gangrenous, and the intussusception was reduced only by the exertion of a considerable amount of force The peritoneum and abdominal wall were then rapidly stitched up by interrupted fishing gut sutures and the child was put back to bed the whole operation having occupied less than 20 minutes He passed a restless night and became quite delirious on the following day, the temperature reaching 103 2°F. at 8 P M, but after several doses of a mixture containing sulphate of quinine, tincture of digitalis, and solution of hydrochlorate of morphine, he became much quieter and on the following day his temperature had fallen to normal Flatus was passed several times during the second day after the operation, and on the third day the bowels were moved freely after an enema of soap and water From this point recovery was practically uninterrupted and after removal of the stitches on the ninth day no further trouble was experienced

---

[1] Vol. xxxi., p. 65.

CASE 2 —A male infant, aged six months, was admitted into the Cumberland Infirmary on the afternoon of May 18th The illness commenced on the night of the 16th with vomiting and diarrhœa, accompanied later by the passage of blood stained mucus Dr D S Doughty of Dalston, Cumberland, saw the patient on the afternoon of the 17th and diagnosed intussusception, but was able to reduce it by injection of air and fluid All the symptoms then disappeared and the child became perfectly quiet, but the vomiting, &c, recommenced on the morning of the 18th, and Dr Doughty, after again seeing the child, advised immediate operation. On admission the child looked very ill and cried almost continuously The vomiting, diarrhœa, &c persisted, and on examining the abdomen a large sausage-shaped mass could be felt stretching transversely across just above the umbilicus, another mass could be felt low down on the left side just above the pelvic brim, giving one the impression of two distinct intussusceptions, but nothing could be detected per rectum As the condition had recurred after previous reduction by inflation the abdomen was immediately opened by Dr Lediard and a very large intussusception was found It extended from the left iliac region upwards and backwards towards the splenic flexure and then transversely across to the right side of the abdomen, being at least 10 inches long Reduction was effected by careful and prolonged traction, and the last portion of bowel to emerge was the cæcum with the vermiform appendix —i e, practically the whole of the large intestine had been involved The abdominal incision was then rapidly stitched up by interrupted sutures of fishing gut, and the child was back in bed within 20 minutes of the commencement of the operation Vomiting continued intermittently for a few days after the operation but disappeared on the substitution of peptonised milk for the mother's milk, and the further progress of the case was uneventful The bowels were moved naturally on the day following the operation, the stitches were removed on the eighth day, and the child was discharged cured on June 3rd less than three weeks from the date of the operation

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Discussion on the Mastoid Operation for the Cure of Chronic Purulent Otorrhœa

A MEETING of this society was held on Feb 13th, Mr. THOMAS BRYANT, the President, being in the chair

Mr SEYMOUR LUCAS, in resuming the adjourned discussion on the Mastoid Operation for the Cure of Chronic Purulent Otorrhœa, admitted that the operation suggested would no doubt lessen the time of suppuration and prevent recurrence. In the plan suggested after the first operation was done and healed it was necessary to again open up the wound and repeat the operation This seemed to him the only defect of the operation under consideration Even a third operation might be necessary to remove the piece of gold leaf. It would be a great advantage if it could be done all at once It was not so easy to get patients to submit to two operations for one result In times gone by he had been struck with the pain suffered by children with large burns who had to supply grafts for their healing In 1884 he had suggested the use of preputial skin, of which there was a superfluous amount Some one had suggested that frogs' skin would serve Might not this be utilised in the present operation? Turning to the question as to what cases it was desirable to interfere with, each case must be treated on its own merits In cases of doubt it was a good rule to operate The selection of cases was, no doubt, a very difficult matter He referred to the case of a child, aged nine years, who had had otorrhœa for three months. On admission he was suffering from headache, sickness, constipation, nausea, and vomiting, and he was drowsy and stupid There were slight ptosis on the right side and optic neuritis. The symptoms were thought to be due to cerebral abscess from otorrhœa But eventually he died and the child was found to be suffering from meningeal and universal tuberculosis

Dr. WILLIAM MILLIGAN remarked that the treatment of chronic suppuration of the middle ear was a subject of very great importance As to the indications for operation those cases attended by severe pain, by facial paralysis, and by obvious external indications of mastoid disease called for operation In some cases also in which objective symptoms were not present, and whenever there was reason to believe that deep-seated suppuration was going on—though these cases were sometimes difficult to decide—operation was called for Chronic suppurative otorrhœa was a very grave condition It might be followed at any moment by acute intra cranial symptoms and death Moreover, otorrhœa was always attended by a lowering of the general health His own idea was that as a general rule surgical interference was delayed too long. It might be done with propriety in the subacute stage as soon as the acute symptoms had subsided Turning to the kind of operation, Mr. Ballance's technique constituted a distinct advance The time of after-treatment was thereby much lessened In an ordinary Stacke's operation it took four months for complete cuticularisation and here it could be completed in three or four weeks He did not quite understand Mr Ballance's disposition of the cutaneous flap He had tried grafts on the inner wall of the middle ear, over the promontory, and such cases healed more quickly

Mr ARTHUR BARKER entirely concurred with the readers of the various opening papers As regards the selection of cases the three indications given in the summary formed the limit beyond which they could not with safety go He especially agreed with the statement that experience was a better guide than any hard and fast rules This led him to the conclusion that this department of surgery was in one sense a legitimate speciality But, on the other hand, he did not believe that Mr. Ballance would have been led to this operation had it not been for his general surgical training He was not sure if the covering with gold leaf was absolutely essential Lately he had found several folds of gauze answer this purpose and it could be left *in situ* for some days

Mr H. SECKER WALKER remarked that he always made a very free incision at the start and then completely removed the pillar of bone running between the antrum and the attic. It was only in this way that the operator could see what was the real state of the tympanum, and for this purpose he used a strong searchlight. He would like to ask if it was necessary to keep the ear cartilage in the flap that was turned up. He thought it best to dissect it out. He had until lately used chisels and mallet, but the burr was a great advantage.

Dr. DUNDAS GRANT remarked that the indications for the operation required careful consideration. Pain and vertigo were very strong indications for operation unless these could be otherwise explained by visible removable causes. Sometimes vertigo ceased after the removal of a granulation which was pressing on the stapes. Caries was also a decided indication unless it was limited to the outer wall attic, as also was the occurrence of facial paralysis or of nerve-deafness. And there was one more—general ill-health—which was a reason for operating which was not realised as much as it ought to be. Even a trace of albuminuria was not a contra-indication, rather the reverse. The degree of hearing power which the patient retained was an important factor. If the patient could hear a whisper at three feet distance the tympanic apparatus was still of some value. If the hearing power were below that an operation might be more readily agreed to. Persistent suppuration in spite of intra-meatal treatment was one of the strongest indications for operation. As to the temperament of the surgeon, which one of the earlier speakers had alluded to, perhaps aurists had been of a too conservative temperament and prided themselves on curing their cases without operation. He had seen several unfortunate cases of sudden supervention of meningitis and the possibility of this was always before the patient. Consequently the responsibility of deciding against the operation was greater than deciding for it. He was glad that the suggestions made by Mr. Ballance enabled them to cope with cases more readily.

Dr. WILLIAM HILL wished to ask Mr. Ballance what proportion of the cases operated on were likely to fail and whether this operation could be applied in all conditions of the hearing.

Mr. C. A. BALLANCE in reply, felt sure that his methods could be gradually improved. In all his cases the operations were done because life was in danger and because there was nothing else to be done. He did not, therefore, hesitate to give chloroform twice. He had considered preputial skin and the skin of the frog, but these did not recommend themselves to him. He had not yet found anything as satisfactory as the epithelium of the patient. He had not got as good results without gold-leaf as with it. The dissection out of the cartilage of the ear from the flap, as suggested by Mr. Walker, would certainly, he thought, be a gain and he would gladly adopt it. The cavity must, as Mr. Walker had said, be thoroughly opened up. His answer to the question whether he would operate on a patient whose hearing was good was in the negative.

Sir WILLIAM DALBY wished to add his testimony to the completeness of Mr. Ballance's operation. It had been truly said that this operation was not as easy as it seemed, requiring great delicacy of touch as well as very accurate knowledge of anatomical relations. It might be well to remember that Mr. Ballance had been operating on these cases for 15 years before he was satisfied with the details in his methods. In his portion of the paper Sir William Dalby had attempted to formulate the conditions and symptoms which led to the selection of cases for operation, and it was noticeable that in two or three of Mr. Ballance's cases in which Sir William Dalby had advised the operation he had 20 and 17 years before seen these cases and given an opinion as to the possible dangers in the future. In one of these he had opened the antrum for urgent symptoms. This was at a period when their knowledge did not permit of the operation now under discussion. There were also many cases in the past in which he had opened the mastoid cells and saved life by so doing, but which would have been far better treated if they had then known that an operation like Mr. Ballance's was possible and would once and for ever protect against risk of septicæmia and other dangers.

Mr. A. E. CUMBERBATCH remarked on the delicacy and skill required for the operation. It was not one which could be taken up lightly. That was why in his teaching he seemed more conservative than in actual practice, for so much depended on the operator.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Feb. 12th, Mr. G. R. TURNER, Vice-President, being in the chair.

Mr. F. C. WALLIS exhibited a case of Resection of the Small Intestines in a Boy, aged seven years. About two years previously he had been under treatment for tuberculous peritonitis in a London hospital, and about a year after that acute intestinal obstruction had occurred. For this the abdomen was opened and a piece of small intestine above the obstruction was sewn to the abdominal walls, opened, and a fæcal fistula resulted. The patient then went to St. Monica's home, at which place the operation of enterectomy was performed by Mr. Wallis on Dec. 1st, 1899. Five inches of small intestine were removed, and the cut ends were joined by interrupted sutures. The boy made a very satisfactory recovery in spite of the septic conditions of the skin which for a considerable area round the original wound was red, inflamed, and discharging pus, on account of the irritation and partial digestion caused by the contents of the small intestine constantly flowing over it. The pieces of resected intestine were shown.

Mr. FRANCIS JAFFREY showed a case of Urticaria Pigmentosa occurring in a male child aged 15 months. The eruption was universal and consisted of wheal-like patches, each lasting from a day to a day and a half, leaving a stain on disappearing. The patches were slightly raised and varied in size from a split pea to a shilling-piece. The eruption had been going on for about 10 months, as it first appeared when the child was five months old. Mr. Jaffrey remarked on the rarity of the condition and said that most of the recorded cases were in boys.—In reply to Dr. W. EWART Mr. Jaffrey said that the patient had not had any arsenic and that there was no alteration in the spleen.

Dr. C. W. CHAPMAN exhibited a case of Cyanosis from Birth due probably to congenital cardiac disease, though no cardiac murmur was present. The symptoms consisted of severe breathlessness and convulsive attacks in which consciousness was lost and the patient sometimes bit her tongue. There was slight clubbing of the fingers and toes. The cardiac defect probably consisted of a transposition of the great vessels and possibly the patent foramen ovale. Both the arteries and the veins of the fundi oculorum when examined by Mr. Adams Frost were much dilated.—Dr. EWART agreed with the diagnosis and suggested that possibly there was a very large opening, too large to produce a murmur. The valves were probably normal.—Sir HUGH BEEVOR commented on the very marked pulsation in the second left interspace although the dulness was diminished in that situation. There was evidently a dilated right ventricle and possibly the aorta arose on the left-hand side of the heart.

Sir HUGH BEEVOR, Bart., showed a case of Cardiac Disease with Pulsus Bisferiens. The patient was a male, aged 23 years, who had been subject to dyspnœa on exertion since an attack of chorea at the age of 11 years. Cardiac and arterial symptoms of aortic regurgitation and stenosis were present. Pulse tracings which were shown adduced confirmatory evidence. The symptoms pointed to the existence of a contracted aortic orifice but not to any great degree of narrowing. The effects of mitral incompetence had been apparent from time to time during the last two years, for the patient had had anasarca and hæmoptysis and the liver now extended just beyond the margin of the ribs.

Mr. A. J. BARKER exhibited a patient, aged four years, who suffered from Congenital Dislocation of the Hip. Nothing was noticed wrong with the child until she began to walk, and then she "waddled" in the characteristic manner. A marked feature about this case was the twisting forwards of the head of the femur. It was the rule for it to be twisted forwards in congenital dislocation, and this was well shown in the skiagram which was exhibited. As regards the prospects of operation in such cases, out of 360 cases collected by Lorenz it was only in a very small proportion that this observer had been able to bring the head into relation with the acetabulum. This was proved by the last 135 cases which were skiagraphed.—Mr. F. C. WALLIS remarked that the advantages to be derived from operation in such cases appeared to be extremely limited, and he referred to two cases of operation which were exhibited together at the Clinical Society of London, and at the same time to the case of a girl, aged

17 years, who had not been operated upon. This comparison was not in favour of operation.—Mr. J. LYNN THOMAS referred to a case upon which he had operated two years ago for double congenital dislocation. The patient was kept in a double Thomas's splint for nine months. The case did very well, but the head of the bone was on the dorsum ilii a little higher than before. Nevertheless the "waddling" had disappeared so far and this was a great advantage.—Mr. BARKER, in reply, did not at all wish to advocate the operations which had hitherto been done, for the results were not at all encouraging. There was in his experience not much gained by operation.

Dr. EWART exhibited an Automatic Respiratory Jacket or Waistcoat for applying continuous pressure to the chest in cases of emphysema. It was intended to be worn night and day. It was provided at the sides and over the shoulders with elastic, the tension of which could be adjusted. A boy suffering from emphysema was also exhibited. Dr. Ewart remarked that the boy's chest measurement had decreased while wearing the jacket for six weeks, and his symptoms had improved.

Mr. E. H. WILLOCK also demonstrated an apparatus designed for the same purpose—namely, the relief of emphysema. It was not like Dr. Ewart's for applying continuous pressure but was intended for intermittent use. The hands were raised and the jacket was relaxed, and as the hands were brought down the chest was compressed by an arrangement of pulleys passed up over a fixed pulley above the head. In treating emphysema with this apparatus expectoration at first was increased and then after a day or two it diminished and the patients improved in other respects. The same apparatus could also be used to teach respiratory exercises to phthisical patients.

Mr. W. H. BATTLE exhibited a case of Tumour of the Femur in a man, aged 29 years. The femur was two inches shorter in length on that side. There was a well marked history of syphilis. Regarding the diagnosis he had considered several possibilities, but had come to the conclusion that it was a case of osteitis deformans involving only one bone. He had only been able to find a record of one similar case, one that was recorded by Mr. A. A. Bowlby in the Transactions of the Pathological Society of London.

Dr. W. J. HADLEY exhibited two rare cases of Rheumatism. The first was a case of osteo-arthritis in a female child, aged eight years. During the past three years she had had five attacks of rheumatism. The first three were ordinary polyarticular rheumatism, which cleared up completely, but the fourth and fifth had left some deformity in the joints. The present attack started in April, 1899, and she was now completely crippled. There was considerable deformity and enlargement of most of the joints which skiagrams showed in the larger joints to be due to increase of the soft tissues; no alteration in the bones was visible. The right hip was fixed and the neck was stiff. There was a systolic bruit at the base which was tending to become less marked and was probably of hæmic origin. The spleen was slightly enlarged. Anti rheumatic medicines had proved useless. Massage and daily sweating of the joints had given fairly satisfactory results. There had been occasional slight elevations of temperature. The second case was that of a female child, aged nine years, who had had chorea three years before. There was no history of rheumatism or of joint affection at any time. The present illness began a week before admission to hospital with pains in the limbs, headache, and two days before admission severe pain in the right foot. There was no definite arthritis at any time. On admission there was well-marked mitral regurgitation with cardiac hypertrophy; the spleen was enlarged, firm, but not tender. After three days of irregular pyrexia there was a sudden rise, accompanied by dizziness, faintness, and vomiting (probably of embolic origin). Ten days later a similar attack, though without pyrexia, was attended by pain in the lumbar region. A presystolic mitral bruit and a systolic aortic murmur also appeared. Later the occurrence of sudden pain in the left arm, with tenderness and other symptoms, pointed to embolism of the brachial artery, and the radial artery had since been pulseless. The first case was interesting by reason of its rarity. It was a typical case of rheumatic arthritis occurring in a child and tallied with the cases reported by Dr. Still. The interest of the second case lay in the occurrence of the emboli which had arisen in the course of endocarditis (certainly of rheumatic origin) in a child.

Mr. J. LYNN THOMAS exhibited a Tourniquet which he had designed for compression of the femoral and other arteries. It consisted of a large pair of forceps somewhat resembling those of Doyen. It was necessary to make a small opening in the skin so as to introduce one blade of the instrument beneath the artery unless it was applied to an amputation flap. The apparatus enabled the operator to dispense with one assistant less and was far more aseptic than the ordinary rubber tourniquet. Mr. Thomas had used it for amputation of the leg, thigh, arm, and penis. Another advantage was that it did not give rise to vasomotor paralysis as did the ordinary tourniquet.

Mr. MCADAM ECCLES exhibited two cases illustrating Variations in Inguinal Hernia due to Abnormal Descent of the Testis. One man, aged 23 years, exhibited interstitial hernia. He had both testes only partially descended, the right being in the canal and the left just appearing at the site of the deep abdominal ring. The hernial sac in his case was probably between the aponeurosis of the external oblique and the muscular fibres of the internal oblique muscles. It was almost certain that the abnormal descent of the testis was a factor in the production of the interstitial sac, but that it was not the only one in all such cases was evidenced by interstitial herniæ occurring in females. Here and in others in the male sex, the smallness or absence of the aperture known as the superficial abdominal ring might play a considerable part in causing the hernial sac to pass in the plane of least resistance. The second case was one of cruro scrotal hernia in which the sac, following the course of an ill-developed testis, had missed the entrance into the scrotum proper and had distended the skin forming the junction of the thigh and the scrotum. The right testis was present in the perineum and was small and tender. The covering of the sac was normal skin and did not contain any dartos tissue. In both cases the scrotum was developed, though in the first and last its right half was undistended by the presence of a testis in it, while in the second case both sides were thus wanting in distension.—Mr. W. H. BATTLE wished to know whether they ought to regard cruro-scrotal hernia as a new variety. He thought that the hernia in one of these cases was very probably associated with injury.—Mr. A. J. BARKER had recently operated on a somewhat similar case occurring in a woman. There was an inguinal hernia and an interstitial one on the same side, and consequently the testicle could not be regarded as essential to the production of the condition.—Mr. G. R TURNER referred to a case of Undescended Testis and Hernia which he had recently operated on, in which he found two distinct sacs. One sac was connected with a congenital hernia and the other went right up into the peritoneum with a bifid neck.—Mr. MCADAM ECCLES, in reply, said that he still regarded the case as a true cruro-scrotal hernia, but he did not wish to refer to the condition as a new form of hernia.

Dr. S. MULLICK exhibited a case of Dextro cardia occurring in a male patient aged 22 years. The patient had come complaining of pain, palpitation, dyspnœa, giddiness, and faintness. The pain was situated under the right mammary region and varied in its character, resembling dyspepsia in some respects. There was nothing in the previous or family history of importance, excepting that one day in August, when ascending a ladder after dinner, he was suddenly seized with severe palpitation, after which he was laid up for some days. The apex beat was on the right side of the chest in the sixth interspace and the cardiac impulse could be seen in the fourth and fifth interspaces. The præcordial dulness extended 11½ centimetres to the right of the mid-sternal line. There were no murmurs.

Dr. E CAUTLEY showed the Heart of a boy, aged 14 years, whom he brought before the last clinical meeting of the society in November[1] as a case of congenital heart disease, probably aortic. The boy was very small for his age and the physical signs were consistent with the diagnosis of aortic stenosis, but the diagnosis was not unanimously accepted at the time, among other suggestions as to the nature of the lesion being a patent ductus arteriosus or a more immediate communication between the aorta and the pulmonary artery. The boy died suddenly eight days afterwards. His heart weighed five and a half ounces and was evidently hypertrophied. The aortic valves were very much thickened, rigid, and adherent at their edges with the exception of a small, irregular, slit-like orifice between two of the valves. No other abnormality was present. The diagnosis of aortic stenosis was therefore correct though the congenital origin of the affection could not be proved.

---

[1] THE LANCET, Nov. 18th, 1899, p. 1363.

CLINICAL SOCIETY OF LONDON.

Cases of Hæmo-pneumothorax.—Perforated Duodenal Ulcer.—Stricture of the Small Intestine following Strangulated Hernia.

A MEETING of this society was held on Feb. 9th, Sir R. DOUGLAS POWELL, the President, being in the chair.

Dr. H. D. ROLLESTON made a communication on a fatal case of Hæmo-pneumothorax of unexplained origin. The patient was a male, aged 21 years, whose past history showed nothing but dyspepsia. After some diarrhœa and abdominal pain, lasting two days, he was suddenly seized with agonising pain in the right hypochondrium, radiating to the umbilicus and right shoulder. On admission, 24 hours later, to St. George's Hospital he appeared to be moribund, but subsequently he rallied and next day had signs of pneumothorax on the right side with considerable displacement of the heart. Some doubt existed as to whether the collection of gas was above or below the diaphragm. Paracentesis of the right side of the chest brought out blood and some air under considerable pressure. Death occurred from exhaustion and bronchitis eight days after the onset of acute pain. At the necropsy the right pleura contained 60 ounces of blood. The thoracic wall was opened under water and no air was found in the right pleura. Except for collapse the lung was healthy. Microscopically there was no evidence of tubercle or pleurisy. There were no signs of hæmophilia, scurvy, cirrhosis of the liver, aneurysm, or traumatism. No cause for the blood or for the gas in the pleura was forthcoming.—Dr. NEWTON PITT narrated the history of a case of Hæmo-pneumothorax which had been under his care which was apparently due to the rupture of an emphysematous bulla. The patient was tapped during life and eight fluid pints of blood were removed. After death both air and fluid blood were found in the pleura. Dr. Pitt discussed the various causes of hæmothorax. Apart from traumatism the cause of this condition was always some lesion of the lung, such as tubercle, caseous pneumonia, pulmonary apoplexy, gangrene, or abscess of the lung. Blumenthal maintained that hæmothorax was occasionally a primary condition, but that seemed doubtful. Some tuberculous lesion was the commonest cause, but no evidence of this could be found in the case under consideration.—Dr. HINGSTON FOX referred to the case of a man, aged 44 years, who was in very robust health until he was suddenly taken with symptoms resembling an attack of pleurisy. There were pyrexia, pain in the chest, and signs of pleuritic effusion. He was tapped and 15 ounces of dark blood came away, but the tube got blocked. Three days later there were signs of air and of fluid in the chest and the patient was again tapped. This time 45 ounces were removed and the aspirator tube discharged bubbles of air under water. After this the patient got gradually well. A tuberculous lesion was suspected and he was sent away for a voyage, but he remained quite well and had been in robust health ever since. It was worthy of note that this patient was employed in a very badly ventilated office in the city which was built over made ground which had subsided, sewer air gaining access to the building. Three other employés in the same office broke down with tuberculous mischief in the lungs.—Sir DYCE DUCKWORTH thought that in the majority of these cases the sequence of events was first a rupture of lung tissue followed by ordinary pneumothorax, this being followed by hæmorrhage, and behind the whole was tuberculosis.—Dr. SAMUEL WEST recalled a curious case of Pyopneumothorax. The patient was operated on and the pus was removed, but shortly afterwards hæmorrhage took place in both directions, the patient being attacked with hæmoptysis and hæmorrhage into the pleura. At the necropsy he was found to have a tuberculous cavity in which an aneurysm had ruptured, giving rise to copious hæmorrhage in both directions.—Dr. PERCY KIDD asked whether the bacillus capsulatus aërogenes could be quite excluded. He understood that there was no tuberculosis in either Dr. Rolleston's or Dr. Pitt's case.—The PRESIDENT said he would like the question of the presence of air cleared up; and another question was, Did the blood precede the air or did the pneumothorax precede the hæmorrhage? An interesting point in Dr. Newton Pitt's case was the enormous amount of hæmorrhage which had taken place. He once made experiments by injecting fluid into the pleura at post-mortem examinations and he never succeeded in injecting more than six or seven pints at most. He said it was curious that the blood should remain liquid in the presence of air.—Dr. H. D. ROLLESTON, in his reply, said that in his patient the illness was initiated by diarrhœa and abdominal pain, symptoms which might point to a toxic condition. He had made the most careful search, but could not find any evidence of tubercle in the lung or pleura. If the air had arisen from the bacillus capsulatus aërogenes there would probably have been more air after death rather than less, for the microbe would go on increasing rather than dying out after death.—Dr. NEWTON PITT, in his reply, said that the only preceding symptoms in his case were sore-throat and diarrhœa for three days. He had expected to find tubercle, but had failed to do so. Alluding to the amount of effusion present, he referred to a case of pleuritic effusion in which seven pints had been removed, and he believed as much as 11 and 12 pints had been recorded. As regards the order of appearance of the air and the blood, even when the case was first seen air was present, but it was impossible to say precisely which had been primary.

Dr. J. J. PERKINS and Mr. C. S. WALLACE made a communication on a case of Perforating Duodenal Ulcer; Operation; Recovery. The patient, a male, aged 52 years, was admitted to St. Thomas's Hospital complaining of epigastric pain of three days' duration with a violent exacerbation six hours before. There had been no vomiting. The abdomen was tense, rigid, almost motionless, with complete absence of liver dulness in the nipple line. Ten hours after the onset of acute pain the abdomen was opened through the right rectus, the age and sex of the patient, the history, and the absence of liver dulness making it probable that a duodenal ulcer had perforated. A perforation was discovered at the junction of the first and second parts of the duodenum; the edges were clean cut and showed no sign of induration. The intestines showed some points of injection, but there were no very evident signs of peritonitis. The perforation was closed with two rows of sutures and the abdomen cleaned after evisceration and flushing with sterilised water. The abdominal opening was closed with silkworm-gut sutures and by a row of buried sutures. A gauze wick was left in passing down to the seat of the ulcer without further drainage. Convalescence was uneventful; the plug was removed on the second day, the bowels were opened by enema on the third day, and milk was first given by the mouth on the tenth day. Operation on these cases was favoured by the site of the perforating ulcer, which in 29 out of 37 reported cases was on the anterior wall. The condition of the abdomen when seen was that of early peritonitis, rigidity, contraction, and loss of movement. Paroxysmal exacerbations of pain due to peristalsis increased the resemblance to colic. The complete absence of the liver dulness internal to the nipple line was to be taken as a guide. In locating the perforation to the duodenum the previous history of the patient was an aid in perhaps half the cases, though perforation in many cases occurred without the slightest previous warning. The site of the pain caused by the perforation at its onset was of great help though occasionally misleading. From statistics it was clear that duodenal ulcer could hardly be diagnosed from gastric ulcer. The resulting peritonitis was sometimes diffuse from the first, but often the great omentum shielded the mass of the intestines and directed the extravasation to the pelvis. The right lobe of the liver on its upper aspect and the parts round the duodenum were especial sites of the inflammation in these cases and special care should be taken in cleansing these regions. The whole abdomen, however, should be irrigated, the intestines being turned out and themselves flushed. Drainage was not required, but a gauze wick should be left in the abdominal wound running down to the site of the ulcer. The collapse which was a marked feature of these perforations high up should be met by saline infusion and operation proceeded with as quickly as possible.—Mr. W. H. BATTLE congratulated Dr. Perkins and Mr. Wallace on the result. He had occasion some time since to look up the statistics of the operations for ruptured duodenal ulcer and was surprised to find how very few recoveries were known. The cases which he had seen were admitted for general septic peritonitis and there was no means of finding out before the operation where the origin of the disease was The presence or absence of vomiting was not a help Only recently in a case of perforated ulcer of the stomach situated not far from the pylorus there was marked vomiting He considered that the operator in Dr Perkins's case was lucky to be able to operate so soon after the commencement of symptoms —Mr ARTHUR BARKER wished to allude to the plan of irrigation and removal of the intestines adopted by Mr Wallace He and many other surgeons did not at all agree with this course and because the case was successful he felt it all the more incumbent on him to protest against the procedure This manipulation of the intestines was in most cases attended by considerable shock It was much better to soak up the effused fluid—which was not always widely effused—with gauze and to trust to the peritoneum to dispose of the rest Even when extravasation was widely effused it was possible to clear out both flanks and other parts of the peritoneum by straps of antiseptic gauze He wished to protest against both the evisceration and the irrigation Either alone was dangerous The peritoneum had a marvellous power of dealing with septic matter in moderate quantity —Mr PEARCE GOULD would like to know whether the previous speaker had been right in referring to the contents of the stomach as septic matter It was irritating from its acid condition no doubt and the injury of the peritoneum might lead to septic absorption —Dr F J POYNTON thought that duodenal ulcer was more frequent than was generally believed, or else perhaps it was on the increase During two years' necropsies at St Mary s Hospital he had met with eight fatal cases and had seen several others in the hospital wards Of these eight six were male and two were female their ages ranging from 28 to 55 years One of these had no symptoms at all during life and a second was admitted for cardiac failure and died from melæna In four acute perforation occurred and two of these were operated on Turning to their pathological aspect all the ulcers were chronic with raised thickened edges and had formed considerable adhesions The leading symptoms were prolonged dyspepsia and abdominal pain sometimes very severe, extending in some cases for from five to ten years The great severity of the pain was the chief point In two of the cases the pain only occurred at night as in a special form of dyspepsia and they were free from pain during the day The difficulty of diagnosis and the chronic nature of the ulcers, together with the uselessness of medical treatment were some of the lessons derived from these cases In six of the cases the duodenal ulcer was associated with chronic renal disease, but probably there was a common cause underlying both The prevalence in the male sex constituted a hint to surgeons as to diagnosis, and the presence of firm adhesions in all the cases was also a hint so that they might avoid breaking down protective adhesions —Mr J CHARTERS SYMONDS agreed with Mr Barker that evisceration added to the risk of an operation and it seemed to him an unnecessary proceeding Not to flush the abdomen at all in every case was perhaps carrying things to the other extreme Probably flushing and then mopping with gauze without removing the intestines was the best The various cases must be dealt with differently according to the extent of the extravasation He referred to a case in which he had divided the duodenum for the relief of distension and distress —Dr J J PERKINS in his reply, regretted the absence of Mr Wallace in South Africa, as he would have been able to refer to the surgical aspect He remarked that it was the absence of adhesions which lead to perforation At least, they were wanting in most of the recorded cases of perforating duodenal ulcer as compared with non perforating ones

Mr F H KELLOCK read a paper on a case of Stricture of the Small Intestine following Strangulated Hernia The patient a youth aged 16 years was admitted to the Middlesex Hospital for strangulated left inguinal hernia Two years previously he had been operated on at the West London Hospital for hydrocele in connexion with an imperfectly descended testis on this side He had had a hernia for some time but had always been able to reduce it easily ; he had not worn a truss He had strained himself on the morning of admission the hernia came down and he could not reduce it On admission he was a good deal collapsed and was vomiting the swelling in the left inguinal region was as large as an orange At the operation there was no fluid in the sac which contained a piece of discoloured omentum and about four and a half inches of small intestine, the latter was very dark in colour, but still retained a shiny appearance and after the constriction had been divided and a little more intestine drawn down the colour improved a little The intestine was therefore returned to the abdomen and then the testicle was found lying internal to and behind the hernial sac The testicle and tunica vaginalis were removed and the operation was completed by closing the inguinal canal and skin by sutures For three weeks the patient did well Then he began to suffer from slight pain in the abdomen, some vomiting, and occasionally slight distension of the abdomen On one occasion he had a rigor lasting 15 minutes, when the temperature rose to 102 2° F, but with this exception the temperature was normal throughout By the use of medicines and enemata these symptoms were relieved and the patient was sent to a convalescent home five and a half weeks after the operation The bowels were then acting regularly and he was free from pain During his stay of three weeks at the home he had occasional pain in the abdomen, constipation, vomiting, and some distension of the abdomen, and these symptoms continued more or less till his re admission to the hospital six weeks after his discharge For a few days he improved under treatment but then the symptoms returned, so the abdomen was opened in the middle line below the umbilicus A coil of small intestine was found in the right iliac fossa, which was considerably constricted, the gut above it was hypertrophied and dilated, that below of about normal size, a piece of omentum containing rather large vessels was attached to the front of the coil This piece of omentum was ligatured and divided and a lateral anastomosis made by Halstead s method uniting the intestine above and below the constricted portion For two or three days the patient made fair progress but then the abdomen became distended and tender showing evident signs of general peritonitis, vomiting recommenced and the general condition became very bad The wound was re opened and a drainage tube was inserted leading down to the seat of operation Death occurred about 15 hours subsequently At the post mortem examination general peritonitis was found, the anastomosis was found to be firm and watertight with a good opening between the portions of bowel united There was gangrene and perforation of the coil of small intestine, which had been put out of action by the anastomosis, and the mesentery attached to it was hard and puckered In this portion a stricture was found extending about half an inch in the long axis of the bowel and almost completely obstructing the lumen Attention was called to the rarity of stricture of the small intestine to a degree calling for operative treatment as a result of strangulated hernia The association of inguinal hernia and imperfectly descended testicle was common, but in this case the hernia was not of the congenital variety as the tunica vaginalis was separate from the sac of the hernia The bowel was returned to the abdomen at the first operation rather than resected, as it was thought it would recover, more especially in a patient of this age At the second operation the chief interest was in the piece of omentum which was adherent to the bowel, it was noticed at the time that this contained large vessels but the importance of this fact was not recognised till later What had apparently occurred was that at the time of the strangulation this mesentery had been severely constricted and after the return of the bowel it had become adherent to the omentum, and, nourished in this way and not by means of its mesentery the division of this piece of omentum had cut off the blood supply of the coil of intestine, which had therefore become gangrenous and perforated, setting up a general and fatal peritonitis It was disappointing that such an unlooked for occurrence should prove fatal in a case which otherwise promised so favourably —Mr W H BATTLE considered that stricture of the small intestine due to inflammation of the wall or its consequences was a rare condition He had only found it in three cases of obstruction on which he had operated In the first case, that of a boy the symptoms were chronic, the local state was inflammation of the bowel wall secondary to a caseating gland in the mesentery Lateral anastomosis was performed and gave good result In the second case that of a youth who had been under his care for a sinus remaining after some operation about the appendix two years earlier, the symptoms were acute and depended on cicatricial contraction of the ileum near the ileo cæcal valve Here the operation of enteroplasty was unsuccessful The third case was that of a man about 60 years of age, with acute symptoms of obstruction. He had a reducible inguinal hernia of several years' standing. At the operation a cicatricial contraction of the small intestine with a twist in the normal gut was found. It was considered advisable to restore the channel by reduction of the volvulus rather than by doing an anastomosis. His condition was bad and it was feared that he might not be able to stand the prolonged operation. Recovery was satisfactory, but on the return of symptoms some months later the bowel was short-circuited with much relief. Almost a month ago he (Mr. Battle) had operated on a large irreducible femoral hernia in which there was marked cicatricial contraction of the small intestine which had formerly been exposed to nipping by a truss and was adherent to the bottom of the sac.—Mr. CHARTERS J. SYMONDS remarked that Mr. Kellock had attributed the fatality of his case to failure of the blood-supply and he would like to know whether the gangrene was limited to the part above the stricture.—Mr. KELLOCK, in reply, stated that this was so; nearly the entire loop of bowel was dark and gangrenous. The blood-supply of this part of the bowel had been derived from the omentum, the vessels of which were enlarged. This was one of the chief points of interest in the case.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Case.—Fibrinous Bronchitis.—The Pathology and Treatment of Pneumonia.

THE eighth ordinary meeting of the session was held on Jan. 25th, Mr. EDGAR BROWNE, the President, being in the chair.

Dr. T. R. BRADSHAW showed a man, aged 24 years, with Extreme Atrophy of the Right Trapezius, Biceps, and Brachialis Anticus. The wasting had come on gradually and its distribution suggested the commencement of the facio-scapulo-humeral form of idiopathic muscular atrophy, but it was possible that it was due to over-use of the affected muscles.

Dr. MAX LOEWENTHAL read notes of a case of Fibrinous Bronchitis.

Dr. NATHAN RAW read a paper on the Pathology and Treatment of Pneumonia, based on an observation of 1047 cases occurring during a period of 12 years. The general death-rate of the whole of the cases was 23·4 per cent. During the last two and a half years 317 cases of pneumonia had been admitted into Mill-road Infirmary (including, of course, all forms of pneumonia and those dying shortly after admission), with a total death-rate of 34 per cent. With respect to the pathology of the disease there could be no doubt that it was caused by a specific micro-organism, the diplococcus of Fraenkel, influenced to a very great extent by rapid changes in climate and a low resisting power in the individual. This low resisting power he had noticed most frequently in the chronic alcoholic who rarely recovered from a bad attack of pneumonia. Dr. Raw reviewed at length the various forms of treatment which had been used in the past and were being employed at present and gave it as his opinion that no specific form of treatment influenced the progress of the disease or in any way cut it short. He was of the opinion that the treatment of the future would be antitoxic, the anti-pneumotoxin being either procured by removing serum from a patient who had just recovered from pneumonia or experimentally from immune animals.—Dr. A. T. H. WATERS spoke of the statistics of other hospitals. The mortality from pneumonia varied and the percentage would differ according as complicated cases were included or not. Dr. Waters had tabulated all the cases occurring in hospital practice to the number of 151 with a mortality of 7·28 per cent. He had no doubt of the effects of chill and exposure as an exciting cause. With reference to treatment he thought that many cases would do well without much active interference, and attached great importance to nursing, dieting, and the surroundings of the patient. He had never practised venesection. He attached great value to carbonate of ammonia and in many cases he gave varying quantities of alcohol. In certain adynamic cases he thought quinine was useful and in extreme cases he had seen good results from the inhalation of oxygen and the injection of strychnine with the free use of stimulants. He was in favour of mild counter irritation, but did not approve of blistering in the early stages.—Dr. W. CARTER thought that on clinical grounds one must recognise two different forms of pneumonia—(1) simple and tending to recovery; and (2) septic and very dangerous. He noted the variation in the intensity of the disease in different years and he thought that there was a general epidemic influence that gave undue intensity to the disorder, instancing small-pox in 1881 and influenza at the present time. Referring to treatment, he believed that where the cardio-pulmonary mechanism was seriously disturbed by the sudden invasion, as evidenced by gasping, small pulse, ashy colour, orthopnœa, &c., the abstraction of a few ounces of blood relieved and favoured recovery. There was one stage where opium was useful—viz., where there was a sudden fall of from 6° to 8° of temperature at the period of crisis with the onset of active delirium. Physically except for this fall in temperature the patient seemed the same, the same amount of exudation being present; but vitally he was different, and a good sleep, which then may safely be produced, was most restorative. In all other conditions opium was injurious. In hyperpyrexia he had seen marked improvement by a single cold bath or the application of cold cloths.—Dr. T. R. GLYNN considered that the mortality from pneumonia in Liverpool had been higher in recent years than it was 20 years ago and that deaths now were not infrequent in young people, whereas Barther had only met with two deaths in 212 cases of pneumonia in subjects under 16 years of age. The rate of mortality was also influenced by the length of time elapsing between the onset of the illness and the commencement of treatment. Gripalle's figures emphasised this statement; he found that the mortality amongst patients admitted to the hospital on the first and second days of disease was one in 15, on the fourth day one in eight, and on the sixth day one in four. The pneumococcus often associated with other organisms had been found in the sputum in all of his cases of pneumonia. He discussed the value of leucocytes as an aid to prognosis and referred to the various theories advanced to explain the crisis. In treatment he often resorted to physical measures for reducing the temperature, to large doses of digitalis for procuring sleep, or the hypodermic injection of atropine, and he believed in the efficacy of salicylate of soda and ammonia.—Dr. J. BARR made some remarks, after which the discussion was adjourned until Feb. 8th.

Presentation to the Librarian.—National Association for the Prevention of Consumption.—Exhibition of Cases.—Adjourned Discussion on the Treatment of Pneumonia.

The ninth ordinary meeting of the session was held on Feb. 8th, Mr. EDGAR BROWNE, the President, being in the chair.

Mr. WILLIAM JONES, the resident librarian, having been 21 years in the service of the Medical Institution, the members, wishing to mark their appreciation of his services, had collected a sum of £193 12*s.* 9*d.* (£95 6*s.* being collected by Dr. Rentoul and £98 6*s.* 9*d.* by a sub-committee of the Medical Institution), and the PRESIDENT presented to Mr. Jones a cheque for that sum.—Mr. JONES thanked the members, introducing some interesting reminiscences in his remarks.

Dr. NATHAN RAW proposed:

That it is desirable that a local branch should be established in Liverpool in connexion with the National Association for the Prevention of Consumption and other forms of Tuberculosis.

Dr. W. CARTER seconded the motion, which was carried *nem. con.*

Dr. E. W. HOPE said that Liverpool had, through its city council, its Medical Institution and its boards of guardians as well as, through the munificence of private individuals, taken active measures in regard to tuberculosis, but no branch of the National Association for the Prevention of Consumption had yet been formed there. He moved that the sub-committee appointed in 1898 to deal with questions on tuberculosis should be re appointed.

This motion, seconded by Dr. CARTER, was carried *nem. con.*

Mr. C. G. LEE showed: 1. A patient who had been Accidentally Shot, the bullet penetrating the inner and upper angle of the right orbit, traversing the orbit, missing the eyeball, and finally lodging (as shown by radiographs) in the spheno-maxillary fossa. The boy was in perfect health, and although the bullet was still in the head except for a limited choroidal atrophy he appeared to be none the worse. 2. A youth who had a Piece of Steel Encapsuled with Lymph lying at the Posterior Part of the Retina. When first seen there was traumatic cataract and the foreign body was discovered by the radiograph. The vision was now $\frac{6}{12}$, and the eye was quiet, so Mr. Lee had decided to make no attempt to remove the foreign body.

Dr. E. W. HOPE, in opening the adjourned discussion on Dr. Raw's paper on the Pathology and Treatment of Pneumonia, said that the profession generally were agreed that intemperance predisposed to, and probably actually caused, the fatal results in many cases of pneumonia, but reference to this fact was not made in the death certificates. He had also found in Liverpool that fatal pneumonia coincided with influenza epidemics and that the fatality of these diseases was not associated so much directly with cold as with sudden changes of temperature.—Dr. C. J. MACALISTER, referring to the serum treatment of pneumonia, thought that the argument that the crisis resulted from the production of the antitoxin and that immediate relapse was thereby rendered unlikely was not maintained in the case of broncho-pneumonia where fresh patches of consolidation succeeded one another, and that one attack of croupous pneumonia seemed to predispose to subsequent attacks.—Dr. ABRAM agreed as to the specific infective nature of acute lobar pneumonia. He thought that our present lines of treatment were unsatisfactory mainly because they were symptomatic, and hoped that the work of Washbourn, Pane, and others might give us a curative serum. He pointed out that Maragliano had recently shown that the admixture of digitalin with nutrient media completely inhibited the growth of the pneumococcus, which afforded a valuable suggestion for curative treatment.—Dr. A. G. GULLAN noticed that the mortality in lobar pneumonia had been greater in 1899 than in the three previous years at the Royal Infirmary and he thought that the type of the disease had been more severe constitutionally and the local signs more extensive.—Dr. J. HAY referred to the influence of the alcoholic habit and stated that out of 100 cases which he had watched two-thirds of the entire mortality were those of the alcoholics. He considered that cardiac valvular disease associated with pneumonia was of much less importance than degenerate myocardium, the condition of the latter being more important as a factor in the prognosis.—Dr. MACFIE CAMPBELL saw these cases at their commencement and was responsible for their early treatment, and considered that it was a much more fatal disease now than it was twenty years ago; that fact he attributed to the influenza poison. Pleurisy was a frequent initiating symptom, and for that aconite relieved the pain and fever. Salicylate of soda with carbonate of ammonia were his stand-by; and he used small doses of opium in the form of Dover's powder for the relief of pain. In order to clear up the point as to the influence of alcoholism on the mortality it would be well if death certificates should pass straight from the medical man to the registrar; otherwise the practitioner was placed in an awkward position.—Mr. A. E. DAVIS thought that with careful nursing and treatment the death-rate from pneumonia should be under 10 per cent. He advocated the treatment by carbonate of ammonia and brandy and would never use opium or other narcotics.—Dr. NATHAN RAW, in reply, said that he had included all forms of pneumonia in his statistics, as it was impossible to classify them. He thought that the death-rate of genuine lobar pneumonia was probably about 12 per cent. and that no treatment had any effect in cutting short the disease or to any great extent in influencing its progress. He found that carbonate of ammonia was the most useful expectorant and stimulant, and the combination of chloral and digitalis was useful and soothing. Strychnine was the best drug in threatened heart failure. Oxygen was of little value, and as to alcohol many cases did not require it, but in others it was necessary and was most valuable. It should, however, be of good quality.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—Ligature for Femoral Aneurysm.—Hæmaturia.—Increase of Nervous Diseases and Insanity.

THE fifth ordinary meeting of this society was held on Feb. 7th, Dr. JAMES DUNSMURE being in the chair.

Mr. C. W. CATHCART exhibited a boy, aged 15 years, after Excision of the Cæcum for Tuberculous Ulceration and Contraction. The boy had suffered from intestinal obstruction for about six months and had been twice in an infirmary for treatment. He presented all the symptoms of chronic intestinal obstruction, diarrhœa alternating with constipation, and spasmodic attacks of pain. On opening the abdomen a great mass was found to be present at the ileo-cæcal valve and adherent to the surrounding tissues. This mass was freed and excised and the cut ends of the bowel were re-united. The day subsequently to the operation the boy was suffering severely from shock, but after transfusion was performed he began to improve and made an excellent recovery. In six weeks he had gained 16 pounds in weight. The specimen showed the enormous thickening of the intestinal walls and the lumen was narrowed until a No. 6 catheter would hardly have passed.

Dr. ALEXANDER BRUCE showed a man, aged 33 years, suffering from Insular Sclerosis with a remarkable condition of adductor clonus. The affection began to show itself two years ago in the right arm and leg. The patient then recovered but the disease re-appeared in the left arm and later passed to the right arm and so to the legs. There was slight loss of bowel control; there was no great rigidity but a remarkable exaggeration of the deep reflexes. When the patient was seated on a chair and placed his toes on the ground a regular adductor clonus ensued alternating with an extensor clonus, and this continued for from five to ten minutes. Dr. Bruce had noted that there had been a great number of cases of exaggerated clonus seen of late, and he thought that the increased number of disseminated scleroses seen was a result of the influenza epidemic.

Dr. NORMAN WALKER showed a girl, aged 20 years, with an Ulcer on the Left Forearm and asked for a diagnosis. There were neither history nor evidence of syphilis or tuberculosis.

Mr. FRANCIS CAIRD showed two specimens of Sequestra from the Alveolar Margin of the Upper Jaw. The first was from a man, aged 30 years, who had had a primary sore eight years previously, and had undergone several mercurial inunction "cures" abroad. In spite of these, however, being continued over a long time this sequestrum was exfoliated. The second was much larger and was from a man whose primary sore appeared 11 years previously. He was treated in the ordinary way with anti-syphilitic remedies and yet this bone necrosed. Another specimen was a sequestrum of the whole calvarium removed after death from a girl, aged 22 years, who suffered from congenital syphilis. The brain was flattened down with an accumulation of pus and granulation tissue. On the outer surface of the bone evidences of plastic periostitis were seen and on the inner surface small pits due to the granulation tissue.

Mr. DAVID WALLACE showed a case of Fracture of the Radius above the Usual Site of Colles's Fracture.

Mr. J. M. COTTERILL showed a Simplified Form of Trephine which he had devised. It consisted of two pieces only and was readily used and cleaned.

Mr. C. W. CATHCART gave a demonstration of a Plan for using Gauze Dressing Rolled up into Balls as Ordinary Twine was Wound. In this way the piece used might be cut off without soiling or infecting the rest of the roll.

Mr. F. CAIRD showed the patient in a case of Ligature for Femoral Aneurysm. The man was aged 74 years and when Mr. Caird first saw him on Oct. 23rd last he was suffering from a ruptured femoral aneurysm on the right side. The whole thigh was greatly swollen, cold, and pulseless. There was no pulsation in the tibial arteries. The history given was that the man was a rubber-worker and had suffered from pulsating swellings in both inguinal regions for some months. Early in August the right aneurysm increased greatly and latterly had burst. The patient refused to be removed from his dirty dwelling-house, so the operation of ligaturing the vessel was performed there. Bronchitis and retention of urine ensued and the patient would hardly remain in bed, yet in spite of all an excellent recovery was made.

Mr. DAVID WALLACE read a short note on Hæmaturia due to Bilharzia Hæmatobia. He referred to the wide distribution of the disease from the Cape to Cairo and said that it was so frequent a disease in men that the flow of bloody urine was hardly noted by them. He showed that the disease might be contracted by drinking impure water or by bathing. He had observed three cases in Edinburgh, all of whom were young men. The first patient went to Colesberg in South Africa five years ago.

While there he both drank the water and bathed and in two months had hæmaturia. He was much troubled with priapism and seminal emissions, due probably to irritation of the urethra by the ova. *The next patient was aged 21 years* Born in South Africa he had suffered from hæmaturia from the age of 13 years. He was subject to severe attacks of renal colic, so much so that it was thought that he had renal calculus. The cystoscope showed that the bladder was normal in appearance. The third case occurred in a medical student from Newcastle, Natal. He exhibited no symptoms but the passage of blood at the end of micturition, as always occured in slight cases. In examining such cases the small blood-clots should be carefully investigated, as the ova were generally entangled in them. Mr. Wallace had found that salol had done good, but that might be an accident.

Dr. WILLIAM W. IRELAND read a paper on the Increase of Diseases of the Nervous System and of Insanity. After alluding to Professor Erb's last published discourse, in which he dwelt on the increase of the causes of nervous irritation and depression, greater anxiety, hurry and mental toil of life, overtasking at school and the irksomeness of study for the learned professions, the more exciting nature of amusements, the more stimulating character of the diet (these being the causes increased effects were bound to follow), Dr. Ireland could have wished that Professor Erb had afforded some direct evidence of this increasing nervousness which he said had been going on for the last 30 years. The strain of life fell most severely on the middle classes. At the same time the new conditions of their life to-day were not without their compensations If they moved about more they obtained more frequent amusement and change of air; if letters and telegrams too often claimed their attention and disturbed their repose they often banished uncertainty and anxiety. Drunkenness had become less prevalent both amongst the upper, middle, and, it is reasonable to believe, the lower classes. In general they led more secure lives than their fathers did and the condition of the working-classes had greatly improved, both financially and physically. Still, Dr. Ireland thought that the strain upon the nervous system was getting greater, at least for the middle and upper classes, and consequently they might expect more nervous derangements and breakdowns. To make a general opinion like this, evident by exact inquiries, was on the face very difficult. There were statistics to answer the questions as to whether insanity, idiocy, or the number of suicides were increasing; but as to whether other forms of nervous disease had become more frequent was a question which could hardly be approached in that way, as many of such disorders did not affect the mortality returns or appear as results in statistical tables of any kind. Dr. Ireland addressed to a number of medical men the following questions: (1) Have you found since you began to practise medicine that there had been an increase in the relative frequency of diseases of the nervous system? (2) Have new forms come into prominence? (3) Have you observed any change in the type of old diseases? To these circulars a good many interesting replies were received and several pointed out the dangers of fallacy in answering these questions. The most trustworthy answers might be expected from medical men who had long practised in one district in the country or in small towns, treating every class of patients alike, but these gentlemen who answered the inquiries all declared that they saw no reason to affirm that diseases of the nervous system had increased in their districts relatively to other diseases. Some physicians of experience practising in large towns were of the same experience. On the other hand, some physicians of reputation in the same towns, but presumably treating a different class of patients, had stated that nervous diseases had increased in frequency during the last 20 years. Most of the latter consider that the increase has taken place in the lighter forms, especially in neurasthenia. Few physicians had noticed any change in the type of disease. Dr. Byrom Bramwell thought that there had been an increase in some of the functional neuroses and he was of opinion that disseminated sclerosis had, during the past few years, become commoner and that that was due to an antecedent attack of influenza in many cases. Dr. Ireland stated that monotonous work demanding severe and unremitting attention was most trying for the nerves and assisted in causing mental derangement Thus nervous diseases and insanity were especially common with telegraphists, letter sorters, and persons who had to check mechanical labour. From all the answers received Dr. Ireland judged that there had been no noticeable increase in the number of diseases in country districts and in small towns, but there was some evidence that there had been an increase in those complaints in large towns, especially in functional disorders such as neurasthenia. Probably this increase affected some classes and persons of special pursuits more than others. Dr. Ireland made an exhaustive statistical inquiry as regards the incidence of severe forms of nervous disease in Scotland. He found that those nervous diseases which were assigned as causes of death were less frequent in Scotland than in England, and figures were given to show this and other facts. These statistics seemed to Dr. Ireland that it was not going in advance of the evidence to pronounce that the graver forms of diseases of the nervous system had increased in Great Britain as they were said to have done in France and Germany during the last 40 years In Scotland there seemed to have been a stoppage in the increase from 1885 to 1897 which Dr. Ireland hoped indicated that the rise in the death-rates from these maladies was not fatally progressive. The increase in the number of suicides was most marked in great cities and seemed to be steadily progressing in every country in Europe excepting Norway. In Scotland the increase from 1865 to 1894 had been stated to be from a rate of 40 to a rate of 54, or an increase of 35 per cent. The same steady increase in the number of the insane went on in Scotland as in England, and there had been the same startling rise in 1897 and in 1898 which had distanced all arithmetical explanations In 1898 there was an increase of registered lunatics of 487, of whom 49 were private patients and 438 were pauper patients. The census returns for Scotland showed in 1871 one insane person for every 494 of the population; in 1881 one insane for every 444; and in 1891 one insane for every 385. Of the causes assigned for this increase Dr. Ireland was willing to allow something for the accumulation of chronic cases in asylums; the greater readiness to grant admission to all cases of mental failure aided by the 4*s.* grant given from the Imperial Exchequer to ease the local rates; and the diminished number of discharges; yet Dr. Ireland believed that that would not account for the whole increase of insanity. Again and again had those who tried to explain it away been obliged to make the premisses of their arguments more ample in order to account for the striking increase of admissions to asylums. They had now to deal with a real and considerable increase in the number of the insane and this was but a part of an advance along the whole line, an increase in the frequency of nervous diseases, in suicide, and in insanity.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Tracheotomy in Diphtheria.

A MEETING of this section was held on Jan. 26th, Dr. J. W. MOORE, the President, being in the chair.

Mr. H. GRAY CROLY detailed the symptoms of a case of Diphtheritic Inflammation of the Larynx and Trachea in a child, two years old, admitted recently into the City of Dublin Hospital (detached Drummond Hospital) for infectious cases) under the care of Sir George Duffey. The child was in a most critical condition, with urgent dyspnœa, lips bluish, and signs of collapse. With much difficulty the fauces were examined. The tonsils were considerably swollen and there was some evidence of a whitish patch on one side High tracheotomy was performed by Mr. Croly; the child got immediate relief and fell into a peaceful sleep, but in a few hours became very restless, gradually got worse, and died within 12 hours of the operation. The larynx and trachea were removed in a few hours, but no further examination was made. The larynx and trachea with the silver tube *in situ* were exhibited. The epiglottis was thickened and hard; the folds at the entrance of the larynx were considerably thickened. On opening the windpipe a bluish false membrane easily detached was found at one side. Mr. Croly gave a sketch of the history of tracheotomy in such cases from the time of Hippocrates and read extracts from the writings of Professor William Henry Porter, Trousseau, Cheyne, Millard, and Peters. He quoted the statistics of Peters (in Trousseau's Medicine), 15 operations on girls between two and three years and 11 operations on boys of the same age; all were fatal. The largest proportion of recoveries was in children over five years.—The PRESIDENT, Sir GEORGE DUFFEY, and others discussed the case.

SECTION OF SURGERY.

Epithelioma of the Glottis and Larynx.—Goitre.—Foreign Body in the Knee-joint.—Aneurysms.

The first clinical evening of this section was held on Jan. 19th, Mr. R. L. SWAN, the President, being in the chair.

Mr. H. GRAY CROLY exhibited a male patient, aged 42 years, suffering from Epithelioma of the Epiglottis and Larynx. There was a growth attached to the epiglottis There was no history of syphilis. The patient became emaciated and suffered from considerable dyspnœa. Tracheotomy was performed under chloroform on Nov. 14th, 1899 The veins were very large. He had shown the growth to surgeons and specialists and they had agreed with his diagnosis The glands, which had been very large, had gone down very much, which seemed to indicate that tracheotomy stayed the progress of the disease. There was no difficulty either in producing or continuing the anæsthesia.—Professor BENNETT, Dr. J. KNOTT, the PRESIDENT, and others discussed the case.

Mr. JOHN LENTAIGNE exhibited a patient, aged 20 years, from whom he had removed the greater portion of a very large Goitre on Sept. 4th, 1899. The case was of interest inasmuch as the operation had been done entirely under local anæsthesia by cocaine It was well known that Professor Kocher habitually used this method with success in cases of severe goitre, but Mr. Lentaigne was not aware that so far anyone in Ireland had done so. The result had been in every way most satisfactory The goitre consisted of three lobes, a very large right lobe, a large middle lobe, and a comparatively small left lobe. On account of the patient's dyspnœa Mr. Lentaigne preferred local anæsthesia to ether or chloroform During the entire operation immunity from pain was enjoyed by the patient, who showed no discomfort of any kind, except for a moment, when the upper horn of the growth which burrowed deeply under the larynx was being extracted. Very little blood was lost as the vessels were tied before being cut. The goitre proved to be of the colloid variety. The left lobe of the goitre, which remained, had shrunk since the operation to such an extent as to be now barely noticeable and the patient was in excellent health and condition The incision employed was the collar incision recommended by Professor Kocher. The cocaine was used hypodermically and was injected along the line where the incision was subsequently made; he did not think it would have any effect if applied to the surface of the skin. From time to time during the progress of the operation a little cocaine was dabbed on the tissues He commenced his incisions as soon as he had completed the injections.—Mr. H. G. CROLY, Dr. KNOTT, and Mr. F. T. HEUSTON discussed the case

Mr. R. L. SWAN showed a man, aged 22 years, from whose Knee, two years ago, he had removed a Loose Cartilage in the ordinary manner at the inner side. Soon afterwards he began to complain of symptoms indicating the presence of another similar body in the joint. Nothing, however, could by the most careful examination be felt. Mr. Swan waited for some time in the hope that the body would become detached, but the constant occurrence of locking of the joint, followed by synovitis, had the effect of rendering the limb useless. A skiagram showed the outline of a foreign body in the joint. A lateral incision at the outer side was made, but this proved inefficient. Accordingly, a transverse section of the patella was made, and the body was found attached by a strong fibrous envelope to the intercondyloid notch. The patient had now a perfect joint.

Mr. F. T. HEUSTON brought forward a man for whom he had ligatured the left subclavian artery in its third stage for Traumatic Subclavio-axillary Aneurysm four years since. At the time of the operation he was 50 years of age and had been 20 years in the army He was admitted to the Adelaide Hospital in February, 1896, suffering from severe pain in his shoulder, left arm, and back, which was then continuous, although it had been for some time at first intermittent. The superficial veins of the left arm were tortuous, the arm being also swollen and œdematous. The clavicle was raised by a tumour occupying the supra- and infra-clavicular regions, presenting a well-marked bruit, distensile pulsation, and thrill. There was well marked difference of the pulse in the right and left arms. The artery was ligated by catgut applied close to the outer side of the scalenus anticus muscle; the patient left the hospital 23 days after the operation, and resumed his ordinary occupation, which he has filled since without any return of symptoms.

Mr. ARTHUR CHANCE exhibited a man, aged 33 years, whose Popliteal Artery had been Ligatured for Aneurysm. He had suffered from syphilis. His work entailed the lifting of very heavy weights Early in May last he noticed a dull pain at the back of his right knee. There was no noticeable swelling at the time but it came on afterwards. On June 12th he was admitted to the Mater Misericordiæ Hospital, where he was found to have in his right popliteal space a tumour of about the size of a Tangerine orange which showed all the classical signs of aneurysm The right foot was much swollen and œdematous On June 21st the artery was exposed at its upper part by an incision parallel to the adductor magnus. The hamstring tendons were drawn backwards, the artery tied with silk, and the wound closed. There was no pain or rise of temperature and the wound healed by first intention. It was now six months since he had returned to his work and there was no sign of trouble in the aneurysm. Mr. Chance tied the popliteal artery—first, because the man's foot was very œdematous and it was necessary to choose the method which would best establish the collateral circulation; secondly, because the man was young; and, thirdly, because he was occupied in exceptionally heavy work. There was a considerable distance between the aneurysm and the ligature.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting was held on Feb 2nd, Dr. J. B. Ball, the President, being in the chair —Mr. Alfred Cooper, in opening a discussion on the Treatment of Primary and Secondary Syphilis, said that before the surgeon treated primary syphilis he must be very careful of the diagnosis of the sore, as many cases were met with in which induration was of an inflammatory nature, frequently due to the application of irritating substances In considering the treatment of the sore the question as to whether abortives were useful or not was one of considerable importance. He placed no reliance whatever either in excising the indurated sore or in attempting to destroy it by any cauterant. The induration was the result of a previous and complete contamination of the system It was now an established fact that mercury was the best agent to be relied upon for treating the indurated sore and its use should be commenced as soon as the diagnosis was made. The application to local sores should be, he thought, blackwash or equal parts of mercurial ointment and vaseline. They might get a sore running into phagedæna, when it would be unwise to use any mercury at all. In that case the local treatment would consist of putting the patient into a hot bath until the sore assumed a healthy character. He had seen the most serious results occur when mercury had been given. It was of great importance that the mercurial treatment should be carried out thoroughly and systematically. It had been stated by Dr. Gowers that syphilis was incurable, but he did not agree with that dictum. It was a matter of great difficulty to tell when a patient was cured, but they could speak with greater confidence if they had seen that a long and efficient course of mercury had been undergone. There were numerous methods by which mercury could be introduced into the system. He had found tannate of mercury to possess great advantages over other drugs. It was quickly absorbed and quickly eliminated and it did not produce stomatitis to such a degree as other preparations of mercury. It could be given in doses of from one to two grains in the form of pills three times a day. Treatment should be continued for two years. He had found intra-muscular injections of mercury most successful. Since 1894 he had used injections of sozoiodol of mercury (one eighth of a grain) once a week with great success. Patients were being treated at the Lock Hospital at the present time by intravenous injections of mercury The treatment was originally suggested by Baccelli in 1893. Cyanide of mercury was considered the best preparation to use; it was considered to have immediate effect on the syphilitic lesions, a chancre often showing signs of healing within 24 hours. Mercurial baths had of late years fallen into disuse Regularity of living and abstinence from alcohol were of great [illegible] If [illegible] were necessary he allowed a light beer, claret, or Moselle.—Mr. Swinford Edwards pointed out the difficulties in the early diagnosis of syphilitic sores and said that they must be content to keep doubtful cases under observation until the doubt was cleared up. At the same time it was very important to begin mercurial treatment at the earliest possible moment. In the treatment of primary and secondary syphilis he was a believer in small doses of mercury continued over long periods. When mercury upset the gastro-intestinal canal intra-muscular injections of sozoiodol of mercury were of great use. The worst subjects for syphilis were the alcoholic and tuberculous and in both classes treatment must be modified to suit the particular case.—Dr. J. A. Shaw-Mackenzie thought that the physician could not be accused of trespassing on the ground of the surgeon, because before the days of Hunter few or no surgeons had written on the subject of syphilis, and in the reign of Queen Elizabeth surgeons who meddled with such cases were liable to prosecution by the College of Physicians unless they were members of the Apothecaries' Company. He did not think it possible to separate the pathology of syphilis from its treatment. Every grade of syphilitic severity was met with, and the causes of aggravation as well as of mitigation were many, apart from this or that particular method of treatment. Many suppurative sores and chronic discharges in both sexes were of syphilitic origin, more quickly cured by modified mercurial treatment; which cases with pelvic trouble in the woman, if recognised and treated accordingly, would probably never reach the knife of the operating gynæcologist He thought that the external methods of administration of mercury better fulfilled the theories of the elimination of the virus through the skin, phagocytosis and leucocytosis, apparently underlying natural cure; and from long association with the late Mr. Henry Lee he advocated the method of calomel fumigation.—Dr. Phineas Abraham said that there was great difficulty in persuading patients to continue treatment for a sufficiently long period; he suggested, therefore, that arrangements might be made for the reception of syphilitic patients into sanatoria where they could be properly watched and treated He used small doses of mercury with chalk with compound powder of ipecacuanha given frequently for at least a year, with mild mercurial ointments for the cutaneous manifestations —Mr. McAdam Eccles said that in addition to the mercurial treatment it was very necessary for the patient to have the best hygienic surroundings—fresh air, good food, and warm clothing—and to avoid alcohol. He agreed, therefore, with Dr. Abraham that the treatment of the affection in sanatoria might become a factor of considerable importance —Mr L. A. Bidwell gave a brief account of continental methods of treating syphilis, particularly as practised at Aix-la Chapelle —The discussion was continued by Mr. Herbert Paterson, Mr. Rickard Lloyd, Mr. C. R. B. Keetley, Mr. G. E. Twynam, Mr. H. De Méric, Dr. Rayner Batten, Mr. A. R. S. Douglas, Mr. Percy Dunn, and Mr. Alfred Cooper.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 16th, Mr. W. Horrocks, the President, being in the chair.—Dr. F. W. Eurich gave a microscopical demonstration illustrating Epitheliomata. —Dr. James Kerr communicated a paper on Inflamed Corneal Ulcers and showed illustrative preparations, together with the record of 100 cases treated by operation. The disease was most common in dusty weather and in people following dusty occupations. It was frequently traumatic in origin. Workers in soil and stone were the most frequent sufferers. Its incidence increased rapidly with age after 35 years. The spreading serpiginous ulceration, which was the most serious form, was due to pneumococci, which were confined to the cornea, the deep symptoms being due to the toxins produced. The galvano-cautery and paracentesis were held to be the best treatment, while scraping of the ulcer was not advised. Great importance was attached to early diagnosis and energetic treatment —Dr. H. C. Major related a case of Trance which had a fatal termination.—The patient was a woman, aged 50 years, and was seen in consultation with Dr. G. H. Moorhead. She lay almost as one dead; there was intense pallor of the skin and the muscles were relaxed. The respirations were exceedingly shallow and the heart's impulse was very weak. The conjunctival and other reflexes were absent and she could not be roused to show any evidence of consciousness. The onset had been rather sudden three days previously; there were at first some transient spasmodic movements of the limbs. She continued in this state for about three weeks and finally died from exhaustion She had been fed artificially by enemata and by the nasal tube. Physical examination was negative. The optic discs were normal. Post-mortem examination revealed nothing except anæmia of the nervous system and organs generally. The case was diagnosed as one of death trance—a very rare affection. The symptoms appeared to depend on profound functional inhibition of the nerve-centres. As regards diagnosis, uræmia, diabetic coma, cerebral tumour, and hæmorrhage must be eliminated, but a case of trance declared itself in a short time. Practical considerations in the treatment of such a case were: examination of urine for albumin and sugar to exclude uræmic and diabetic coma, regular nasal feeding, the administration of amyl nitrite, and the injection of normal saline either into cellular tissue or the rectum. Faradaisation of the surface of the dry skin with electric brush was worthy of trial. Should death appear to take place they must be exceedingly careful before allowing anyone to act on that supposition It was an acknowledged fact that patients had almost been put into their coffins while in a condition of trance. The faradaic current should be applied to the muscles. Muscular contractions ceased three hours after death (care must be taken to see that the current employed would cause contractions of normal muscles). A case was recorded by Rosenthal in which, 33 hours after apparent death, the muscles continued to react to faradaism; and 44 hours after the patient awaked.—Dr. H. J. Campbell mentioned a case in which the patient had twice been put into her coffin and subsequently recovered.—Mr. J. B. Hall and Dr. J. H. Bell made remarks and Dr. Major replied —Dr. Mitchell, showed a specimen from, and read notes on, a case of Ectopic Gestation. The patient was a married woman, aged 38 years. She had menstruated ten days before being seen. She had suffered from indigestion for six weeks. The pulse was 80 and the temperature was 98 8° F. The illness commenced on August 6th with severe pain and vomiting; it was thought to be a case of autumnal gastro-enteritis. The legs were extended and the abdomen was tympanitic. The next day the distension had increased and there was no pain or vomiting. The bowels were not moved. The temperature was 101° and the pulse was 88 On the 9th the patient was much worse and there was coffee-ground vomit On the 10th the pulse was 104; there was no pain, but the patient was pallid and there was doubtful dulness in the flanks on percussion. On the 11th the pulse was uncountable and the pallor had increased. Hæmorrhage was diagnosed and the patient died before anything could be done. At the post-mortem examination the whole peritoneal cavity seemed to be filled with blood.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Feb. 8th, Dr. W. J. Smyly, the President, being in the chair.—Dr. Arthur Giles showed a specimen of Myomatous Uterus removed from a patient with Glycosuria Hysterectomy was performed on account of menorrhagia and pressure symptoms; and as she suffered also from umbilical hernia a radical cure was performed at the same time. Glycosuria was first noticed about a week before the operation; on previous occasions when the urine had been examined no sugar was present. The patient was a stout florid woman, aged 44 years; she had neither thirst nor polyuria and diabetes could therefore be excluded. The recent appearance of sugar in the urine rendered it unlikely to be due to pressure from the myoma, as might sometimes happen with ovarian tumours, and Dr. Giles believed it to be of nervous origin in this case. The patient made an uninterrupted recovery and the case was important as showing that functional glycosuria was not a contra-indication to such a grave operation as hysterectomy.—In the discussion on this specimen remarks were made by Dr. Travers, Dr. Macnaughton Jones, Dr. Heywood Smith, Dr. W. H. Bourke, Dr. Inglis Parsons, and Professor Japp Sinclair.—Dr. F A. Purcell showed (1) a large Pyosalpinx, together with Uterus, removed by Sub-peritoneal Hysterectomy; and (2) a Fibro-myoma of Unusual Shape springing from the Uterine Fundus; it was a sausage-shaped mass ten inches long and of the thickness of a man's wrist; in its fresh state it resembled a stunted cactus plant.—Remarks in discussion were made by Professor Japp Sinclair, Mr. Furneaux Jordan, Dr. Macnaughton Jones, Dr. Inglis Parsons, and the President —Dr F. Winson Ramsay read the notes of a case of Chronic Tubal Inversion of the Uterus The patient was aged 48 years; three days after the birth of her last child 14 years previously, she had castor oil, and while on the bed pan the uterus came down into the pan The medical man came within three quarters of an hour and pushed it back into the vagina From that day she had always had a slight bloody discharge After 12 months she consulted a medical man who introduced a pessary, which she took out once a week for cleaning In March, 1898, a larger pessary was given her, and as she had pain in the back and bearing down she was told not to take it out so often In May, 1898 she noticed that urine was always running from her In the following September she was unable to remove the pessary and it had to be taken out in pieces under chloroform, urine then ran away more than ever Examination revealed at once a completely inverted uterus not much larger then a normal uterus and covered with stinking slime and phosphates, the base of the bladder was completely gone, exposing the fundus, and the edges were composed of a ring of dense cicatricial tissue After rendering as aseptic as possible, the uterus was removed with scissors on Jan 3rd, 1899, operations for closing the fistula were performed on six occasions up to August of last year She was now quite well, could do her work, could hold her urine for three hours during the day and had not to get up at night —Dr Clement Godson thought the best treatment had been adopted in this case, in view of the vesico vaginal fistula it would have been useless to try to restore the uterus Otherwise it might have been attempted by means of an Aveling's repositor, for this could sometimes be effected when an inversion had existed for many years A Zwancke's pessary should never be allowed to remain *in situ* for any length of time, but should be removed every night and replaced in the morning —Dr Macnaughton Jones congratulated Dr Ramsay on the method adopted in closing the fistula It was the plan first suggested by Dittell and adopted by Howard Kelly of transplanting part of the vagina into the bladder There could be no doubt as to the propriety of removing the uterus in such a case —Professor Japp Sinclair related a case in which he found a vesico vaginal fistula in a patient who gave a history of forceps delivery There was considerable loss of tissue and it seemed to him that the only thing to do was to turn the uterus itself into the bladder. This he did and the patient went on menstruating through the bladder without any inconvenience This showed that the surface of the uterus as well as that of the vagina need cause no bad results when turned into the bladder —After some observations by Dr J Oliver Dr Ramsay replied —The President then delivered his Inaugural Address in which he dealt firstly with the question of the practical teaching of Obstetrics and Gynæcology, and secondly with the subject of the Registration of Midwives —On the motion of Dr Macnaughton Jones, seconded by Dr C H F Routh, a hearty vote of thanks was accorded to the President for his address which he was requested to allow to be printed in the Transactions of the society

SHEFFIELD MEDICO CHIRURGICAL SOCIETY —A meeting of this society was held on Feb 1st, the President, Dr D Burgess, being in the chair —The President showed the following cases (1) A boy with Pseudo-Hypertrophic Paralysis, (2) a woman with Argyria, and (3) a case of Cerebellar Ataxia of over a Year's Duration There were no optic neuritis, no headache, no vomiting, and no evidence of syphilis or tuberculosis —Dr Arthur Hall showed a severe case of Tertiary Syphilitic Ulceration affecting the Left Orbital and Nasal Region The patient had acquired syphilis whilst in the army and had only received six weeks' treatment after the primary infection —Dr Sinclair White showed the following cases 1 A man, aged 54 years, on whom he had performed Suprapubic Prostatectomy for Marked Enlargement of the Middle Lobe of the Prostate with Vesical Calculi The bladder, which had been in a state of atony for several years, had recovered its tone and the patient was greatly benefited by the operation 2 Four cases of Resection of the Large Intestine for Cancer In one case the disease involved the cæcum In the other three it was situated in the sigmoid and one of the latter was suffering from acute intestinal obstruction and resection was preceded by making a temporary artificial anus above the growth In all of the four cases a Murphy's button was employed and they all made a good recovery One patient was only 29 years of age 3 A Myomatous Uterus removed Abdominally with Vaginal Drainage The patient made a good recovery notwithstanding a hernia of the small intestine through the abdominal wound which was relieved on the third day —Mr A M Connell showed the following cases illustrating conservative surgery of bone 1 A lad, aged 18 years, who had had his Left Hand caught in a Hay chopper, the proximal phalanges of the four fingers being divided and the fingers hanging by the flexor tendons and the tissues of the palmar surface The phalanges were drilled and brought together with silkworm gut sutures and the wounds had quite healed on the eighth day The patient had now a good grip, with unimpaired extension, but flexion was limited 2 A man, aged 32 years, who had a Compound Comminuted Fracture of the Upper Fourth of the Left Tibia involving the Knee-joint. Some loose pieces of bone were removed and a large wedge shaped part carrying the internal tuberosity was wired to the shaft Three subsequent operations for small fragments of bone were performed The result was a perfect movement of the joint, though the limb was somewhat bowed owing to the dropping of the internal tuberosity The patient had resumed work a year after the operation 3 Comminuted Fracture of the Left Clavicle in a man Attempts at reduction being futile two silver wire bracelets were passed round the fragments, the ends of the wire were bent down on to the bone and interlocked, and the periosteum was united over these The wound was dressed on the eighth day and the stitches were removed The result was gratifying, as the position was good and all the movements at the shoulder were normal —Professor C F Myers Ward demonstrated the most modern and approved forms of Kymograph Artificial Respiration Apparatus, Volumetric Apparatus and other Physiological Accessories

OBSTETRICAL SOCIETY OF LONDON —The annual meeting of this society was held on Feb 7th Mr Alban Doran, the President being in the chair —The reports of the treasurer, the honorary librarian and the chairman of the Board for the Examination of Midwives were received, adopted, and ordered to be printed in the next volume of the Transactions —Sir William Overend Priestley and Dr James R Chadwick were elected honorary Fellows of the society —Votes of thanks were passed to the retiring vice-president members of council, honorary secretary, and honorary librarian —The President then delivered the Annual Address, including the usual review of the work of the past year During 1899 the society lost ten ordinary Fellows, but none on the honorary list Obituary notices of the ten deceased Fellows were then read; the list included one original Fellow, Dr J A Duncan of Covent Garden; Mr Lawson Tait on whose work the President dwelt at some length; Mr G. F Farr of Kennington and Dr J M Bright of Forest Hill, who both died on Jan 11th, Mr W R Dambrill Davies, once assistant to Dr Clay of Manchester, Mr Clement Pound of Odiham, Hants, Dr A T Gibbings of Dalston, Dr T Cargill Nesham, Lecturer on Midwifery at the University of Durham College of Medicine, Newcastle; Dr Samuel Johnson of Stoke-on Trent, and Dr James Ford of Eltham The officers and other members of council were appointed for the year 1900 as follows —President Mr Alban Doran Vice Presidents Dr John W Byers, Dr William Radford Dakin, Dr John Phillips and Dr. Jamieson Boyd Hurry Treasurer Dr James Watt Black Chairman of the Board for the Examination of Midwives Dr Percy Boulton Honorary Secretaries Dr Herbert R Spencer and Dr Amand Routh Honorary Librarian Dr Montagu Handfield Jones Other members of Council Dr Augustus W Addinsell, Dr A H Freeland Barbour, Dr George Francis Blacker, Dr Robert Boxall Dr Francis Henry Champneys Dr Thomas Vincent Dickinson, Dr Angus Fraser, Dr Arthur Edward Giles, Dr George Ernest Herman, Dr Thomas Robert Lombe, Dr John Dysart McCaw, Dr Ewen John Maclean Dr Hugh James Moore Playfair Dr William London Reid, Dr George H Drummond Robinson, Dr William Japp Sinclair, Dr Arthur Francis Stabb, and Mr, John William Taylor The following specimens were exhibited —Dr Amand Routh Conjoined Twins —Dr. W S A Griffith Cancer of the Ovary —Mr, Cuthbert Lockyer Intra ligamentary Oophoritic Cystoma

NEWCASTLE-UPON-TYNE CLINICAL SOCIETY —A meeting of this society was held on Feb 1st Mr H B Angus the President, being in the chair —Dr A H Hobbs showed a female suffering from Focus tube Dermatitis Her knee had been subjected to x ray examination six months ago for loose body in the joint; 16 days later the skin which had been most exposed to the rays developed an inflammatory condition, and in from three to four weeks a well-marked bulla appeared. An ulcer which was intractable to treatment resulted and was still present —Mr. George Foggin discussed at some length the five different views set forth as the possible causation of the condition —Dr. W. Martin stated that he had now employed the x rays in 200 cases, and this was the first case in which untoward symptoms had arisen.—The President, who is in charge of the x ray department at the Newcastle Royal Infirmary, had only seen one case in his practice.—Mr. T. G. Ouston showed a child, aged five months, with Spina Bifida. The tumour was of the size of a fœtal head, entirely covered with skin and translucent except just beside the spine There was no paralysis, and he considered that the general and local condition of the child warranted the performance of excision.—Dr. T. Beattie urged that the argument against operation in a case of spina bifida should be an increase in its size out of proportion to the size of the child.—Dr. R. P. R. Lyle delivered an address on the Use of Midwifery Forceps He strongly deprecated the too frequent use of forceps and considered 2 per cent. an ample average. No pains should be spared by the obstetrician to avoid their use by a careful management of the first and second stages of labour. If forceps were inevitable the easiest and safest operations should be aimed at. He considered turning preferable to the high operation. More care should be exercised to preserve the child's life. Forceps should not be applied to the breech or the after-coming head.—A discussion ensued in which the President, Dr. Hobbs, Mr. Ouston, Mr. Foggin, Dr. Campbell, Dr. Beattie, and Dr. W. E Alderson took part.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Jan. 24th, Mr. Alexander Miller, the President, being in the chair.—Dr. J. Lindsay showed the Fœtus and Decidua of a Tiger, of a large Fruit Eating Bat, and of a Marmoset.—Dr. J. Edgar showed a Ruptured Hæmatoma of the Left Ovary, the cause of a Pelvic Hæmatocele.—Dr Alexander MacLennan read a paper on the Involution of the Puerperal Uterus. The following points were noted: (1) the method of measuring and the precautions required to avoid fallacies; (2) the physiological circumstances influencing involution, such as age, parity, lactation, time of taking measurements, posture, &c; (3) the pathological lesions affecting involutions with charts to demonstrate the various conditions; and (4) diagnosis, treatment, and prognosis. (*a*) Diagnosis: the observations of involution aided in separating minor from major cases of fever and were especially careful in differentiating the minor cases; (*b*) treatment: the measurements of the uterus gave indications for the administration of ecbolics or cathartics, the intra uterine douche, &c; and (*c*) the prognosis —Dr W. L. Reid showed the child from his case of Ectopic Pregnancy and read some part of his paper. He considered especially the question whether it was really a case of interstitial pregnancy. The points he laid special stress upon were the size of the empty uterine cavity, which was large even for an extra-uterine pregnancy, and the bulging into the cavity of the antero lateral wall of the organ —Dr R. Jardine read notes of Three Fatal Cases of Puerperal Septicæmia of Unusual Origin. The first case was a woman who while pregnant poisoned her finger with a splinter of wood The second case was a woman admitted to the Maternity Hospital moribund She had been in labour for five days and was septic to the last degree. A dirty old woman had been looking after her. The third was a case where infection had occurred from an old retro-peritoneal abscess.

CARDIFF MEDICAL SOCIETY.—The ordinary monthly meeting of this society was held on Feb. 2nd, Dr. P. Rhys Griffiths, the President, being in the chair — The minutes of the last meeting having been read and confirmed, Dr. John Williams showed three specimens and two drawings of Solid Tumours of the Ovary, varying in weight from two to four pounds, removed by laparotomy. Four of the tumours were associated with well-marked ascites, were malignant, and were removed from patients ranging in age from 19 years to 66 years, and the fifth, a solid fibroma, unassociated with dropsy, was removed from a patient aged 39 years. Dr. Williams also exhibited a drawing of a small Papillomatous Cyst springing from the oöphoron with a thick deposit of secondary sprouting papillæ over the pelvic peritoneum. This was removed from a patient, aged 60 years, and was asso ascites.—Mr. E. T. Collins made some remarks.—Dr. A. P. Fiddian described a case of Pediculi Palpebrarum and showed the specimen, commenting upon the rarity of the condition.—Mr E T. Collins showed a large Nodular Uterine Fibroid removed by Pan-Hysterectomy. The tumour was in part impacted in Douglas's pouch and had contracted extensive adhesions with the intestine. The patient made a good recovery.—Mr. William Sheen showed a series of lantern slides to illustrate the Topographical Anatomy of the Mastoid Antrum and the operations connected with it. The anatomical details underlying the various complications of antral disease were briefly outlined.—Dr. D. R. Paterson called attention to the importance of the persistence of the fœtal petro-squamous sinus in determining the route of the infective process —The President and Mr. Cornelius Griffiths also made some remarks and Mr. William Sheen replied.

FOLKESTONE MEDICAL SOCIETY.—A meeting of this society was held on Feb. 2nd, Dr. W. J. Tyson, the President, being in the chair.—Dr. Hoggan Ewart read a paper on Patent and Quack Remedies. A quack was defined as "a boastful pretender to knowledge which he did not possess." Patent medicines were almost always a financial failure whilst proprietary ones were not. In the former the ingredients were known, whilst in the latter they were not. The authority of the Queen's Patent gave a false impression to the ignorant and Government protected the privilege of proprietors of quack medicines by paying for the prosecution of infringements —The society passed the following two resolutions unanimously: "1. That this society is of opinion that the use of patent and proprietary medicines is largely on the increase and is a public danger. 2 That the unrestricted sale of powerful drugs, such as hypnotics and antipyretics, in tablet form is largely on the increase and is a public danger."

NEUROLOGICAL SOCIETY.—The annual meeting of this society was held on Feb 8th —The following were elected officers for the ensuing year:—President: Dr. Augustus Waller. Vice-Presidents: Dr. W. Julius Mickle and Mr. Herbert William Page. Council: Mr. C. A. Ballance, Dr. W. H. Gaskell, Mr. R. Marcus Gunn, Dr. Henry Head, Dr. B. Lees, Dr. C Mercier, Dr F W. Mott, Sir Felix Semon, Dr. James Taylor, and Dr. W. Hale White Treasurer: Dr. Charles E Beevor Editor (*ex-officio*): Dr. A de Watteville. Secretaries: Dr J. S Risien Russell and Dr. W. S. Colman. —Dr. A. Waller delivered his Presidential Address on the Excitability of Nervous Matter, with special reference to the Retina, which was illustrated by numerous tracings and diagrams —A vote of thanks to the President for his address was moved by Sir William Broadbent, F.R S, and seconded by Dr. C S. Sherrington, F R S.

Reviews and Notices of Books.

A System of Medicine by Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M A, M.D. Cantab, LL D. Glasg., D Sc. Vict, F R C P Lond., F.R S, Regius Professor of Physic in the University of Cambridge, Fellow of Gonville and Caius College. Vol. VIII London: Macmillan and Co. 1899. Pp 998. Price 25*s.* net.

THIS is the concluding volume of this excellent System of Medicine and is devoted chiefly to mental diseases and diseases of the skin, but it contains also a few of the less easily classified affections of the nervous system. The first article is on Craft Palsies by Dr. G. V. Poore Of all the paralyses belonging to this class more than 90 per cent. are cases of writer's cramp, partly perhaps because this form of movement is specially prone to lead to this condition, but chiefly on account of the fact that the occupation of clerk outnumbers all other occupations in which special neuroses are apt to occur. Dr. Poore has only seen two cases which could fairly be regarded as examples of "telegraphist's cramp," and both of these were in all probability cerebral in origin. In the case also of "hephæstic palsy" occurring in those who wield light hammers for forging nails or penknife blades the author believes that the fatigue is cerebral rather than muscular For the prevention of writer's cramp Dr Poore advises that children should be trained to a certain degree of ambidextry and that our strokes in writing should be vertical rather than oblique The typewriter is recommended for the use of those who suffer from writer's cramp, but this instrument is not applicable to bookkeeping

Professor J Chiene in an account of Spasmodic Torticollis, thinks that the disease is probably central in origin and that neurectomy of the spinal accessory nerve is the best treatment in ordinary cases, but that as a last resource in severe cases a portion of the motor area of the cerebral cortex may be excised

The articles on Facial Spasm and on Tetany are from the pen of Dr Risien Russell, and the latter paper has a very useful bibliography in which the references are classified according to the chief topics dealt with Dr J A Ormerod's paper on Hysteria is a valuable account of this troublesome disease, he does not appear to be inclined to accept the results of the researches of Gilles de la Tourette on the alteration in the composition of the urine after hysterical attacks

Dr P Manson gives an interesting description of Latah, a somewhat obscure disease met with in the Malay Peninsula and in Java The patient is in a condition like that of a man under the influence of hypnotism and will say words and do actions on the suggestion of others Dr Manson considers latah to be related to various psychopathies, such as the "ikota ' of the Samoyeds and as allied to the curious epidemics of religious ecstasy which were met with so widely in the Middle Ages

The late Dr Hack Tuke has contributed a short article on Catalepsy in which he states that no definite knowledge of the pathology of the condition has yet been gained

It has been customary to look upon neurasthenia as a special product of the high civilisation of our own times but, as Professor Clifford Allbutt points out in his article on this subject, its prevalence throughout the world is an indication that it is no modern invention His description of the disease is ably supplemented by an account by Mr Victor Horsley of the traumatic variety which is so often of importance in medico-legal cases Mr Horsley very emphatically says that no case of traumatic neurasthenia "can be expected to end in recovery if the symptoms be severely marked unless treated by the Weir Mitchell method '

In editing the section on Mental Diseases Professor Clifford Allbutt has had the assistance of Dr G H Savage. All parts of this section are so good that it is somewhat difficult to select any portion for special commendation, but we may perhaps mention the article on Vice, Crime, and Insanity, by Dr C A Mercier Dr Leonard Guthrie's article on Night Terror Symptomatic and Idiopathic, with Associated Disorders in Children, is also very good

Sir John Batty Tuke's account of the General Treatment of the Insanities deserves to be specially mentioned Dr. J Milne Bramwell has contributed a description of the Use of Hypnotism in the Treatment of Insanity and Allied Disorders He considers that ' the question whether insanity in its graver forms can be cured by hypnotism must still be regarded as an open one Dr Bramwell has himself attempted to employ hypnotic suggestion in six cases of undoubted insanity, in five he failed to produce hypnosis, while in the sixth, although sleep was produced and the pain of an organic malady was relieved, yet the suggestions were entirely without effect upon delusions of persecution which had existed for many years.

Mr C T Dent has a short article on the Insanity which may Follow Operations and he points out that operational insanity must be distinguished from that due to the anæsthetic, the latter coming on at once, while in the former there is a clear interval The nature of the operation has little to do with the occurrence of the insanity, and although it occurs more commonly after operations of magnitude yet it has appeared even after tenotomy The treatment advised is to feed the patient well, at the same time, if drugs such as iodoform are being employed they should be discontinued

Almost half the book is occupied by an account of the Diseases of the Skin and this portion has been edited with the help of Dr J F Payne The subject has been divided among a large number of contributors Dr Colcott Fox deals with Erythema in its various forms and Urticaria, especially good being the account of Erythema Multiforme Dr, Payne has written the article on Eczema and in discussing the etiology he points out that traumatism must be considered an undoubted cause of eczema, for artificial dermatitis, which is first excited, is prone to be followed by the appearance of the same lesion in another limb, and no one could refuse to give the name "eczema" to the secondary eruption Dr Stephen Mackenzie is responsible for the account of Exfoliative Dermatitis and it is a most accurate reflex of the current opinion on this interesting disease

Dr H G Brooke has written the article on Psoriasis, and after an able and clear discussion of its etiology he tells us that he is inclined to believe that the neuro-vascular factor is primary, but that there is a secondary local bacterial cause which is essential to the full manifestations of the lesions A very good description of Herpes Zoster is supplied by Dr Henry Head, with an instructive chart which illustrates the age incidence of the disease but it would have been even more instructive if it had been constructed to show the frequency of the cases in proportion to persons living at the several ages, this could have been easily effected by the use of curved abscissæ The diagrams which illustrate the distribution of the various nerve roots are valuable, as the affected patches correspond to nerve roots and not to individual nerves

Dr J J Pringle has contributed the account of Ichthyosis, it is most carefully written, but we are inclined to dissent from the statement that cases appearing for the first time after childhood cannot be accepted as examples of ichthyosis

The only other articles which require to be mentioned are those on the Vegetable Parasites by Mr Malcolm Morris, on the Diseases of the Hair, by Dr H R Crocker, and on the Bacteria of the Skin by Dr J Galloway Mr Morris's paper is illustrated and a few other dermatological diagrams are given, but no attempt is made—and rightly, we think—to illustrate the diseases of the skin

An Appendix on Recent Progress in our Knowledge of Malaria concludes the volume The index contains references to the whole work, but is chiefly intended to refer the reader to the volume containing the information which he seeks; he should then consult the more detailed index of that volume

This as we have mentioned already, is the concluding instalment of this System of Medicine and in reviewing it we cannot refrain from speaking once more of the very high character of the work No such treatise on medicine has appeared since Reynolds's System and it may without danger of contradiction be said to be a worthy exposition of the present state of medicine in the United Kingdom

---

The Myology of the Pelvic Floor A Contribution to Human and Comparative Anatomy By PETER THOMPSON, M D Vict, Senior Demonstrator of Anatomy in the Owens College, Manchester London McCorquodale and Co 1899 Pp 108 *Price 5s*

THIS excellent work on the muscles of the pelvic floor is illustrated by 24 figures taken, not only from the human subject but from dissections on monotremes, marsupials, edentates, ungulates, rodents carnivores, insectivores, cheiroptera, and primates, so that it is a most valuable addition to our few detailed works on the development and morphology of the pelvic human structures. There is a well-marked difference between the pelvic floor of most mammals and that of the human subject In the former the weight of the abdominal viscera is largely borne by the ventral wall of the abdomen, whilst in man this weight is *sustained mainly by the floor of the pelvis owing to* the erect posture compelling special modifications which are unnecessary in animals in which the long axis of the body is horizontal. In mammals generally the pelvic floor is mainly muscular and is specially arranged for closing the clefts through which the rectal and genito-urinary canals pass, and is but little adapted for the support of weight, but as the body becomes absolutely or approximately vertical a distinct muscular pelvic diaphragm is developed in addition to the fibres controlling the clefts for the viscera. These layers are not only functionally but morphologically different in their development. The muscles of the "pelvic diaphragm" in man and the anthropoid apes are derived from the flexors and abductors of the caudal extremity of the vertebral column passing forward in a horseshoe shape to the pubes and encircling the rectum posteriorly. As the upright posture is assumed the number of caudal vertebræ diminishes and the muscles are thus adaptable for other functions. The sphincter muscles are derived from the sphincter cloacæ, and in man they are developed into two layers, one of which includes the superficial perineal muscles and the other those between the layers of the triangular ligament. The superficial perineal muscles are the sphincter ani externus, the transversus perinæi superficialis, the bulbo-cavernosus, and the ischio-cavernosus, whilst the deep-set include the constrictor urethræ, the transversus perinæi profundus, and the ischio-pubicus. The pelvic diaphragm is formed by the coccygei and levatores ani. These muscles are all thoroughly described and most clearly depicted in Dr. Thompson's monograph. We have read with pleasure this admirable piece of work in what is now in Great Britain almost a deserted scientific field and we wish that there were more workers on similar lines. The book is well got up and capitally illustrated.

Cure Prompte et Radicale de la Syphilis. Par le Dr. J. F. LARRIEN. (*Prompt and Radical Cure of Syphilis.* By Dr J F. LARRIEN.) Paris: Société d'Editions Scientifiques. Pp. 131. 1899. Price 4 francs.

THE author of this brochure objects to the use of mercury but not intemperately so. He holds that mercury is injurious when administered internally, as far as the actual cure of the disease is concerned, although he admits its power of suppressing or temporarily removing secondary manifestations He uses it externally to save time, either in the form of sublimate baths when the eruption is extensive or applied locally to skin lesions in the form of three parts of white precipitate to 30 of glycerine of starch, or he may use a gargle or mouth-wash of 1 in 10,000. In severe cases with eye or other threatening symptoms he uses mercurial inunctions for from five to 10 days as the treatment on which he usually relies is *not sufficiently rapid in its action for such cases.* This is as follows, whatever may be the stage or duration of the disease. *He gives every morning a quarter of an hour before breakfast* in a little sugared water three minims of tincture of iodine of recent preparation and a tablespoonful of a solution of iodide of sodium in distilled water containing 15 grains in each dose. This is taken for from 15 to 20 days in each month for from five to eight months. On the remaining days of each month no medicine is given, except in malignant forms when he gives tonics He never exceeds the specified dose, for although sometimes the immediate result may be better it is never lasting. General hygienic measures and judicious hydrotherapy may be simultaneously employed.

The author maintains that there are no contra indications for this treatment, and that it is especially good in the prodromic period, when symptoms disappear in three days, and it prevents secondary eruptions. If roseola is already present it is effaced in three or four days; general papular eruptions and condylomata disappear under local mercurial applications in from three to eight days. Continuing the internal treatment the manifestations are reduced to a few mucous plaques which may recur for from three to six months and that will be all. The treatment should be prolonged for two months after the disappearance of symptoms which in a previously healthy subject would have lasted for from six to eight months; even in chronic alcoholics treatment is rarely required *for more than a year. For cases in which no* treatment has been adopted for a long time or where mercury has been given, (!) it is prudent to give the iodine treatment for two or three months in the second year. Even palmar psoriasis and recurrent tongue erosions will not resist this iodine treatment, which is also excellent for the anæmia of the early stage.

The author brings forward many quotations, arguments, and cases in support of his propositions, and since those who have had the most extensive experience will have to admit that while it is generally easy to remove the symptoms of syphilis in many cases the most experienced practitioners fail to procure a definite immunity from their recurrence, it is worth while to test the author's method, without prejudice, as there is nothing irrational in the plan itself, the most prejudicial statement being that it is *always* successful.

LIBRARY TABLE.

The Pharmacopœia of Guy's Hospital. Compiled by the Committee of the Staff. London: H. H. G. Grattan. 1899. Pp. 222—It has been the custom to publish the Guy's Hospital Pharmacopœia since 1791, but obviously from that time onward a great number of changes have been made. The present little work, the size of which makes it suitable as a pocket-book, represents the ninth issue. To make the book more useful to students the present edition includes the British Pharmacopœia of 1898 so far as it is necessary to be known for the purpose of prescribing. Useful chapters have been added on the preparation of invalid foods, clinical tests, poisons, antidotes, and treatment This little work has been published at an opportune time and its contents will be consulted with advantage.

Merck's Manual of the Materia Medica. Darmstadt: E. Merck. 1899. Pp. 236.—Free copies of this manual may be had on application by medical men to 16, Jewry-street, London, E C. It forms a very useful pocket-book of reference and contains a terse account of drugs, including synthetics and other remedies which have recently been introduced in great number. It contains a summary of therapeutic indications in addition and a classification of medicaments. It has evidently been compiled with considerable trouble and care so as to form a reliable guide to the practitioner in regard more particularly to modern chemicals and drugs.

Aids to the Analysis of Food and Drugs. By T. H. PEARMAIN and C G. MOOR, M.A., F.C.S., F.I.C. Second edition. London: Baillière, Tindall, and Cox. 1899.—This little work is useful as an accurate guide for rapid work in connexion with the analysis of samples taken under the Food and Drugs Act. It is to the analyst what, so to speak, the "aid" book is to the student contemplating examination. The processes described are evidently based on the authors' experiences and should be easily followed from the clearness of the details given. A chapter is added on the Analysis of Urine which is followed by a few notes on the British Pharmacopœia, 1898. For the methods of simple analysis of foods with the view to the detection of adulteration the book may be consulted with confidence, but for more extended inquiry more advanced works would be necessary.

Synopsis of the British Pharmacopœia, 1898. Compiled by H. WIPPELL GADD, M.P.S., with Analytical Notes and Suggested Standards by C. G. MOOR, M.A., F.I.C. Fourth edition. London: Baillière, Tindall, and Cox. 1899. Pp. 223. Price 1*s.*—This little book is crowded with information of value to the pharmacist and the information is easily found since it mostly occurs in tabulated form. An important addition is that contributed by Mr. Moor on Analytical Notes and Suggested Standards. The latter would seem to require further consideration before being adopted. This synopsis is an excellent *vade mecum* for the pharmacist.

A Handbook of Nursing. By M. N. OXFORD. London: Methuen and Co. 1900. Pp. 283. Price 3*s.* 6*d.*—Miss Oxford is the Sister of a ward at Guy's Hospital, and therefore she possesses the great qualification of having a thorough knowledge of the subject about which she is writing. We gather from the preface, however, that portions of the book are attributable to those members of the staff who lecture to the probationers upon medicine and surgery. The book is divided into three parts. Part I. deals with introductory matters and general nursing instructions, Part II. is devoted to surgical nursing methods, and Part III. to the nursing and care of medical cases. Besides these there are useful appendices, notably one upon the nursing of infectious cases and another upon the feeding of children. The book is very plainly and simply written, and apart from its use to nurses we should say it would also be of use to young practitioners who have just left a hospital and are going into private practice either on their own account or as assistants. A man who has been a house surgeon or house physician will find when he goes into private practice that he feels the want of his dressers or clerks and of the sister and nurses of the ward. He will no longer be able just to write down, "Hot bath," or to say casually, "He may have ten drops," but in many cases he will have to arrange for these matters himself. He will have to cut his dressings himself or even to pad splints with his own hands, or at any rate show someone how to do it, and he will have to give directions for the prevention of sore backs. Useful hints on these matters are given in Miss Oxford's book. The publishers deserve praise for the type and, above all, for the paper which is of a good colour and free from clay, so that instead of the book being cumbrously heavy, as so many modern books are, it is light and pleasant to hold.

Aseptic Surgery. By CHARLES BARRETT LOCKWOOD, F.R.C.S. Eng., Assistant Surgeon to, and Lecturer on Descriptive and Surgical Anatomy at, St. Bartholomew's Hospital. Second edition. Edinburgh and London: Young J. Pentland. 1899. Crown 8vo Pp. 264. Price 4*s.*—The second edition of this useful handbook to asepsis in surgery differs but little from the first, which we reviewed in THE LANCET of July 11th, 1896 (p. 117). It is a trustworthy guide to the practice of asepsis and may be employed with confidence by anyone who wishes to understand the principles by which the modern surgeon is guided. The instructions are clear and trustworthy, and though exception might be taken to one or two statements yet there is nothing that prevents us from recommending it as the most simple yet exact treatise on the subject.

Golden Rules of Physiology No. VI. "Golden Rule" Series. By I. WALKER HALL, M.B., Ch B Vict., and J. ACWORTH MENZIES, M D., C M. Edin Bristol: John Wright and Co.; London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1900. Pp. 80. Price 1*s.*—We have upon previous occasions expressed a favourable opinion of the "Golden Rule" Series, and this, the latest of the series shows no falling off from its predecessors. The rules are very clearly and shortly set out, so that the book should certainly attain to the object of the authors, as expressed in the preface—namely, that for those who have read text books and are on the threshold of an examination it should be a stimulant to memory and thought. The subjects are purposely arranged in an unsystematic way, physiologically that is to say, but they are arranged alphabetically, so that they are easy of access. In the Chemistry section we feel inclined to add one caution to those set out by the authors—namely, "Don't do colour reactions by artificial light, except it be that from a Welsbach burner." From our own experience this caution is not unnecessary.

The British Almanac for 1900. London: Published for the Stationers' Company by Charles Letts and Co. Price 1*s.*—*The British Almanac* certainly has a marvellous quantity of information, useful and otherwise, contained within its pages. So good is most of the information that we should have thought the publication was quite able to stand upon its own merits without appealing to the public by giving away presentation coupons for corsets and headache powders. A portion of the book to which we most strongly object is "The Family Doctor," by Dr. E. P. Philpots, M.D., F.R.G.S. Under the heading Useful Notes for Emergencies Dr. Philpots gives a variety of details which if they are intended for non-professional persons may be productive of infinite harm and if for his professional brethren are quite unnecessary. The "useful notes" are loosely written. For instance, under the heading "Burns and Scalds" we read: "If patient collapse give 25 drops of laudanum with some warm brandy and water internally." By far the greater number of cases of burning in families occur in children and 25 drops of laudanum is, to put it mildly, a large dose for a child. The treatment might prove fatal. Again, the paragraph entitled "Eyes, Foreign Bodies in," gives the following instructions: "If, however, the foreign body is embedded in the front of the eye (the *cornea*) it must be 'dug out' with a needle." Now, every medical man knows this, but the medical profession is not addressed in the *British Almanac*. When the anxious mother or father of a family begins to dig out foreign bodies with a needle disaster will soon follow. We hope that this section will be expunged in next year's issue.

Dod's Parliamentary Companion, 1900. London: Whittaker and Co. Price 4*s.* 6*d.*—This invaluable little compilation is brought up to Jan. 5th of the current year. The House of Lords is, as we all know, graced by the presence of one medical peer—namely, Lord Lister. There were eight medical men sitting in the House of Commons on the publication of the *Parliamentary Companion*—namely, Sir Charles Cameron, Dr. Farquharson, Sir Walter Foster, Dr. MacDonnell, Sir W. Priestley, Dr. Tanner, Sir R Finlay, and Mr. J. F. Fox, who is F.R.C.P. and S. of Kingston, Canada. Sir R. Finlay left the practice of medicine for that of law. The number of medical Members of the House of Commons is now increased to nine by the election for London University of Sir Michael Foster.

VACCINATION AT WARMLEY.—At the meeting of the Warmley (Gloucestershire) Board of Guardians held on Feb. 6th it was reported that the births of 451 children had been registered during the first half-year of 1899; of these, 158 had been successfully vaccinated, certificates of conscientious objection were granted for 22 and certificates for postponement for five, 55 died, four were removed, and 207 were unaccounted for. One of the guardians remarked on the large number unaccounted for and proposed a motion, which was carried, drawing the attention of the vaccination officer to the fact.

# Analytical Records
FROM
THE LANCET LABORATORY.

MALTED MARMALADE.

(James Keiller and Son, Limited, Dundee, Tay Wharf, Silvertown, London, E)

THE presence of the active starch-digesting principle of malt in marmalade affords a distinct dietetic gain. Further, it adds very pleasantly to the flavour of this preserve. The marmalade is evidently prepared with care and with good materials, and according to our experiments it rapidly digests starchy substances. In appearance the preparation differs in no particular from ordinary marmalade. The combination is an excellent one, the malt adding very materially to its nutrient value while the bitter principles of the orange have a favourable effect on gastric action. The marmalade is concentrated at a comparatively low temperature in vacuo so as to avoid the destruction of diastase.

AMYLOFORM.

(Thomas Christy and Co, 25, Lime street, London, E C)

Amyloform is a white, somewhat gritty powder containing, as its name would suggest, formaldehyde and starch. It is a definite chemical combination which is said to decompose in the living animal organism with liberation of formaldehyde and starch. The former constituent is available for antiseptic treatment and the latter is hydrolised and absorbed. The powder is odourless and resists being disrupted at a temperature of 180° C. This fact has suggested its suitability for impregnating gauze for the treatment of wounds. We found that amyloform was insoluble in most ordinary solvents but that on heating with dilute potash solution it gelatinised and turned yellow. It reduces Fehling solution slowly and iodine strikes the blue colour characteristic of starch. It would seem to possess many advantages as a general antiseptic used both internally and externally.

KEYSTONE BURGUNDY (FERRUGINOUS).

(Stephen Smith and Co, Limited, Malmesbury-road, Bow, London, E)

Our analysis of this wine gave the following results: Extractives, 4 00 per cent.; mineral matter, 0 44 per cent.; alcohol, by weight 13 15 per cent., by volume 16 24 per cent., equal to proof spirit 28 46 per cent; tartaric acid, 0 43 per cent.; volatile acid reckoned as acetic, 0 09 per cent. It is a somewhat full-bodied wine possessing the generous qualities of a good burgundy. It is practically free from volatile acid, a fact which speaks of its sound condition. The mineral matter contained a notable amount of iron. Though the wine is of a robust type it is free from that roughness of flavour commonly present in wines of its class.

SPECIAL DRUGS (MERRELL).

The W. S Merrell Chemical Co, Cincinnati; 47, Wilson street, Finsbury-square, London.)

Amongst the specimens submitted to us for inspection by these manufacturing chemists may be mentioned as possessing special interest the preparations "ferro salicylata" and "bismuth hydrastia" respectively. The former is a combination of methyl salicylate and tincture of the citro-chloride of iron. It is said to give excellent results in the treatment of rheumatism being, besides anti-rheumatic, antiseptic and tonic. The solution of bismuth hydrastia consists of the double citrate of bismuth and hydrastia. It is a colourless solution and slightly viscid. It has been used in the treatment of irritable, inflammatory, or ulcerated conditions of the mucous surfaces, in diseases of the stomach and bowels, and locally in diseases of the nasal passages, the eye, the throat, and the urinary organs. In addition to the foregoing drugs we have examined a sample of fluid hydrastis which is prepared without alcohol and which forms with water, alcohol, or glycerine a clear solution. During the process the objectionable resin found in the hydrastis is rejected. Lastly, the specimens included salicylic acid prepared from oil of wintergreen and the sodium salt.

"I AND I" FOOD.

(The Infant and Invalid Food Co, Limited, Cereal-buildings, 54, City-road, London, E C.)

The analysis of this food was as follows:—Carbohydrates, 75·50 per cent.; proteids, 13 00 per cent.; fat, 3 30 per cent; mineral matter, 1·40 per cent.; moisture, 6 80. It will be noted that the preparation contains the three important classes of food material—heat-producing, flesh-forming, and bone-producing—in desirable ratio. The proportion of proteids and fat is especially commendable. Further, the method adopted for the preparation of this food is calculated to render it easily digestible.

KOLA ASTIER

(Wilcox and Co., 83, Mortimer street, Great Portland street, London, W.)

The pharmacology of the kola-nut is now well known. It contains certain principles, amongst which are caffeine, theobromine, kola red, &c, which are decided nerve stimulants. Kola astier occurs in the form of a granulated powder with a cocoa-like colour. It readily yields crystals of caffeine on extraction with chloroform. Each teaspoonful is said to contain two grains of caffeine. Whilst admitting the value of this preparation as a nerve stimulant and as excellent for the purpose of relieving languor and fatigue we would point out that it should not be used indiscriminately but under the direction of the physician. Caffeine is not without dangers when administered in large doses and for a length of time.

BAKING FLOUR FOR MAKING BROWN BREAD.

(The Cereals Co, Limited, Greenock.)

We found no striking novelty in this flour. It produces a good loaf of good wheaten flavour and possessing satisfactory texture. The amount of proteids found was disappointing, the figures we obtained being 9 00 per cent. The mineral matter containing phosphates was proportionally high and amounted to 1·99 per cent. The moisture was 13 37 per cent. The flour contained fragments of indigestible husk.

REEVE'S COCOA ESSENCE.

(The Sweetmeat Automatic Delivery Co, Limited, 104, Baltic-street, Bridgeton, Glasgow)

On examination this proved to be a cocoa of excellent quality with the greater part of the indigestible cocoa fat removed. It contains 4·30 per cent. of moisture and ·20 per cent. of fat. The mineral matter amounted to 5·5 per cent. and exhibited a soluble alkalinity equivalent to 0 8 per cent of potash. The cocoa is satisfactorily "soluble" and has evidently been rendered so by a special departure in manufacture. As we have before shown raw cocoa requires careful preparation in order to be "soluble" in the cup, leaving as little sediment as possible. This process, too, increases its digestibility and therefore its suitability for invalid use.

FLUID EXTRACT OF MALT AND GLYCEROPHOSPHATES.

(Duncan Flockhart and Co, 104, 106, South Canongate, Edinburgh)

This preparation is a decided therapeutic improvement upon the ordinary syrup of glycerophosphates, for it combines the advantages of the salts with the well-known digestive and nutritive properties of extract of malt. It further contains the nerve stimulant caffeine in a stable form in the place of the kola which was suggested in the original formula of Dr. Robin (of Paris) The preparation is valuable where an improved general nutrition of the nervous system is indicated. Experience has shown that the glycerophosphates are very advantageous under these conditions and their administration with active essence of malt is calculated to add to their therapeutic value in this respect. Each fluid drachm of the extract of malt contains the glycerophosphates in the following quantities: calcium 1 gr., sodium ½ gr., potassium ½ gr., manganese ⅛ gr., iron ¼ gr., with ⅛ gr. of caffeine.

TABLE JELLIES

(TOUZEAU PARRIS AND CO., LIMITED, ENFIELD WORKS, MILL HILL PARK, ACTON, LONDON, W.)

Whatever process is adopted for the production of these jellies it is evident that the best materials are used and that care is taken to avoid all contaminating influences. We could find on careful examination no objectionable colouring matters or preservatives or metallic impurity. The jellies are said to be made in silver-lined pans and consist of attractive and almost transparent unshrinking gelatinous slabs possessing a delicate odour of the various fruits employed. They yield an excellent table jelly by simply stewing in hot water and allowing the liquid to cool. In particular the jellies may be commended for their excellent yet delicate flavour, which is successfully derived from the fruit and preserved by a special process. We believe these preparations are honestly described as containing natural fruit flavours. Jellies occupy a not unimportant place in dietetics. They are pleasant to partake of, nourishing and attractive, and afford often a grateful adjunct to the food of the invalid.

BAKING POWDER.

(H. K. BUSHELL, 343, OXFORD-ROAD, READING.)

We could find no novel feature in the composition of this powder. It is, at any rate, free from objectionable constituents such as alum. It contains starch and the materials commonly employed for effecting effervescence. It serves as a convenient aerator for "raising" bread, and containing nothing but innocent materials is quite unobjectionable for the purpose.

"MAFUTA" PRESERVED BANANAS

(THE MONTPELIER FRUIT AGENCY, 119, MIDDLESEX-STREET, BISHOPSGATE STREET, LONDON, E.C.)

The fruit is preserved by simply extracting the water from it, and in this way it is analogous to the dried fig. Preserved bananas are somewhat mawkish to the taste. Nevertheless, they deserve a place in the dietary considering how really nutritious this fruit is. For some reason not yet explained the starch of the banana is much more readily digestible than are the cereal starches, besides which the fruit contains a notable proportion of nitrogenous material. We could find no objectionable preservatives. The fresh fruit can so readily be obtained in this country in excellent condition that there hardly appears to be a reason for providing it in the preserved state. There is, however, a curious but not disagreeable flavour in the preserved banana, suggesting slight fermentative change and not unlike the flavour of the spirit obtained from the fermentation of molasses.

PATENT CUSTARDS.

(S. CHIVERS AND SONS, HISTON, CAMBRIDGE.)

According to our examination the composition of these custard powders is quite simple and the materials are free from reproach. By simply boiling with milk and allowing to cool a custard is obtained. Of course the nourishing property of a custard prepared in this way cannot be compared with that of the true custard prepared with eggs. Indeed, the "Patent Custards" contain relatively a very small proportion of proteid matters.

New Inventions.

AN IMPROVED STORAGE BATTERY, "RESISTANCE," AND CHARGING BOARD FOR MEDICAL USE.

WE have recently inspected some interesting electrical apparatus for medical and surgical use which present features of advantage to the practitioner and surgeon. Thus in the battery the chances of short circuiting happening are reduced to a minimum by introducing a highly porous medium between the plates. The battery, in fact, is almost of solid mechanical construction. The separating medium is of such a highly porous nature that it offers practically no resistance, and, indeed, it is said that a standard cell which has a capacity of 30 ampères at its normal discharging rate (that is to say, three ampères) can be discharged at three or four times its normal discharging rate without a serious fall of pressure or without deterioration of the plate. The positive material, being covered by the separator, cannot disintegrate, while elastic bands are provided which hold the elements together and compensate for any expansion or contraction which may occur either during the forming or charging and discharging operations. The metal containing frame for the active material is so arranged that all portions of the material are in intimate contact with it; therefore the whole mass of the material is put into service. In this way a very large capacity for a given quantity of active material is obtained. The makers, indeed, state that they obtain at normal rates of discharge a capacity of one and a quarter ampère hours per ounce of lead peroxide—a result, they believe, which has not been obtained in any other form of lead storage battery. The battery is specially constructed to withstand a considerable amount of rough treatment and the connexions between cell and cell are accessible so that should a disconnexion occur it can be easily remedied. This battery has given excellent results for x-ray work and is very well adapted for carriage lighting. The same electrical engineers have introduced a variable compression resistance which medical men will find highly convenient for regulating the intensity of the light of any of the lamps which they may have in use. Its range being very large renders it equally useful for working lamps, small cautery instruments, or induction coils. In the case of small cautery instruments the heat can be regulated to a nicety, as a variation in pressure of a fractional part of a volt makes a considerable difference in the heating of platinum wire. Thus the finest possible adjustment can be effected by this new instrument. By an ingenious arrangement a large radiating surface is presented, the resistance discs being kept apart by springy metal plates which give elasticity and a correspondingly large radiating surface. A valuable adjunct to this equipment is a special charging board which enables anyone having a direct current circuit available to re-charge his battery without the possibility of joining it up wrongly. By means of a little needle actuated by a magnet the positive pole is at once indicated and no mistake can be made. The device is a great improvement upon pole finding paper. The designers of the apparatus described are Messrs. Niblett, Sutherland, and Marcuson, electrical engineers, of 61, Chandos street, Strand, W.C.

THE NITRO-PROPIOL TEST FOR SUGAR IN URINE.

Advantage has recently been taken of the fact that nitro-propiol interacts with glucose *to form indigo, in connexion* with a simple and ready test for sugar in urine. Nitro-propiol is, to give it its complete chemical name, the sodium salt of ortho-nitrophenyl-propiolic acid $C_8H_4(NO_2)C : CCO_2H$, so that the reaction taking place may be thus represented: $2C_8H_4(NO_2)C \quad COO_2H + 4H = C_{16}H_{10}N_2O_2 + 2CO_2 + 2H_2O$. The change of course is due to the reduction of the nitro-propiol *by the glucose*. It is *stated that the test* is not affected by kreatinine, glycuronic acid, or other constituents of the urine or by such drugs as iodine, salicylic acid, turpentine, &c., which may occur in the urine. The test is stated to indicate with certainty 0.05 per cent. of grape sugar. Nitro-propiol is supplied in tablets ready for use, and in order to carry out the test one tablet is dissolved in three drachms of water after which 10 drops of the urine are added and the mixture is then gently boiled for from three to five minutes. Indigo blue soon appears if sugar be present and the quantity of the precipitate or the intensity of the colour is proportional to the amount of glucose present. The test is known as Teusch's Nitro-propiol Test and the tablets are supplied by Messrs. Wilcox and Co., of 83, Mortimer-street, Great Portland-street, W.

THE laryngoscope devised by Dr. Mark Paunz, described and figured in THE LANCET of [illegible] 27, is made by Messrs. S. Garay [illegible] Budapest.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 17, 1900.

IN another column there will be found the full text of the Midwives Bill, which was introduced into the House of Commons by Mr. TATTON EGERTON on Friday, Feb. 2nd. As will be seen the differences between it and the measure introduced into the House in January, 1899, are very slight and consist mainly of a few additions made at the suggestion of the Privy Council. It will be noticed also that throughout the Bill the *words "certificate" and "licence," "certification" and* "licensing," have been transposed, so that the certificate now admits to the roll while the licence is an annual affair granted by the local supervising authority. The Bill has obtained the second place for Wednesday, Feb. 28th, and will then be read for the second time unless the debate on the measure which has obtained the first place on the same day be unexpectedly prolonged. Under these circumstances it seems to us imperative that the medical profession should make up their minds what course they desire Parliament to pursue. The "Midwives Question" is, as we have frankly recognised and often said in these columns, an exceedingly difficult one to solve. For both those who do and those who do not desire legislation for the regulation of the practice of midwives—whether it take the form of Mr. TATTON EGERTON'S Bill or of some similar measure—can with equal force maintain that their opinion is the right opinion on humanitarian grounds and no less on medical grounds. To leave the people to the mercies of the Gamps is cruel, but to supply them with a semi educated grade of medical attendants is no kindness. If the first course leads to disasters, the second would seem as inevitably to make for tragedies However, we are not now discussing the question at large or any Bill in particular. We are only urging on the profession that there is no time to be lost if their voice is to be heard on one side or the other. We do not say that Parliament will adopt the attitude that it is desired to take by the medical profession, for Parliament nowadays is especially and rightly opposed to legislation in favour of classes; but we are certain that it will be of immense assistance to our law-givers if they can know what is the view of the medical profession. For this view by all tradition should be a liberal one and instinct with a desire to better the condition of the sick poor. We have decided to make an attempt to ascertain what is the general feeling of those medical practitioners whom the proposed legislation concerns. The Bill does not contemplate Scotland or Ireland in its working. To the English medical men we have addressed a circular letter begging them to tell us if they are in favour of legislation for the regulation of the practice of midwives or not, and, further, if they are in favour of such regulation, whether the Bill now before the House meets with their approval. We hesitate to say that the medical practitioner who does not answer our circular is convicted thereby of indifference to the whole question, for it seems to us that to do so would be tantamount to making a rather too positive demand for a reply. But we do say that the "Midwives Question" is an exceedingly important one; that such circular letters are not issued in thousands without the expenditure of time, trouble, and money on our part; and that to write a word or two upon a postcard already stamped and addressed, and to place that postcard in the post should not be a very onerous task for anyone. We trust that we shall receive answers generally and promptly to the circular, for whether Parliament is swayed or not entirely by the opinion of the medical profession, that opinion cannot be without great influence and ought to be registered.

◆

THE Managers of the Metropolitan Asylums Board at their last fortnightly meeting found themselves confronted with a choice between two evils. The matron of one of the hospitals of the Board had written stating that she had been selected as a nursing sister for a military hospital at Cape Town (which presumably means that she had voluntarily offered herself and had been accepted) and she asked to be granted leave of absence without pay during the time that her services were required by the Government. The Board therefore had to choose whether they would permit one of their institutions to suffer such disorganisation as might be expected to arise from the appointment as a temporary matron of one who would know that she occupied her position for a wholly indefinite period which no efficiency or energy on her part would prolong, or whether they would boldly incur such unpopularity as might be expected to result from a decision which would strike the thoughtless as unpatriotic. The Hospital Committee recommended that the matron should be informed that the Managers could not see their way to accede to her request, and the chairman of the committee brought forward a motion embodying this recommendation, which was duly seconded and supported. On the other hand an amendment was moved to the effect that the matron's application should be granted. A lengthy discussion took place, in which the views of both sides were urged with considerable force and with some warmth. It was said on behalf of the Hospital Committee's recommendation that although leave had been granted to humbler officials and no difficulty had been found in providing for the performance of their duties during their absence, to place a hospital in complete charge of a substitute was another matter. However great the national needs might be, still nothing had yet happened to the country and nothing ever could happen which would justify the Board in neglecting the needs of the sick under their care. For the counter proposal that the matron should be allowed to go, and in due course to return, it was urged in strong terms that to refuse her request would show an unpatriotic spirit. The Board was called upon to emulate the loyalty which had animated every other body in the country. In the end the motion recommended by the Hospital Committee was carried, so was a second one naturally resulting from the , that the Board should accept the matron's resigna of her position This she had tendered in a further er, being apparently aware that her first application ld not be favourably received, and having made up her d in any case to proceed to South Africa

ith the matron's decision we find no fault She may de e considerable credit for the course which she has taken voluntarily abandons a comfortable if responsible and lions, post for one which must imply arduous work in y trying circumstances At the same time we cannot sympathise with the Board in the situation in which y found themselves placed and we commend their ision which showed that they fully appreciated their position in the matter and were determined rageously to maintain it That it would be attacked was ain A contemporary, a leading London daily newspaper, assailing the Metropolitan Asylums Board quotes the ing of the Saviour of mankind, "The poor ye have always h you" Without going into the circumstances in which se words were spoken we hold that to interpret them a command to neglect our sick poor at home while ending to our wounded soldiers abroad is both wholly trary to their spirit and to the spirit of Him who ke The present war has evoked an extraordinary amount zeal on the part of thousands who have voluntarily red *themselves to take part in it and of self sacrifice* the part of those who have *undertaken to keep* open the ces of the volunteers until their return Many have gone cheerfully because their duties as reservists compelled m to do so and these also their masters have in almost ry case undertaken to employ again There is, how r, an obvious distinction between the reservist and the unteer, just as there are limits beyond which volunteering active service is strongly to be deprecated Soldiering essentially for the young, the active and the specially ined, the middle aged those accustomed to sedentary es and without military experience, are likely to become rdens to their fellows at the front Again, those whose aces cannot be filled if they fall—fathers of families, for amples who leave wives and children unprovided for—ese should not put themselves forward to go As a rule, ose who have volunteered are young men who have not ven hostages to fortune and whose duties can be dis arged by others; we doubt if employers would be ready to cilitate the departure of the more responsible of their rvants, to put temporary substitutes into the places of con lential clerks and trusted managers, nor can they reason ly be expected to do so For similar reasons those cupying such posts cannot reasonably or rightly abandon em of their own free will—impelled, as they are no oubt largely by patriotism but also by a Briton's love of lventure—and expect *their billets to be temporarily filled* he loss should anything go wrong during their absence ould fall upon their employers and the business of the ountry must go on despite the war

The Metropolitan Asylums Board clearly took this view f their matron's application They expressly said that hey had allowed minor officials to go with the promise hat they should return, but that they could not permit he smooth working of one of their hospitals to be impaired in order that the official responsible for it should do for her country what others might undertake without causing loss to anybody The position of the Board, moreover, differs in an essential particular from that of the commercial employer to which we have compared it and makes the course which the Board have taken more clearly the right one The Board might incur trouble in finding a temporary matron, but any loss resulting would not fall upon themselves but would be felt by those persons who are the inmates of the hospitals of the Board and with the safeguarding of whose interests the Board are entrusted The Board if they had granted the request of the matron to the possible injury, in however slight a degree of those entrusted to their care would have exhibited a cheap patriotism, and have been guilty of a genuine breach of trust

---

A STATE of war sets in exhibition the most contradictory sides of humanity If it seems to expose the worst aspects of our nature it also undeniably brings into view some of the best Among the more active participants it is the cause of self sacrifice, self denial, and cheerfulness under the most trying circumstances in a determination to do all that lies in the power of each for his Sovereign and country And if we who stop at home cannot do so much yet we recognise that it is our part to minimise as far as we can the sorrows and distresses which war inevitably brings in its train The present conflict in which we are engaged has given many examples of a wish, and of more than a wish to help Neither has this desire been confined to one class or one corner of the empire Relief funds abound and subscriptions have been sent not only from the United Kingdom, but from every part of the QUEEN'S realms Every class of woman, from the highest to the lowest, has vied in making articles of clothing for the troops or in providing them with comforts wherewith to lighten the hardships of the campaign

But there is a class which is in danger of being neglected —or perhaps we should say overlooked—and that is the class comprising those officers who are not too well off in the matter of temporal goods We recently published an appeal from the Duke of ABERCORN[1] "on behalf of those sick and wounded officers of all services whose means are inadequate to secure that efficient medical and surgical treatment which will often be needed to restore to them, after their return home the health they have sacrificed in the service of their country His Grace went on to point out that there would certainly be many officers who had small private means and who would not be in a position to command the skilled assistance which they would most urgently need He therefore felt that an attempt should be made to offer assistance It will be remembered that an influential committee was at once formed and already a fair amount of money has come in through subscriptions It will be difficult, perhaps to distribute the benefits of this fund in a way which will be at once unostentatious and calculated to do the most amount of good But the possible recipients will not hesitate to take their share if the help is offered to them, as we are sure it will be, as an expression of earnest desire to show gratitude to those who have done their best for their country. Sickness is always a heavy tax upon the resources of even a rich household, and in the ordinary English home it involves disturbances of the domestic *régime* which militate much against the recovery of the patient. The regimental and professional demands upon the purse of an officer absorb much of his pay, and for anyone whose private means are somewhat straitened the thought that every extra sum spent upon himself means less comforts, we might say less necessaries, for his wife and children is a factor calculated to retard restoration to health. Therefore it is that we welcome the appearance of the fund in question. The patients will for the most part pay some share of the expenses, and there should be no hesitation in accepting their offer to do so. Secondly, as regards the medical or surgical attendance it is necessary that the medical man should receive some fee. Many leaders of the medical profession have joined the committee and there will be no lack of consultants ready to give their services; but this is not what is wanted. If one operating surgeon is thus profuse in doing good others will feel bound to follow suit, and we should soon reach the position of the poor officer being helped by a surgeon but little if any richer than himself. By all means let operations be charged at a great reduction from the usual fee; towards the reduced fee the patient should contribute a quota such as his means can afford, while the balance could be made up from the fund, which should also supply dressings and bandages if such are needed.

---

[1] THE LANCET, Jan. 13th p. 133

It is above all things necessary to make the recipients understand that help is offered ungrudgingly, unostentatiously, and with a real desire to repay benefits already received. Aid will not only help themselves but those dear to them. It is hard to fight, hard to see companions falling on every hand, but harder still is it for those who have to stay inactive at home. Hear the words of one unjustly called a cynic: "Dreadful doubt and anguish—prayers and fears and griefs unspeakable—followed the regiment. It was the woman's tribute to the war. It taxes both alike and takes the blood of the men and the tears of the women." Let us see to it that additional sorrow is not laid upon both those who fight and those who suffer in silence by any lack of skilled aid which may help to restore him who has unselfishly given his best. We hope that our readers will contribute to the medical fund in aid of the sick and wounded officers and will bring the fund also to the notice of their friends and patients.

THE electors of the University of London, in choosing a successor to Sir JOHN LUBBOCK, have made a good selection. They have chosen one of the most distinguished graduates of their University, who has achieved an enormous reputation both as teacher and man of science in the sister University of Cambridge. The claims of Sir MICHAEL FOSTER have been so successfully vindicated by the electors, and are indeed so obvious, that it seems unnecessary to revert to the attempts that were made during the contest to show that as a Cambridge professor he must necessarily be out of sympathy with the external *student*, and therefore with the University of London. It shows to what straits Sir MICHAEL FOSTER'S opponents were driven to find arguments against him that such a plea should have been put forward. In his brief speech after the result of the election was announced the new Member of Parliament expressed his intention to do his duty by labouring in the House of Commons not for the interest of any particular class, "be they doctors or lawyers, men of letters, men of science, or men of business, internal or external students," but for the common good of all. He took no narrow view of the future of the University, but considered that in its new form it has before it a great future. Such hopefulness in the representative whose election coincides almost exactly with the reconstitution of the University is of good omen—especially when it is remembered that Sir MICHAEL FOSTER, who claims to owe everything to the University of London, has since played a conspicuous part in an ancient university founded and developed on very different lines. What is wanted in the present position of the University of London is the help of men who are in sympathy with all that is best in both old and modern universities, and who realise that the time is opportune for creating in this metropolis a university combining all the advantages of both and free from some of their trammels. Surely no one could have been chosen by the graduates to represent them in Parliament more likely to afford such help, or more free from prejudices, academic or theological, general or domestic, than Sir MICHAEL FOSTER. He is returned as a supporter of the Government upon one or two points which at present dominate public attention, but a man who rejoices in being born where CROMWELL was born may be expected to assert in Parliament the claims of truth regardless of party considerations.

The election of Sir MICHAEL FOSTER by a large majority is not only good for the interests of the University of London, but will do much to strengthen faith in the Parliamentary representation of universities. If the members of universities have no claim to special representation so much the worse for them. The universities have it in their power, and should have it in their disposition, to return men to Parliament of special usefulness who may never make a political speech, and who yet may be able to see what are the great wants of the country and to express them in terms all the more forcible because their words do not smack of the political caucus. On all these grounds we rejoice in the election of Sir MICHAEL FOSTER. The return of Dr. COLLINS to Parliament by an academic constituency, largely medical, would have been unfortunate for reasons which we considered it our duty to indicate clearly before the election, while Mr. BUSK'S candidature did not commend itself to us any more than it did to the constituency.

UNIVERSITY OF CAMBRIDGE.—Vacancies in the boards of electors to the several chairs in the department of medicine have been filled up as follows: Chair of Anatomy, Dr. D. MacAlister; Downing of Medicine, Sir T. Lauder Brunton; of Physiology, Dr. W. H. Gaskell; of Surgery, Mr. T. Holmes; of Pathology, Dr. L. Humphry.

Annotations.

"Ne quid nimis."

"PUNCH" AND THE CHILDREN.

CHILDREN of all ages take a delight in *Punch* and *Punch* has always made it a tradition in its genial pages to love the children even while recording examples of their "terribility." It is, therefore, not surprising to us to find an eloquent appeal issued from the *Punch* office on behalf of the Hospital for Sick Children, Great Ormond-street, W.C. We knew this hospital to be badly in want of money, but the proprietors of *Punch* state that "unless a very considerable sum is shortly forthcoming the hospital must inevitably close its doors this year." Messrs Bradbury and Agnew are making an effort to enlist the sympathy and obtain the material assistance of all people who would regard as a calamity the closing of this the oldest children's hospital in England. To which end they have in the current number of *Punch* published a special appeal together with a reprint of a story by Mr. Anstey Guthrie which appeared in *Punch* of Jan. 31st last. We can only in the strongest terms recommend our readers to do as they are asked by the proprietors of *Punch*—i e., to give what they can to a splendid charity and persuade as many people as possible to do the same. It is needless to insist upon the sufferings of sick children who reside in a poor home—every medical student who has been a few minutes in an out-patient department learns something of what these sufferings are The war, we know, has made great calls upon all purses, but there must be many among us who can still spare something for that house of mercy the Great Ormond-street Hospital. Donations will be thankfully received on behalf of the "Ormond-street Hospital Fund" by Messrs. Bradbury, Agnew, and Co., 10, Bouverie-street, Fleet-street, E.C., whom we congratulate upon their efforts.

"HALF A MAN" IN COURT.

A YOUTH from Jamaica, described as dark-skinned and beardless, sought the advice of Mr. Plowden at the Marylebone Police court a few days ago and told the following story. Owing to the ill treatment of his stepfather he had run away from home and joined a ship as an ordinary seaman He was, however, unable to do his work properly because, as he told the magistrate, the upper part of his body resembled that of a woman. The captain of the vessel discovering this fact put him on easier work, but absolutely refused on reaching Liverpool to re engage him, saying that he wanted a man and not half a man Since this he had failed to find work, and having wandered up to London in a destitute condition he applied to the court for help. No doubt this individual is an example of the abnormality known as gynæcomastia or gynæcomazia—a condition well recognised by all medical writers. It occurs in male animals as well as in man. Thus Aristotle records the case of a he-goat at Lemnos who furnished milk from which most excellent cheese was made The oracle on being consulted as to the nature of this prodigy predicted a great increase of fortune for the happy owner. According to Puech breasts of female type are found as often as 1 in every 13,000 conscripts. That the presence of well developed breasts does not necessarily interfere with the duties of a seaman is shown by the case recorded by Morgan[1] It is that of a man, aged 21 years, admitted to the Royal Naval Hospital at Hong-Kong, whose right mamma had the appearance of the well-developed breast of a full-grown woman. The areola was large and brown coloured, but the nipple was the same size as that on the left breast. The breast was first noticed to enlarge at 16½ years of age; since then it had steadily increased, but no milk had ever been present. The external genitalia were well and fully developed. The man complained of no discomfort except occasionally, when drilling aloft, his breast came in contact with the ropes. Hutchinson[2] records a very interesting case of a boy of 15 years of age, the son of a woman affected with acromegaly. He was enormously fat in all parts of the body but without a trace of hair on the face. His breasts were as large as those of a well-developed young woman and had fairly large nipples. The penis, scrotum, and testicles were extremely small, the latter not bigger than small acorns, while the pubic hair was almost absent. Such atrophy of the external genital organs is not infrequently associated with gynæcomastia. Not only are well developed breasts met with in males of all ages, but every now and then cases occur in which these individuals are able to suckle young infants. Gould Franklin, in his "Voyages to the Polar Seas," quotes the case of an old Chippewa Indian whose wife died in childbirth and who put his infant to his breast and prayed that milk might flow. It did so flow and he was fortunate enough eventually to rear the child. Possibly this is the same Indian, then a chief, 101 years old, whom Kane alludes to in his book upon the Indians of Hudson's Bay. Thomas Bartholin mentions the case of a man who had so much milk in his breast that he was accustomed to draw it off and make cheese of it which he sold "to the curious" If we are to believe the *Journal des Sages Femmes* a quack practitioner at one time started a school for male wet-nurses, holding out as an inducement to possible clients the great physical advantages their babies would be likely to derive from being suckled by sturdy men. The development of breasts in the male with or without the presence of milk is not uncommonly hereditary, and histories are recorded of whole families who have exhibited this curious anomaly.

"THE USE OF THE AMBULANCE IN CIVIL PRACTICE."

IN a re-issue of a pamphlet bearing the above title Mr. Reginald Harrison quotes some painful instances of the hardships and dangers resulting from the conveyance of patients to hospitals by unsuitable methods. Fractures of the lower limbs, in particular, may be greatly aggravated in this way, either by the wounding of blood-vessels by the ends of the bone or by the conversion of a simple fracture into a compound one. Risks of another kind are incurred when a patient suffering from cardiac dyspnœa is taken to hospital in the upright position in an ordinary cab. In 1831 Liverpool possessed no ambulance resource of any kind except a two-wheeled conveyance resembling a costermonger's barrow used by the police. Mr. Harrison recollects being summoned to see two gentlemen who had had their legs fractured on ocean steamers arriving at that port, and he says that the crowds attracted by the spectacle of their removal to a hotel resembled a Royal progress, whilst a ship's captain suffering from a painful complaint when taken through the streets on the above-mentioned two wheeled conveyance was supposed by the mob to be intoxicated and jeered at accordingly. In contradistinction to these primitive and unsatisfactory methods Mr. Harrison commends the system in operation in some cities of the United States, where proper vehicles are kept at certain hospitals ready for instant despatch to the scene of an accident or emergency. Mr. Harrison gives a description of the ambulance vehicle belonging to the Massachusetts General Hospital at Boston and there is also an illustration of the removeable stretcher which forms a part of the vehicle. The pamphlet is published by Messrs. John Bale, Son, and Danielsson.

---

[1] THE LANCET, Nov. 27th, 1875, p. 767, with a sketch

THE SERUM TREATMENT OF LEPROSY.

IN his annual report on leprosy in New South Wales for the year 1898 Dr. J. Ashburton Thompson mentions that on Jan. 1st 13 persons remained under detention at the lazaret and that during the year nine persons were reported to the Board of Health under the Leprosy Act, 1890, as being suspected lepers. Four of them were eventually admitted to the lazaret under warrants issued by the Board. One, a Chinese, was allowed to return to China and another Chinese died in a Sydney hospital before his removal could be effected. The remainder were found to be suffering from some disease other than leprosy. Three patients died during the year, so that 14 remained in the lazaret on Dec. 31st, 1898. Four appendices are attached to the report. One of them describes the results obtained at the New South Wales lazaret with the serum treatment of leprosy, devised and strongly recommended by Dr. Don Juan de Dios Carrasquilla of Bogotá, Costa Rica, South America. Dr. Carrasquilla's method was to bleed lepers, to separate the serum, to inject it subcutaneously into horses, mules, or asses; to bleed these animals after they had received a sufficient number of injections; to separate the serum of their blood; and to inject this subcutaneously into persons suffering from leprosy. He stated that this treatment had been extraordinarily successful in about 100 cases of leprosy, and as there were rumours of success obtained by the method in other parts of the world, Dr. Frank Tidswell experimented with it at the New South Wales lazaret from August, 1897, till June, 1898. Four patients readily permitted venesection to be performed upon them. They were all suffering from tuberous leprosy in an active—i.e., a progressing—form. The venesections were performed in the usual way on the median basilic or median cephalic veins of the arm, the skin being previously washed and carbolised. The blood was received directly into a sterilised glass measuring cylinder, 250 cubic centimetres being removed at each operation. The cylinder, plugged with cotton-wool, was afterwards placed in a vessel packed round with ice and put away in a dark cupboard. In from 24 to 48 hours the serum was removed by means of a sterilised pipette into a sterilised flask, care being taken to avoid admixture with hæmoglobin. The leprous serum was injected into a horse, always within a few hours after its collection, so that there was no occasion to use camphor or other preservative. The injections were given subcutaneously into the chest or behind the shoulder, after previously shaving, washing, and carbolising the skin From Sept. 4th, 1897, to August 6th, 1898, the horse received 17 injections, the dose commencing at 30 and rising to 150 cubic centimetres. It was bled four times—namely, on Oct 3rd and Nov. 20th, 1897, and March 15th and June 3rd, 1898. For this purpose a sterilised trocar and cannula were passed into the jugular vein, the skin having been previously shaved, washed with soap and water, then with carbolic acid lotion, and finally with clean, recently boiled, water. On withdrawing the trocar the issuing blood was led through the cannula by attached indiarubber tubing into a sterilised glass jar plugged with cotton-wool. About 1500 cubic centimetres of blood were removed at each operation. When this amount had been obtained a clamp was tightly screwed on the rubber tubing near the jar and the rest of the tubing attached to the cannula was cut away. The jar of blood was then placed in a vessel, packed round with ice, and put away in a dark place In from 24 to 48 hours the serum was removed into a sterilised flask by means of a sterilised glass syphon. It was distributed into tubes containing each about 10 cubic centimetres by the following method. Pieces of glass tubing one centimetre in diameter and rather more than 10 centimetres long were sealed at one end and the other end was drawn out to a capillary point. The points were then passed through pinholes in thick indiarubber tubing connected with a Bunsen aspirating pump, and when a partial vacuum had been obtained the capillary part of each tube was sealed by a small flame. The tubes were then sterilised in the hot-air oven, and were filled by plunging the capillary part under the serum and breaking off its point with a pair of sinus forceps. The serum immediately almost filled the tube and the capillary part was then sealed. The serum was injected into the lepers under the skin of the flank in the usual way with an "antitoxin" syringe. Two patients underwent the treatment from Oct. 8th, 1897, to June 7th, 1898. One of them received 32 injections of five cubic centimetres each, two of 10, and one each of one and two cubic centimetres. The other patient received 32 injections of five cubic centimetres each, and one each of 10, two, and one cubic centimetres. The results obtained are summarised as follows in the closing *sentences of the paper.* "It will probably be conceded that Carrasquilla's method has been patiently and perseveringly tested by us Patients and physicians were equally anxious to give it every chance of success. Nevertheless, we have not found it produce the least improvement, but, on the contrary, the disease continued to progress in both patients. We are therefore obliged to regard Carrasquilla's method as inefficacious."

"NOT THE DISEASE ONLY, BUT ALSO THE MAN."

THE Shattuck Lecture for 1899 recently delivered by Dr. James Putnam before the Massachusetts Medical Society has just appeared as a reprint in pamphlet form. Dr. Putnam does much more in this contribution than merely to reiterate the truth embodied in the subject which forms the title of his lecture. He tells us how the "man" is to be treated, especially in those very numerous cases in which the disease presents a "psychical" as well as a bodily aspect. He points out clearly what is of value medically in hypnotism and its congeners—viz., the strong underlying element of suggestion. The mind or brain of man may be influenced, not only as an organ of thought, but as an organ of bodily nutrition and as the seat of forces which do not always recognise the personal consciousness as their ruler. Dr. Putnam would rate a sound knowledge of psychology in the physician *above a knowledge of botany* and zoology, and would make it the ground-work for the preparation necessary for medical study and practice. "The physicians who have previously been good students of psychology have in my experience proved themselves to be men of unusually broad sympathies and high ideals," says Dr. Putnam, "and keen to see causes of disease to which the pure pathologist is often blind No argument is needed to show what transforming power the mind may exert The energies set free by the magic agencies of hope, courage, desperation, fanaticism, or by the enthusiasm for a great cause, may reveal the possession of a force undreamt of, or so husband the resources of the body as to *keep the flame* of life burning for a time when the oil seems exhausted." The physician is by his profession an educator not only of children but of adults also, and above all of that multitude of persons whose lives are disordered or damaged by the so-called trivial neuroses which nevertheless cause an infinite amount of trouble and suffering in the world.

It is as meaningless as it is discouraging to tell a suffering person that his "pains are imaginary"—psychology recognises no such thing as imaginary pain The physician, says Dr Putnam, should give persistent encouragement, accompanied by such explanations as will enable the patient to understand and convince himself that the physician's cheery convictions will be realised Coaxing and training—a regulated discipline in conduct, in diet, and daily life—may all be employed as valuable adjuvants to dispel, for example, from the mind of the hypochondriac the fallacy and idleness of his notions In cases where such suggestion and advice are inadequate, hypnosis in its various degrees may be properly employed Rest and recreation, physical exercise, and literature should exert their powerful influence to get the sufferer out of his morbid psychological habits—out of his wretched self Dr Putnam preaches no new doctrines, but he has skilfully brought together useful facts and views having a distinct medico psychological value The physical and psychical aspects of man for purposes of therapeutics are not two but one, and of this fundamental fact the physician seeking ever to relieve cannot be too often reminded

EPILEPTIC ATTACKS WITH CRUDE SENSATIONS OF SMELL AND AN INTELLECTUAL AURA

IN the current number of *Brain* (Winter 1899-1900) Dr J Hughlings Jackson and Dr Purves Stewart record the following interesting case A B, a member of the medical profession aged 51 years, married, had enjoyed excellent health until three and a half years ago He then had a severe attack of septicæmia from which he recovered He remained well till October 1898 when he had septic cellulitis of his right hand and suffered from high fever (105° F) and occasional delirium, since which his general health had never been good He never had any head injury or otorrhœa at any time "Ever since his second attack of septicæmia the patient had been subject to occasional attacks of excitement without sufficient apparent cause He used to come home from his rounds in a state of excitement His general manner became different, his memory also became impaired and on one occasion he called to inquire for a patient who had long been dead' Two months before he came under observation he suffered from attacks of nausea and giddiness and experienced strong sensations (hallucinations) of smell, "like camphor or ether" The smell was succeeded by an intellectual aura, a condition in which he "felt as if he was saying, doing, and looking at things which he had experienced before and people and things seemed to be far away." His face expressed horror at such times, but there were no twitchings and he apparently did not lose consciousness He never had diplopia His sense of sight, of smell, and of taste seemed normal on both sides, but the left ear was slightly deaf The pupils reacted normally and there was slight optic neuritis in the right eye Cutaneous sensation muscular sense, and the knee jerks were normal He rapidly grew feeble and complained of headache in the right temporal region, his respiration grew faint at times and he finally passed into a state of coma The temperature rose to over 100° F and occasional clonic spasms of the left arm were observed on the night before his death A few days before death a slight left sided hemiplegia appeared, most marked in the face The case is clinically a very important one, especially as exhibiting the association of a crude olfactory aura with the dreamy state and with the emotion of fear in slight epileptic seizures Dr Hughlings Jackson has suggested for such cases the name of the uncinate group of fits[1] The case had been seen in consultation with Sir William Gowers and tumour of the temporo-sphenoidal lobe was diagnosed, but it was not regarded as a suitable case for operation

ROYAL ARMY MEDICAL CORPS FUND

AT the meeting of the Executive Committee of this Fund on Monday last subscriptions to the amount of £285 5*s* were announced in sums varying from 5*s* to £20 Gifts in kind had been received, purchases had been made, and 1200 parcels had been forwarded through Mrs Charlton to the front Several ladies have joined the committee since the last list was published, including Adeline Duchess of Bedford, the Marchioness of Hertford, the Countess of Essex, Viscountess Valentia, Lady Boston, and Lady Brownlow A great deal of interest is evidently being taken in the Fund by the public The honorary treasurer (Mrs Charters Symonds, 58, Portland-place) has also received several half-a crown subscriptions from medical men

THE MARINE HOSPITAL SERVICE OF THE UNITED STATES.

THE Surgeon General of the Marine Hospital Service of the United States in his report for the fiscal year ending June 30th, 1899 states that the past year has been the most active in its history The service owns and manages 22 marine hospitals and there are besides 107 stations where patients receive hospital or dispensary treatment During the fiscal year 1899 the total number of patients was 55 489, of which number 12 610 were treated in hospital At Fort Stanton, New Mexico the climate of which is in a high degree favourable to the treatment of tuberculosis, the department has had transfered to its use an abandoned military reservation with the object of its development as a sanatorium This measure will tend to relieve the marine hospitals of these contagious cases, as well as to aid in the great movement now being urged throughout America and other countries in suppressing a communicable disease The Marine Hospital Service also owns and manages 13 large and complete quarantine stations There were 3838 vessels inspected at these stations during the fiscal year In January, 1899, an order was signed by the President and the Secretary of War transferring all the maritime quarantine of Cuba and Porto Rico to the Marine Hospital Service In March another executive order was issued declaring that the expenses of this service should be paid from the revenues of the islands A thorough organisation was effected as soon as possible, there being at the present time some 30 officers of the service in Cuba and seven in Porto Rico On account of the increasing prevalence of plague in Asia and certain portions of Europe and Africa officers of the Marine Hospital Service have been detailed for duty at Honolulu, Yokohama, Hong-Kong, and Naples Perhaps the most interesting portion of the report is that which refers to the cause of yellow fever A commission of medical officers of the Marine Hospital Service were detailed by the President to make an investigation into the cause of this disease In the first place they verify the findings of Sanarelli in his discovery of the bacillus icteroides Further than this they demonstrate that the disease is received into the human system through the respiratory tract and indicate the probability of a serum similar in its use to that now employed in the treatment of diphtheria proving protective The report also draws attention to the success attending the efforts of the Government in Cuba in diminishing the prevalence of yellow fever by sanitation It is known that there are many seaports in the Western Hemisphere where yellow fever is endemic on account of bad

An inquiry is now being

---

[1] THE LANCET Jan. 14th 1899, p 79

of the Western Hemisphere, where yellow fever constantly prevails, with a view of definitely determining the reason therefore and proving, if possible, that it is due to want of proper drainage, sewerage, and cleanliness of the harbour. The report suggests that in the interests of commerce, as well as of life and health, the time may come when an international agreement may be effected between the republics of the Western Hemisphere by which the insanitary conditions which perpetuate this pest in certain ports will be considered a just cause of complaint by the other republics, when quarantine or other restrictions would be imposed by mutual agreement upon the Government possessing the offending port to cause it to adopt the necessary measures for the abatement of the evil.

THE STREETS OF LONDON IN THE MIDDLE AGES.

WE found it necessary on a recent occasion to complain of the way in which some of the London vestries neglect to carry out their statutory duties with regard to clearing the streets after a fall of snow. An alteration in the present method of street cleaning is much to be desired, and it would certainly be advantageous if water were more frequently and copiously used for flushing purposes. But although there is still much room for improvement a distinct advance has been made since the middle ages. The records of the city of London show clearly enough in what a filthy state the streets were formerly kept. The earliest regulations which were made with regard to the streets had reference to the preservation of order, and all those who wandered out after curfew were liable to summary arrest. Regulations for carrying out this edict were made in the reign of Edward I. and in the year 1297 a regulation was made with regard to cleaning the streets. It was enacted that everyone should keep clean the front of his own tenement, "that so the streets should be delivered from all encumbrances." A week's grace only was given before the regulation came into force, and after this interval the owner of any house was liable to be fined half a mark. At the same time it was ordered that all pigstyes should be speedily removed and that any swine found in the streets should be forfeited. In the reign of Edward II. (1309) a proclamation was made on the Sunday next before the feast of St. George the Martyr (April 23rd) that seeing people in the town caused the ordure that had been collected in their houses to be carried and placed in the streets and lanes instead of being taken to the Thames or elsewhere out of the town, and that the streets and lanes were more encumbered than they used to be, the Corporation forbade any person to permit the ordure, after it had been collected in his house, to be carried into the King's highway. Anyone breaking this regulation was liable to be amerced on the first conviction to the extent of 40*d.* and afterwards half a mark for each conviction, and he was, moreover, compelled to remove the dirt at his own expense. Another regulation made the owner of a house responsible for the state of the street, whether the nuisance was caused by himself or not. A penalty was incurred by any citizen before whose house dirt should be found, if after it had been placed there he did not immediately give information by whom it had been brought there. It seems to have occurred to those who framed the regulation that this enactment might be open to abuse, and they therefore in the same proclamation provided against such a contingency. It was enacted that if any person should have any dung carried or removed to the front of the house of any other citizen, he should be compelled to have it carried immediately from thence to *within* his own house, there to be kept a day and a night on pain of a fine of a like amount to that provided for the cases previously referred to. It appears from this that the rascality of removing dirt to the front of the house of a neighbour was to be punished in a way which is not in accord with modern sanitary teaching. This punishment, however, is not unlike others which were inflicted about the same date in the city of London; for example, a man who sold inferior and sour wine was publicly made to drink a large quantity of it himself. The refuse in the streets caused great trouble in the middle ages and the method adopted of simply putting it into the Thames naturally caused a very considerable nuisance on the river banks, so that in the reign of Edward III. (1357) the king made a complaint on the matter to the Mayor and Sheriffs of the city. His Majesty remarked that the accumulation of filth in divers places not only in the city but also on the banks of the Thames caused fumes and other abominable stenches from the corruption, by which, if tolerated, great peril would ensue as well to the persons dwelling within the city as to the nobles and others passing along the river. Wishing to take precautions against such dangers and to preserve the honour and decency of the city, the King commanded that the banks of the river and the streets of the city should be cleansed without delay and kept clean in the future, and if any persons thereafter were found breaking this regulation they were to be chastised and punished so that fear might prevent others from committing a like offence, "and this," the royal order concludes, "as you would preserve yourself safe and would avoid our heavy indignation you are in no wise to omit." This writ was proclaimed on the Thursday after the Feast of the Decollation of St. John (August 29th). In the reign of Richard II. the Common Council, by the advice of the Mayor, Aldermen, and Commonalty ordained that the ordinance in force against the accumulation of filth should be strictly enforced, that no one should throw rubbish into the kennels of the city in the time of rain, and that every officer should have power to take the carts which brought in gravel and sand and load them at their departure with the filth gathered from the kennels, so that it should be carried out of the city. This process of commandeering was, however, to be applied only to the vehicles which carted sand, gravel, and loam into the city. It is evident from these few quotations from the city records that at any rate some advance has been made towards a better regulation of the streets, although not a little yet remains to be done.

THE INFLUENCE OF ALCOHOL ON THE RESPIRATION IN MAN.

THE seventy-sixth volume of Pflugers "Archiv fur die gesammte Physiologie" contains an article by Dr. H. Wendelstadt of Bonn in which he gives the results of his experiments on the action of alcohol upon the respiration in several persons with a view of determining its pharmacological value. A small gasometer was closely applied to the mouth whilst the subject was in a recumbent posture and each observation lasted 10 minutes, the quantity of air breathed being read off every 10 seconds. In some of the later experiments the number of respirations was also counted. The temperature of the room was kept, as nearly as possible at 65° F. and the experiments were conducted partly in the morning, when no fatigue had been undergone, and partly on subjects who were more or less exhausted after muscular or mental effort. Wine or pure alcohol mixed with sweetened lemonade was administered in moderate doses. Thus in one case 100 cubic centimetres of sherry containing 17 cubic centimetres of alcohol, in another case 15 cubic centimetres of alcohol in lemonade, in another a pint bottle of champagne, were given, usually on a fasting stomach. In most cases much drowsiness or even heavy sleep was induced. The general results obtained in men who were not fatigued were that in one experiment there was no alteration in the volume of air respired, in nine experiments there was a diminution, and in 54 cases there was an increase after the use of alcohol, but with much individual variation. In 29 cases in which pure alcohol was ingested seven showed diminution of the respiratory activity, but when the alcohol was taken in the form of wine only two showed such diminution while the amount of increase in every case where it occurred was greater. The difference, Dr. Wendelstadt thinks, is attributable to the presence of ethereal oils in the wine giving it its bouquet. It must be borne in mind that, although it has been found that the administration of 100 cubic centimetres of pure water does not augment the volume of respired air in a given time, yet the same quantity of water with sugar and lime-juice causes in some instances at least a slight increase. In those who are exhausted by fatigue the effects of alcohol in causing an increase in the volume of air breathed are much more marked. Now, in febrile and debilitated states of the body the condition of the nervous system resembles that of one who is exhausted by fatigue, and hence Dr. Wendelstadt's experiments corroborate the conclusion arrived at by most clinical observers that in such conditions alcohol, especially in the form of wine, having much aroma, is the best stimulant that can be given.

THE APPOINTMENT OF A COUNTY MEDICAL OFFICER FOR MONMOUTHSHIRE.

THE Local Government Act of 1888, which established county councils throughout England and Wales, entrusted to these authorities the execution of certain laws relating to public health and in order that these duties might be more satisfactorily carried out provision was made for the appointment of a county medical officer of health. Although eleven years have elapsed since the Act came into force only one of the Welsh councils has availed itself of this power, notwithstanding the fact that the greatest benefit to the counties has admittedly resulted in every instance where in England an appointment has been made. If the question of cost is put aside—and this can be a factor only in the smallest counties—it is a little difficult to understand the position of those who oppose proposals to appoint such an official. It is evident from the discussion which took place at the last quarterly meeting of the Monmouthshire County Council at Newport that a majority of the members of this body are ignorant not only of the powers which they as a council possess, but of the duties which devolve upon them. In the spring of last year the sanitary committee were instructed by the council to report as to the desirability of appointing a county medical officer of health and to advise as to the details of the appointment. The committee can hardly be accused of coming to a hasty decision, for after deliberating for nearly a twelvemonth they recommended that a medical officer should be appointed at a salary of £500 per annum with an additional £100 for travelling expenses. This recommendation was outvoted solely on the plea that a medical officer of health had "no power." If the Monmouthshire County Council, having a sense of their great responsibilities, will confer with the members of other county councils—say those of Staffordshire or of Cheshire—their views will probably undergo material change. They are doubtless already aware that every district medical officer of health is required to send to the county council copies of all his reports, but they evidently do not know that something more than the bare reception and pigeonholing of these documents is required of the county council. One section of the Local Government Act imposes upon the county council the duty of making a representation to the Local Government Board when it appears to the council from any of these reports that the Public Health Act, 1875, has not been properly put in force within the district to which the report refers or when it appears that any other matter affecting the public health of the district requires remedy. How is it possible for the Monmouthshire County Council to properly carry out this duty without the assistance of a medical officer of health? Other statutory obligations imposed upon county councils, which can only be performed in the most perfunctory manner where the services of such an official are not available, are included in the Rivers Pollution Prevention Act and the Isolation Hospitals Act. The Housing of the Working Classes Act, 1890, empowers a county council to close houses that are unfit for habitation, and the Local Government Act of 1894 enables a county council to enforce the provision of sewers and of a sufficient water-supply in rural districts; but no adequate action can be taken in these matters by county councils who have not yet appointed a medical officer of health.

THE INTERNATIONAL MEDICAL CONGRESS, PARIS, 1900.

THE Paris Executive of the International Medical Congress give notice that as there has been some misunderstanding about the sectional arrangements every member may join as many sections as he pleases for a single subscription, but that the expense will prevent every member receiving a copy of the whole 24 volumes of the Proceedings of the Congress. Each member of the Congress will receive therefore in due course: (1) a general *résumé* of the work of the Congress; (2) a volume of the Acta of the Congress; and (3) a volume containing the works of the section to which he chooses to affiliate himself. If a member has joined several sections he will receive the Proceedings of the section which he has placed first on his form of application for membership. Members of the Congress who wish to receive the whole set of Proceedings should communicate with M. Masson, the editor, 120, Boulevard St. Germain, Paris.

THE GENERAL HOSPITAL, TUNBRIDGE WELLS.

THE annual meeting of governors of and subscribers to the General Hospital, Tunbridge Wells, was held on Jan. 7th, the Marquis of Camden being in the chair. The treasurer pointed out that although the subscriptions for the past year had been above the average, yet, owing to there being a debt of £538 due from 1898, the bankers' account had been considerably overdrawn and they had been obliged to sell out some stock. A scheme for the extension of the hospital had been approved, and they were only waiting for funds to commence the work. Before the report was put to the meeting Dr. John E. Ranking, the senior physician to the hospital, said that, speaking simply as a governor and not as a member of the staff, he wished to bring forward a matter of great importance. Leave having been given, Dr. Ranking referred to some letters which had appeared, although unsigned, in the local press reflecting upon the management of the hospital. The letters had expressed great dissatisfaction with the treatment of the out-patients, who were kept waiting a very long time. Dr. Ranking also read letters addressed to him personally expressing the same views. The complaints, he said, might be ranged under three headings: first, those bringing general complaints; secondly, those alleging extravagance in the administration; and thirdly, those dealing with the delay in the out-patient service. He would only deal with the last of these and the reason of the delay, he said, was very simple—they were attempting to do modern work with antiquated machinery. The machinery at present existing was the same for all practical purposes as when he joined the staff 20 years ago and even then it was barely sufficient. If they wished for better work they must provide more perfect machinery. We must confess that the desire to carry on work on a modern scale with antiquated machinery is a policy not confined to hospitals. But it is always a wasteful and extravagant policy and one bad from every point of view. Of whatever kind of work the output consists a policy of starvation never pays. In a hospital this policy is peculiarly hurtful and we gather from remarks made at the meeting that the staff are supposed to perform impossibilities. Mr. Elers, the treasurer, is reported as saying that in this case it was a question whether these gentlemen should not be asked to resign, but we are glad to say that this remark did not meet with the approval of Mr. Elers's hearers. Eventually a motion put forward by Dr. Ranking as follows was carried :—

> That a special committee, consisting of the president, the treasurer, the mayor, the two senior medical officers, and four other governors who are not members of the committees, together with some recognised expert in hospital administration, be appointed to consider the whole question of the future administration of the General Hospital, and that after the completion of all necessary business this annual meeting be adjourned until such committee do report.

We are glad to see that the meeting arrived at these conclusions. If charges are made against a hospital it is of vital importance that they should be inquired into. If the abuses referred to do exist they should be rectified as soon as possible and if they do not then the sooner the allegations which have been made are refuted the better for everyone concerned.

TYPHOID PLEURISY.

AT the meeting of the Société Médicale des Hôpitaux of Paris on Jan. 19th MM. *Souques*, *Lesné*, and Ravaut reported from the clinic of Dr. Chauffard two cases of typhoid pleurisy which occurred during the last epidemic of typhoid fever in Paris. Typhoid pleurisy—due to Eberth's bacillus—is rare. Labiche recently could only collect 10 cases (Thèse de Paris, 1899) In the first case reported to the society a youth, aged 18 years, had on the fourth day of an ordinary attack of typhoid fever violent pain in the lower part of the chest on the left side There were disseminated sibilant râles and some sub crepitant râles at both bases. The pain continued and on the twelfth day there were at the left base slight dulness and pleural friction. On the following day puncture gave exit to 10 cubic centimetres of a hæmorrhagic liquid containing the typhoid bacillus in abundance. On the twentieth day puncture gave exit to two cubic centimetres of a purulent liquid still containing in pure culture the typhoid bacillus. The liquid was replaced by two cubic centimetres of camphorated naphthol. On the twenty-third and again on the twenty-ninth day some hæmorrhagic fluid containing the typhoid bacillus was aspirated. Recovery ensued. In the second case a man, aged 31 years, entered hospital on the seventh day of an attack of typhoid fever. Some days previously he felt a sharp pain in the back especially on the right side. There were tubular breathing and large moist râles at the right apex. On the fifteenth day the patient complained of dyspnœa and the temperature which was falling rose to 105·4° F. The right lung became infiltrated from apex to base. The sputum was muco-purulent and contained pneumococci, staphylococci, and bacilli resembling Eberth's (cultures were not made in consequence of the presence of numerous saprophytes). Signs of pleuritic effusion then became evident. On puncture hæmorrhagic fluid containing the typhoid bacillus in pure culture was obtained. Recovery ensued. Pleurisy complicating typhoid fever is not necessarily due to the typhoid bacillus, but may result from an additional infection with tubercle bacilli or streptococci. Also the typhoid bacillus may co-exist in the pleura with other microbes, and then it is difficult to ascertain its individual action In the above two cases the pleurisy supervened at the beginning of the fever; in those previously recorded it has occurred usually at the decline. As a rule a pulmonary lesion precedes the pleurisy, which possibly is also due to the typhoid bacillus. Typhoid pleurisy is more often purulent than hæmorrhagic: it may also be sero fibrinous. A fact which is difficult of explanation is that the effusion sometimes gives the agglutinative reaction and sometimes does not.

A BACTERIOLOGIST FOR THE IRISH LOCAL GOVERNMENT BOARD.

THE newly created office of bacteriologist to the Irish Local Government Board has been filled by the appointment of Professor E. J McWeeney of Dublin. *Professor McWeeney* has for several years occupied the chair of Bacteriology and Pathology at the medical school of the Catholic University, Dublin, and is well known as an earnest worker on the scientific side of medicine This appointment is of importance as marking a new departure in the history of public health administration in Ireland. To English hygienists it has long been a matter of surprise that the Irish sanitary authorities should have been so slow—some might be inclined to use the adjective "remiss"—in availing themselves of the powerful weapons of precision which bacteriological science places in our hands for the elucidation and prevention of infectious disease. In one of the series of articles on the health of Dublin which have recently been appearing in our columns our Special Commissioner took occasion to draw attention to this singular *lacuna* in the Public Health Service of the sister isle. It is satisfactory that steps have now been taken by the authorities to press bacteriology into the service of sanitation, and it is to be hoped that the chief municipalities and county councils throughout Ireland will by appointing bacteriologists speedily follow the example which has been set them by the Local Government Board.

MEDICAL REPORTS OF THE CHINESE MARITIME CUSTOMS.

THE printed and published reports of the Chinese Imperial Maritime Customs for the half year ended March 31st, 1899, are by seven contributors, five of whom write in English—namely, Mr. J. F. Molyneux of Chefoo, Dr. J. H. McCartney of Chungking, Dr H. J. Hickin of Ningpo, Dr B. S. Ringer of Canton, and Dr. R. J. J. Macdonald of Wuchow. The remaining two memoirs are in French; one is by Dr. A. Thoulon, of the French Navy, who sends from Longtcheon (or Lungchow) notes on bubonic plague at Ping-s'hiang (Kwangsi); the other is a sanitary report on Mongtze (or Mengtsz) by Dr. E. Reygondaud of that place. According to all these writers there was in the period under review no prevalence of epidemic disease except plague and influenza. Dr. McCartney makes a reference to the wearing of cholera belts, which he believes very often do more harm than good He has treated several patients for chronic bowel trouble who made a rapid recovery when they discarded the belt. Part of the danger, he says, lies in the belt working up under the arms during sleep and allowing the abdomen to become chilled. With respect to maternity cases he remarks that in shoulder presentations the Chinese midwives are unable to do anything, and they invariably pull off an arm in their frantic efforts to deliver the child. Dr. Macdonald mentions that lepers in Wuchow are allowed to dwell among their own people long after the distinct development of the skin and nerve affection, but nevertheless the disease is not so prevalent as might have been expected. When spontaneous amputation of digits or leonine pression of countenance occur the sufferer is usually banished from his home These reports are published by the Inspectorate General of Customs Shanghai, and may be obtained in London from Messrs P S King and Son

THE FESTIVAL DINNER OF KING S COLLEGE, LONDON

In another column will be found a report of the proceedings at this dinner which may be summarised by saying that Mr Balfour delivered an admirable address on the claims of science upon the community No scientific man, and we may say no really enlightened citizen, would desire to see a word altered in Mr Balfour s excellent speech We hope that it will be widely read and that it will lead in the immediate future to the accomplishment of its direct object

THE WEST LONDON MEDICO-CHIRURGICAL SOCIETY

THE annual dinner of this society was held at the Café Monico on Wednesday evening last The President Dr J B Ball, filled the chair The attendance was large, the dinner was good, and the music and speeches were appropriate The speakers were the President, Mr Gunton Alderton, Mr Howard Marsh Dr Frederick Roberts Mr C B Keetley, Mr Butlin Mr Herbert Menzies Dr Lamb, and Mr H Percy Dunn The society seems to be the largest and most flourishing of the local societies of London, having a membership of over 500, which is still increasing The society is based on democratic principles and does not have figure heads a fact which no doubt increases both its popularity and utility While not neglecting scientific subjects it cultivates good fellowship and takes a proper interest in the prosperity of the profession

ALCOHOL AS AN ANTIDOTE IN CARBOLIC ACID POISONING

IN a recent number of *Merck s Archives* (December, 1899) an editorial article is devoted to the above subject The writer of the article observes that alcohol, as was first suggested by Phelps and Powell, is one of the best antidotes for carbolic acid poisoning Phelps declared that he had found in alcohol a safe and sure preventive against the escharotic action of concentrated carbolic acid which was the mischief most to be feared in cases of poisoning by the strong acid From a careful survey of recorded cases of carbolic acid poisoning, in which over 60 grains of the poison had been taken, it appears that where no alcohol was administered the termination was in every case fatal On the other hand in all instances where alcohol was given the patient survived although it is stated in more than one instance that it was given as a stimulant to prevent collapse rather than with the knowledge that it acted as a specific antidote The article also points out that it is often difficult and sometimes impossible to get emetics to act successfully in such cases of poisoning The method of treatment which is recommended is as follows The patient is promptly made to drink a few ounces of whisky, brandy or other spirit which thus acts as an antidote to the intense local action of the carbolic acid in the stomach Immediately after this a soft indiarubber tube is passed through the œsophagus and into the stomach A funnel is attached to its upper end and about a pint of water (more or less, according to circumstances) is poured into the stomach The upper end of the tube is now depressed and the fluid is syphoned out This process of washing out the stomach is repeated two or three times and in this way every particle of the poison can be washed out of the stomach A little sodium sulphate is next administered, a dose of about one drachm dissolved in a wine glassful of water being sufficient It may be noted that if the water used for washing out the stomach contains any notable proportion of a soluble alkaline sulphate its efficiency is increased Moreover the small amount of it which may pass from the stomach into the duodenum and small intestine will be of use in aiding the elimination of part of the poison which has entered or become absorbed into the coats of the small intestine The addition of a small quantity of sodium sulphate to the water used in washing out the stomach would thus be of distinct value, and the method of treatment advocated above promises to give more favourable results than are usually obtained in grave cases of poisoning by carbolic acid

THE PRINCE OF WALES S HOSPITAL FUND FOR LONDON

AT the annual meeting of the General Council of the Prince of Wales s Hospital Fund held on Feb 13th at Marlborough House H R H the Prince of Wales in the chair the draft report for the past year was read and adopted The receipts for 1899 were £48 536 15*s* 4*d*, being an increase of about £9000 over those of 1898 The total sum distributed for the year amounted to £42,000, £26,250 being annual grants and the balance donations We congratulate the Prince of Wales and his coadjutors on their work to which we shall make longer reference

THE CARE AND MAINTENANCE OF NON-PAUPER LUNATICS AND THE LONDON COUNTY COUNCIL

IT is among the merits of the London County Council that it has shown much consideration for the insane and for their responsible relatives The case of such relatives in moderate circumstances is often extremely painful The shock of mental illness overtaking a member of the family is sadly complicated with the financial question of his maintenance in an asylum without subjecting him to the ordeal of admission as a pauper lunatic The London County Council has recently announced to medical practitioners that it has provided accommodation for about 60 female patients having a legal settlement in the county of London at the Manor House Horton Epsom, at a weekly charge as at present fixed of 15*s* this being exclusive of clothing and special luxuries Full particulars can be obtained from Mr R W Partridge clerk of the Asylums Committee This is not the first service of the sort rendered to the insane At the London County Asylum Claybury, Woodford, Essex, provision is made for private patients who can claim a settlement in the county of London at a charge of 30*s* a week, and for others at a charge of £2 The London County Council, too has not been unmindful of the higher duties of a lunacy authority—that of providing for research and investigation into the pathology of insanity The first report of the work of Dr F W Mott, F R S, with a preface by Dr W F Collins, shows how thoroughly this work—suggested at an early stage of the history of the Council by Mr Brudenell Carter—is being carried out

AT the last meeting of the council of the St Andrews Graduates Association, which was held at 11, Chandos street Cavendish square the following resolution was unanimously adopted ' That action be taken with a view of restoring to the University the right which it so long possessed of granting the degree of Doctor of Medicine to registered practitioners of 15 years' standing who are not under 40 years of age on their passing a full and satisfactory professional examination The Council in so doing are only seeking to place the University in the position which the University of Durham now holds and they desire to ask without prejudice to the other Scottish universities which may wish to exercise the like power of graduation."

THE chairman and committee of the Society for Training Teachers of the Deaf and for the Diffusion of the German (pure oral) System will hold a festival dinner in aid of its Training College and School at the Victoria Hall of the Hotel Cecil, on Wednesday next, Feb. 21st. The Marquis of Londonderry will take the chair. Communications should be made to the chairman, 33, Cavendish-square, W.

AT the meeting of the Epidemiological Society which is to be held to-night (Friday, Feb. 16th) Dr. E. W. Hope, medical officer of health of Liverpool, will read a paper, illustrated by lantern slides, on Insanitary Property and Workmen's Dwellings in Liverpool.

AT the polling for the election of a new Member of Parliament for the University of London the figures were as follows: Sir Michael Foster, 1271; Dr. Collins, 863; and Mr. Busk, 586.

Mr. W. H. Power, F.R.S., medical officer to the Local Government Board, has been appointed a member of the Royal Commission on Sewage Disposal.

THE new Enfield Isolation Hospital at Winchmore-hill was opened by Sir Walter Foster, M.D. Erlang., M.P., on Feb. 10th.

FOR the week ending Feb. 8th seven fresh cases of bubonic plague, five fatal, are reported from Mauritius.

THE MIDWIVES BILL.

[We refer our readers to the leading article on page 472, and beg that they will accede to the request therein contained.]

THE following is the text of the Bill which was introduced by Mr. Tatton Egerton in the House of Commons on Feb. 2nd and which has been set down to be read a second time on Feb. 28th. The new matter is printed in italics and where the alterations have been made at the suggestion of the Privy Council an asterisk precedes the passage. The words "certificate" and "licence" have been transposed throughout the 1899 Bill, so that the certificate now admits to the roll, while the licence is to be granted annually by the local supervising authority.

ARRANGEMENT OF CLAUSES.

Clause.
1. Short Title and *date of commencement of Act.*
2. *Certification.*
3. Provision for existing midwives.
4. Constitution and duties of the Central Midwives Board.
5. Fees and expenses.
6. *Power to County Councils to contribute.*
7. Midwives roll.
8. Appointment of Secretary. Supplemental provision as to certificate.
9. Local supervision of midwives.

Clause.
10. *Delegation of powers of County Council to District Councils.*
11. Midwives licence.
12. Penalty for obtaining *a certificate* or a licence by false representation, or acting without a certificate or a licence.
13. Penalty for wilful falsification of roll.
14. Prosecution of offences.
15. Appeal.
16. Act not to apply to medical practitioners.
17. Extent of Act.
18. Definitions.

A BILL

TO SECURE THE BETTER TRAINING OF MIDWIVES AND TO REGULATE THEIR PRACTICE.

BE it enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1. This Act may for all purposes be cited as the Midwives Act, 1900. *It shall come into force on the first day of April, 1901.*

2. (1) From and after the first day of January one thousand nine hundred *and two* no woman shall be entitled to take or use the name or title of midwife (either alone or in combination with any other word or words), or any name, title, addition or description implying that she is certified under this Act, or is qualified to act as a midwife unless she be certified under this Act.

(2) Any woman who, after the first day of January one thousand nine hundred and two, not being certified under this Act, shall take or
use the name of midwife or any other such name, title,
description as aforesaid, or shall habitually and for gain att
in childbirth, shall be liable on summary conviction to
exceeding five pounds.

(3) No woman shall be certified under this Act until she h
with the rules and regulations to be laid down in pursu
terms of this Act.

(4) *No woman certified under this Act shall employ as her*
assistant an uncertified person.

(5) The certificate under this Act shall not confer upon
any right or title to be registered under the Medical Acts c
any name, title, or designation implying that she is by law
as a medical practitioner, or that she is qualified to grant
certificate, or *any certificate of death or of still-birth or to*
of abnormal labour, or of disease of or danger to the mother o

3. Any woman who, within two years from the date
coming into operation, claims to be certified under this A
so certified provided she holds a certificate in midwifery fro
College of Physicians of Ireland, or from the Obstetrical
London, or such other certificate as may be approved by
Midwives Board, or produces evidence satisfactory to the
at the passing of this Act she has been in bonâ fide practi
wife and that she bears a good character.

4. On the passing of this Act the President of the Gene
Council shall take steps to secure the formation of a Centra
Board, which shall consist of—

(1) Four registered medical practitioners, one to be app
the Royal College of Physicians of London, one b
College of Surgeons of England, one by the Society
caries, and one by the Incorporated Midwives Instit

(2) Two persons (one of whom shall be a woman) to be
for terms of three years by the Lord President of t
and

(3) *One person to be appointed for terms of three ye*
Association of County Councils.

After two years from the date of this Act coming int
the members appointed under Clause 4, Section 1, shall
shall be eligible for re-appointment annually. *Any vacanc*
by resignation or death shall be filled up in the case of
appointed under Clause 4, Sections (1) and (3), by the b
appointed him, and in the case of a member appointed unde
Section (2), by the Lord President of the Council.

The duties of the Board shall be as follows:—

I. To frame rules, *subject to the approval of*[2] the Gene
Council,

(a) regulating the issue of certificates and the condit
mission to the roll;

(b) regulating the course of training and the conduct
tions;

(c) regulating the admission to the roll of women alrea
tice as midwives at the passing of this Act;

(d) regulating, supervising, and restricting within du
practice of midwives;

(e) deciding the conditions under which midwives may be
from practice.

II. To appoint examiners;

III. To decide upon the places where, and the ti
examinations shall be held;

IV. To publish annually a roll of midwives who hav
certified under the Act;

V. To decide upon the removal from the roll of the
midwife for disobeying the rules and regulations f
time laid down under this Act by the Central Midw
or for other misconduct, and also to decide upon
tion to the roll of the name of any *midwife so remov*

VI. To issue certificates;

And generally to do any other act or duty which may b
for the due and proper carrying out of the provi
Act.

5. There shall be payable by every woman presenting
examination or certificate such fee as the Central Midw
may, with the approval of the General Medical Council, f
time determine, such fee not to exceed the sum of one guine
fees paid by existing midwives and by candidates for exami
be paid to the Central Midwives Board. The said Board
such fees to the payment of expenses connected with the e
and certificate and to the general expenses of the Boa
these fees not equal the expenditure of the Board the defic
be supplied from the respective local county funds, in p
the number of midwives licensed to practise in the said cou

6. * *(1) A county council shall be empowered to pay out of the c*
as general expenses incurred by them in the execution of
under the Local Government Act, 1888, any sum from t
required to make good a deficiency in the funds of the Centra
Board. (2) Such expenses as the Treasury may certify
necessarily incurred by the General Medical Council in the e
this Act shall be defrayed out of money provided by Parliam

7. There shall be a Midwives Roll containing:—

(1) The names of those midwives practising at the
passing of the Act who have been certified to pr
the Act;

(2) The names of those not already in practice as mid
passing of the Act, but who have been certified
under the Act.

The entry on the roll shall in every case indicate conditio
of which the certificate was granted.

8. The Central Midwives Board shall appoint a secretary
charged with the custody of the roll, **and every person*
shall be paid such salary as the Board shall think fit a
removable at the pleasure of the Board.

A copy of the Midwives Roll for the time being shall be
all courts that the women therein specified are certified
the provisions of the Act; and the absence of the name of
from such copy shall be evidence, until the contrary
appear, that such woman is not certified *according* to th

---

[1] For "elected."

[2] For "for approval by."

of this Act. Provided always, that in the case of any woman whose name does not appear in such copy a certificate under the hand of the secretary of the entry of the name of such woman on the roll shall be evidence that such woman is certified under the provisions of this Act.

9 Every county council * *or council of a county borough* throughout England and Wales shall, on the date of this Act coming into operation, *constitute the local supervising authority over midwives*[3] within the area of the said county or county borough It shall be the duty of the local supervising authority—

(1) *To issue licences*

(2) To exercise general supervision over all midwives practising within the prescribed area in accordance with the rules to be laid down under the provisions of this Act.

(3) To investigate charges of malpractice, negligence, or misconduct on the part of any midwife practising within the district, and, should a *primâ facie* case be established, to report the same to the Central Midwives Board.

(4) To suspend any midwife from practice, in accordance with the rules to be laid down by the Central Midwives Board **and approved of by the General Medical Council*, if such suspension appears necessary to prevent the spread of infection.

(5) To report at once to the said Board the name of any midwife practising in the district convicted of a misdemeanour or felony

(6) During the month of January of each year to supply the secretary of the Central Midwives Board with the names and addresses of all midwives practising in the district and to keep a current copy of the Midwives Roll, accessible at all reasonable times for public inspection

(7) To report at once to the Central Midwives Board the death of any midwife or any change in the name or address of any midwife in the district, so that the necessary alteration may be made in the roll.

10 **A county council may delegate, with or without any restrictions or conditions as they may think fit, any powers or duties conferred or imposed upon them by or in pursuance of this Act, to any district council within the area of the county*

11 *No woman shall* hold herself out as a practising midwife in any county or *county borough* without having previously obtained from the local supervising authority a licence enabling her to practise therein, which licence shall be granted on proof by the woman that her name is on the Midwives Roll The licence shall remain in force till the thirty first of December following and shall be revocable at any time by the local supervising authority in case the holder be proved to the satisfaction of the Central Midwives Board to have infringed any of the regulations framed under this Act The licence shall be issued on payment of a fee of one *shilling*,[4] it shall only be available in the county for which it is issued, and it shall be renewed annually on the *first day* of January

12 (*a*) Any woman who procures or attempts to procure a certificate or a licence by making or producing or causing to be made or produced, any false or fraudulent declaration, certificate or representation, either in writing or otherwise, and any person assisting her therein shall be deemed guilty of a misdemeanour, and shall on conviction thereof be liable to a fine not exceeding five pounds, or to be imprisoned, with or without hard labour, for any term not exceeding two months

(*b*) Any woman whether certified under this Act or not, who, after the first day of January one thousand nine hundred and two, shall hold herself out as a practising midwife or shall practise in any county or *county borough* without having previously obtained from the local supervising authority a licence enabling her to practise therein shall be deemed guilty of a misdemeanour, and shall, on conviction thereof, be liable to a fine not exceeding two pounds or *to* be imprisoned, with or without hard labour, for any term not exceeding one month.

(*c*) But a midwife shall not be guilty of a misdemeanour under this section by attending on an emergency a woman in childbirth in a county other than that for which she holds a licence provided she has within a reasonable time given notice of having so acted to the local supervising authority of the county

13 *Any person* wilfully making or causing to be made any falsification in any matter relating to the roll of midwives shall be deemed guilty of a misdemeanour and shall be liable to a fine not exceeding ten pounds, or to be imprisoned, with or without hard labour, for any term not exceeding three months

14. Any offences under this Act punishable on summary conviction may be prosecuted by the local supervising authority, and any fine under this Act recoverable on summary conviction may be recovered in manner provided by the Summary Jurisdiction Acts

The expenses of any prosecution shall be defrayed out of the funds of the county in which the prosecution takes place

15 (1) An appeal shall be allowed to the Privy Council should any disagreement arise between the General Medical Council and the Midwives Board respecting the carrying out of the provisions of the Act or any of them.

(2) Where any woman deems herself *aggrieved* by any order, conviction, judgment, or determination of or by any matter or thing done under this Act by any court of summary jurisdiction, such woman may appeal therefrom to the court of quarter sessions.

16 Nothing in this Act respecting midwives shall apply to legally qualified medical practitioners

17 This Act shall not extend to Scotland or Ireland.

* *The General Medical Council shall act by the English Branch Council, which for all purposes of this Act shall occupy the place of the General Medical Council*

18. In this Act—

The term "midwife" means a woman who undertakes for gain, *and in accordance with the provisions of this Act*, to attend women in childbirth

"Midwives roll" means a roll of midwives kept in pursuance of this Act.

"Central Midwives Board" means the Board constituted under this Act for the purpose of carrying out the provisions of this Act.

---

[3] This clause formerly provided for the appointment of "the medical officer of health or other registered medical practitioner or practitioners" as the local supervising authority within the county area.

[4] In the previous Bill the certificate was issued free

THE WAR IN SOUTH AFRICA

WE regret to say that from a military point of view there has been nothing of a favourable nature to chronicle during the past week The progress of the war only serves to bring out more strongly the great natural strength of the Boer positions and the extraordinary scope of the preparations which they had been making for so long beforehand. To take only one point in illustration. When one regards the enormous amount of labour entailed by the transport and placing of numerous heavy guns of position at so many elevated points in a mountainous country we are almost tempted to go back to the time of the Pharaohs and the building of the pyramids in Egypt for a similar expenditure of physical force The work must have been going on for some time, and if, as reported, 100 guns have been mounted between the Tugela and Ladysmith it is a marvellous performance and must have required a very large amount of native labour and a great number of horses and oxen for its accomplishment It certainly seems surprising that we should apparently have been so ignorant of all that was being done We are now reaping, at any rate, a severe punishment for our ignorance or negligence in the past

Apart from the vacillating and contradictory policy which has more or less characterised successive Governments in dealing with South Africa in the past and the miscalculations which have taken place in the present, the absence of any thoroughly reliable Ordnance or military map has been a cause of grave embarrassment It appears that towards the end of 1884 the officer commanding the Royal Engineers in Natal proposed that a survey should be made of the passes over the Drakensberg, but this, for political reasons, was not then considered desirable, lest, we suppose, it should give umbrage to the Transvaal Government Taken altogether, our patience, and forbearance, and desire to avoid all provocation have cost this nation a large loss of life and treasure, and have given rise to several military movements which have proved futile and need not have taken place. It is now sufficiently obvious to everyone that the war at its outset gave rise to situations and to political and other complications that were unexpected and unforeseen. The plan which Sir Redvers Buller was known to have drawn up when he reached Cape Town had consequently to be temporarily set aside It or a plan of a similar nature is now to be carried out The movements upon the frontier of the Orange Free State should draw off the Boer forces from the vicinity of the Tugela and Ladysmith and afford General Buller a much more favourable chance of relieving the garrison of the latter place The beginning, middle, and end of the requirements of a large army in the field may be said to be transport, of which ambulance and sick transport form an essential part. The transport arrangements have probably now been completed and the military role of Lord Roberts and Lord Kitchener has now to come The undertaking in South Africa is a formidable and anxious one, but a nation that emerged successfully out of the Crimean War and the Indian Mutiny may be expected to do the same on the present occasion. The resources of the empire are immense and the determination, enthusiasm and energy of its people are unabated

But to turn to matters of a medical nature It is astonishing how difficult it is to guard any system intended for the relief of the wounded of belligerent armies from abuse The modern medical system in war is, as we have repeatedly said, about the best that could be devised for the purpose; but the first collection and dressing of the wounded have, we learn given rise to some misunderstanding and recrimination on one side or the other. Some time ago General Cronje intimated that he would pay no further attention to the Red Cross when it appeared in the firing line The appearance of ambulances in the fire zone is open to the objection that they may be used, on the one hand, to afford protection to men firing near them, and, on the other, to enable ammunition to be carried, under cover of the Red Cross, to the fighting ranks Moreover, we have had allegations of the improper treatment of the Geneva flag, just as we have of the unscrupulous use of the white flag. It is probable that some of these allegations as regards firing on ambulances and hospitals have been altogether unfounded. The firing was either unavoidable or occurred in mistake under the excitement of the battle-field. Allowances must consequently be made and explanations may be forthcoming in regard to a number of such occurrences, but it is quite a different matter when unfounded and mischievous reports are circulated in reference to the conduct of the military medical service and its hospitals. There are to be found, we regret to say, on all such occasions as the present, people who are ready to indulge in an unworthy spirit of fault-finding and adverse criticism which is almost always ungenerous and commonly unjust, or is the result of superficial and insufficient investigation. It was so, it will be remembered, in the Egyptian war of 1882, and attempts of the same kind have been made during the present war in which we thought it was universally admitted that the medical arrangements and the conduct of medical officers have been admirable. We are glad to see that Mr. Wyndham, in reply to Dr. Farquharson, elicited from the Under Secretary for War the other day in the House of Commons the most satisfactory reply. Lord Roberts had telegraphed that there was no real foundation for reports reflecting on the hospitals at the Cape. He was perfectly satisfied with all arrangements for the reception and the treatment of the wounded, but the quality of the cooking was indifferent for the first week. Nothing more than this can be complained of and this was rectified as soon as possible. Sir Redvers Buller says: "One of the Natal papers is attacking the management of the military hospitals, and as some of the false and ridiculous statements may cause anxiety at home I think it right to say that Mr. Treves assures me that there is no possible ground for complaint and that I may rest satisfied that all the medical arrangements are completely satisfactory to him. I pressed him if he could suggest improvement, and he said he could not. I have given the matter every consideration and can only express my admiration of the arrangements made by Colonel Gallwey and the Royal Army Medical Corps, and Mr. Treves assures me that he entirely agrees with me."

In reference to some allegations that had been made about another hospital, after the matter had been carefully investigated by a court of inquiry, Sir William Stokes stigmatised the charges as false and cruel. The military hospitals are throughout working well and we are assured that the medical officers—the military and the civil element alike—are performing their duties with great zeal and devotion and harmoniously coöperating to the advancement of one end only—viz., the relief and comfort of the sick and wounded by every means in their power. It is but right that the public, and especially those who have their relatives and friends under treatment, should know this. There is no stint of anything that care and forethought can supply. It is gratifying to know that our success in hospital and medical administration in modern war has been progressive and that the measure of this progress has never been greater than on the present occasion.

There is much of that scourge of modern war, enteric fever, present in South Africa, as may be seen from the returns of fatal cases; and the prevalence of this disease, as might have been expected under the circumstances, is most marked at Ladysmith. Dysentery and other less fatal forms of fevers and occasionally respiratory diseases make their appearance, but the British force in the field as a whole is healthy. The climate is beautiful but treacherous at this season, owing to its being hot by day and chilly at night and in early morning, and this predisposes to dysentery, but there is happily very little dew. The air is pure and wounds and surgical cases do well in South Africa. Altogether it may be said that the theatre of war is in a healthy region, that the supplies provided for the army in the field are good, and that our soldiers are well clad and fed—although this cannot, we fear, be said of the feeding of those in the besieged garrisons. As our readers are aware, large bodies of troops with the necessary hospital accommodation are leaving this country every week and Lord Roberts must by this have a big force at his disposal. In the additional estimate for £13,000,000 we notice that £70,000 are to be appropriated to the medical establishment vote. The original estimate for pay and allowances of this establishment was £305,800. This was supplemented on Oct. 17th by £50,000, so that the present estimate brings the total to £425,800.

With regard to the Government's scheme for enlarging the army there is to be a considerable addition to the Regular Army and the Militia, the Yeomanry will be gradually turned into mounted infantry, and the Volunteer force is to be further developed and more fully equipped. This will, of course, necessarily entail a large and corresponding addition to the military medical services of the country.

The Imperial Yeomanry Hospital: Inspection of Personnel by The Prince of Wales.

After inspecting the Imperial Yeomanry at the Albany Barracks on Friday morning, Feb 9th, His Royal Highness the Prince of Wales paid a visit to Devonshire House for the purpose of inspecting the *personnel* of the Imperial Yeomanry Hospital. Besides the Duke and Duchess of Devonshire, among those present were Princess Louis of Battenberg, Lady Georgiana Curzon, Lady Chesham, the Countess of Warwick, Viscountess Valentia, and many of the ladies of the committee of the Imperial Yeomanry Hospital Fund. Sir Nigel Kingscote was in attendance on the Prince of Wales, and there were also present General Trotter, Surgeon-General Jameson, Director-General of the Army Medical Staff, and Surgeon-General Muir, A.M.S. The guests were received by the Duchess of Devonshire at the entrance to the ballroom at the head of the grand staircase, after which the men of the St. John Ambulance Corps were paraded in the ballroom and inspected by the Prince, who addressing them said: "I am very glad to see you all here to-day and I know you will all do your duty. I hope you will have a good passage out and a safe return home in good health." Cheers were then given for the Prince and Princess of Wales. The nurses were afterwards introduced to the Prince of Wales who briefly conversed with some of them. All the medical staff were also presented to His Royal Highness. On Saturday, Feb. 10th, Colonel A. T. Sloggett, R.A.M.C., the military commandant and principal medical officer of the Imperial Yeomanry Hospital, with Mr. Fripp, M.V.O., the chief civilian medical officer, left Waterloo for Southampton and the following members of the medical staff left Waterloo on Monday, Feb. 12th: Dr. J. W. Washbourn, Mr. Raymond Johnson, Mr. F. Newland-Pedley, Mr. L. V. Cargill, Mr. H. A. Ballance, Mr. W. Turner, Mr. J. F. Hall-Edwards, Mr. W. C. G. Ashdowne, Dr. J. B. Christopherson, Dr. Andrew Elliott, Dr. H. W. Saunders, Mr. L. E. C. Handson, Dr. H. W. Bruce, Mr. A. P. Parker, Mr. G. E. Richmond, Dr. R. T. Fitzhugh, and Mr. Barclay Black. The following gentlemen who are accompanying the staff of the hospital as dressers went also: Mr. J. Atkins, Mr. A. Ayre Smith, Dr. C. W. Breeks, Mr. A. de V. Blathwayt, Mr. D. J. Greenfield, Mr. M. B. Hay, Mr. A. Pearson, Mr. A. C. Ransford, Mr. Owen Richards, and Mr. E. N. Thornton. On both occasions there was an enthusiastic demonstration. The medical men for the base hospital have now all left England and arrangements are being made with regard to the field hospital. In a circular signed by Lady Beatrice Chesham and Lady Georgiana Curzon the following passage occurs:

> When we think of the valuable lives that will be risked, it is surely most important that they should be provided with full hospital accommodation complete with every modern appliance and comfort. To carry out this scheme a Ladies' Committee is being formed and we ask all to respond liberally to our call. American ladies have fitted up and despatched the hospital ship *Maine*. Cannot English ladies and—may we suggest it?—in conjunction with those directly connected, by their great properties, with South Africa, fit up and despatch to the front a most complete field hospital for our brave Yeomanry, for whom we believe no special medical provision has yet been made?

Further funds are urgently needed to maintain the field hospital and bearer company. Anyone willing to support or assist this scheme is invited to communicate with or to send a subscription to Viscount Curzon, M.P., 20, Curzon-street, London, W., or to Ludwig Neumann, Esq., 11, Grosvenor-square, London, W.

Netley Hospital. The War and the Great Base Hospital of the Army.

The present staff of Netley Hospital consists of the principal medical officer, Colonel W. J. Charlton, and his two secretaries, the senior of whom is in command of the corps at Netley and the junior the adjutant; of an officer in charge of each division of the hospital—Lieutenant-Colonel W. E. Webb, M.D. Aberd., being in command in the medical division, with a staff of one major and one subaltern of the Royal Army Medical Corps, one surgeon-captain of the Militia.

Medical Staff Corps, and one civilian serving under him; and Major W. Dick, M.B., F.R C S. Edin., of the surgical division, with one major, one captain, and one subaltern of the Royal Army Medical Corps, one subaltern of the Militia Medical Staff Corps, and four civilian surgeons as his assistants. Serving under Miss Norman, the lady superintendent of nurses, are 11 nurses, mostly belonging to the Army Reserve of Nurses, while the men of the Royal Army Medical Corps who have been sent to the front are replaced for the most part by militia orderlies.

As may easily be imagined the war in South Africa has brought a busy time to all the departments of the great base hospital of the army—the Royal Victoria Hospital, Netley. While the medical and surgical divisions of the hospital are already growing full of the sick and wounded which arrive in a steady stream in transports from South Africa the other departments of the great institution are no less busy—indeed, are working at high pressure. In the laboratories of the Army Medical School important work is being done in connexion with the war. On the hygiene side, presided over by Colonel J. Lane Notter, M.D. Dub., and his assistant Major W. Horrocks, M.B. Lond. Analyses of food stuffs are of frequent occurrence and the testing of the properties of filters for the front has occupied much attention—those recommended being filters on the Pasteur-Chamberland principle, offered to the Government by Messrs. Slack and Brownlow, who have expressed their ability to supply as many as 1000 within a very short period. On the pathological side, under the guidance of Professor A. E. Wright, M.D. Dub., large quantities of anti-typhoid vaccine are being manufactured and despatched both direct to South Africa and to the different transports as they leave the ports, while during the last few days 500 doses of diphtheritic serum were suddenly requisitioned and despatched to South Africa.

In the divisions of the hospital about 1000 men have been admitted from South Africa, of whom 280 have already been discharged to convalescent homes or on furlough, or to return to the front—a privilege for which a large number of the men are anxious. A few days ago there were from the front 357 medical and 329 surgical cases in hospital, while the pressure in the latter division has already been sufficient to necessitate that wards in the B Section of the medical division should be placed at the disposal of officers doing duty on the surgical side. For obvious reasons the greater number of the men who are admitted are convalescent or have made considerable progress on the road to recovery. The larger number of men are able to march from the railway-station to their wards, and it is only on the medical side that there are at present many cases of great gravity. In this division it is felt that the strain which the campaign must of necessity bring can scarcely be said to have commenced, but it is expected that when Kimberley and Ladysmith are relieved the number of serious medical cases will be very great indeed and will tax the resources of the hospital to its utmost. The diseases which have struck down our soldiers in South Africa are those which were expected from previous experience gained in our campaigns in tropical and semi-tropical countries—viz., sunstroke, dysentery, rheumatism, and enteric fever. We give them in the order of their importance as has been so far revealed by the present campaign. On the surgical side of the hospital we are struck by the small size of the wounds made by the Mauser bullets, by the excellent way in which the wounds have for the most part healed, leaving scarcely any scars, and by the extraordinarily small amount of damage to organs and to life which wounds in what have hitherto been regarded as vital parts, have *often caused*. In one case—that of Private Coulter of the Scots Guards—a bullet entered on the left side of the neck and passed out near the axillary border of the right pectoralis major muscle. From the history of the case the œsophagus must have been wounded and there is now an aneurysmal varix of the lower part of the right carotid and internal jugular vein, yet with the exception of a dilated right pupil and the physical signs of the varix the man now appears to be in good health. In another case—that of a man named Coutts, who has now been sent to the Duke of Richmond's convalescent home—the ball passed across the neck behind one carotid sheath and in front of the other, fracturing the thyroid cartilage. In this case the voice has not been lost. Private Umney, who is now quite convalescent, was shot by a Mauser bullet which entered above the outer part of the left eyebrow and traversing the centre of the face came out through the right malar bone. He was wounded at the Modder river and is now perfectly well save that he suffers from diplopia and has lost the sense of smell. Lodged bullets have not been frequently met with, and there is one patient in the hospital with a round ball embedded in the head of the humerus. A sergeant in the King's Own Light Infantry has a ball lying on the right side of the diaphragm about two inches from the spine which now causes him no inconvience. He received his wound at Graspan. The entrance wound was in the second right intercostal space, and he suffered from hæmorrhage from the mouth for five days. In both these cases the bullets have been localised with the x rays.

Another circumstance which at once strikes the surgeon is the large number of men who have been sent home after perforating wounds of the thorax, abdomen, and even of the skull, who are now convalescent. In no case of perforating wound of the abdomen so far admitted to the hospital was laparotomy performed in South Africa. This class of cases is well exemplified by that of Driver Cameron of No. 7 Field Battery, who was shot at Colenso while trying to recover the guns and bring them out of action. In his case the ball entered in front of the head of the right humerus and passed out on the left side of the fifth dorsal vertebra. He suffered from severe bleeding from the lung. In the case of Private Clark who was shot at Colenso at a distance of about 200 yards the ball entered just below the left sterno clavicular articulation and came out well above the inferior angle of the scapula on the same side, but as his arm was raised at the time the latter bone was not touched. Private Taylor of the 2nd King's Own Light Infantry was wounded in the abdomen, the ball passing in at the margin of the right ribs and out in the loin near the margin of the right kidney. In the case of Private Kerr the ball passed through the pelvis, entering above the right pubes and passing out on the inner side of the right tuber ischii. There is no history of bladder trouble. In one patient a ball passed through the penis, scrotum (wounding the testicle), and thigh, emerging in the right buttock; in another case, that of a sergeant of the Grenadier Guards, the ball passed through the left testicle and right thigh. Wonderful have been the escapes of the great blood-vessels. In Private Smith of the 2nd Seaforth Highlanders a bullet entered behind the right external carotid vessels behind the angle of the jaw and came out through the left side of the inferior maxilla, removing the first lower bicuspid. Here the ball, of course, passed through the tongue and the man almost died from hæmorrhage, but all that now remains are the scars and a very slight occasional lisp. On several patients marks have been observed on the skin which can only be explained by the theory that they are due to scorching by bullets in their flight and in one case—that of a spent ball—to a burning effect on its lodging against the skin.

While every care and attention are being given inside the hospital to those who have already arrived great preparations are being made for the easy transport and further accommodation of those about to come home for treatment. As far back as the year 1875 Her Majesty the Queen made inquiries as to the method of transport of patients to the hospital and suggested that the railway line might be continued from the invalid station at Netley to the actual precincts *of the hospital buildings*. On one of her visits last year after the Omdurman campaign the Queen again made similar inquiries, which resulted in the present activity in the engineering department of the staff, and in the continuation of the line from the old invalid station to the back of the hospital in close proximity to the military chapel. The new line, which is about three-fourths of a mile long, will be completed by the end of March provided that open weather prevails and will do away with the necessity of wheeled transport; for the new station will partly occupy the site of the present road at the back of the hospital and from it the patients will be moved into the lower corridor and to the left under a covered way.

As the maximum number of patients which the hospital buildings are able to accommodate is between 1000 and 1100 steps are being taken to provide for the convalescent men in huts outside *the hospital*. The *pattern of* hut selected is known as the "Dœcker hut" and of these 30 of different sizes have been placed at the disposal of the Government by the Red Cross Society and are now being erected under the orders of Captain Stevens, R.E. The huts are of German or Austrian manufacture and some of those now erected are said to have been intended originally for the Russian Government. The average cubic space in the huts is about 7800 feet and they are intended to house on an average 10 men each or a total of 300 or rather more. The walls are made of a double layer of felted paper with a cavity of three-quarters of an inch between, with wooden supports, and are said to be fireproof inside and waterproof outside. The huts are constructed with sloping roofs and are well lighted and ventilated. Those who know them, however, say that they are cold in winter and very hot in summer, but in order to decrease the temperature during the latter season portions of the sides are made to lift up and thus form shaded open doors. The huts are to be warmed with the "Magnet" slow combustion stoves, of which there are to be two in each. The floor of each hut, which is made of wood, is to be covered with linoleum to prevent draughts and is raised off the ground about a foot, but the cavity thus formed is to be boxed in, which will increase the warmth in cold weather. It is considered probable that it will be necessary to cover each hut with a canvas fly during the hot summer months. Each hut is provided at one end with a small separate room in which there is a dry earth closet and it is intended to erect tubs containing sawdust to act as urinals, the contents of which will be daily destroyed by the cremator. These huts are being erected on the high ground at the back of the hospital and placed in three rows of 10 each, a space of 30 feet in each direction being left between the huts, with a central road of 60 feet in width. Gravel paths have been laid in all directions between the buildings and the camp already presents a smart appearance. The huts have one great advantage, viz., that they are portable and fairly easy to erect by trained men who understand them, but the cost of the latter process is rather considerable. The interior decoration of the huts has been undertaken by rs. Stevens, who is being aided by many local friends, and he wives of members of the Netley military staff.

While activity thus reigns in the hospital and its vicinity much useful work is being done by the officers' wives in providing for the families of the men sent to the front and for the near relatives of the seriously wounded men who are summoned to Netley to be near the sufferers. A very perfect organisation exists for these purposes in the Soldiers and Sailors Families Association. Nor has the comfort of the men of the Royal Army Medical Corps who have been sent to the front been forgotten. A fund was started by Mrs. Charlton, the wife of the principal medical officer, to provide extra clothing and comforts in the shape of tobacco, pipes, &c., for the men and has been well responded to. On Saturday last the first consignment of these goods was sent out to South Africa and we are glad to hear that further supplies will be sent out at intervals by the larger London committee, of which a notice has appeared in our columns, and which will ably second and further develop the movement which Mrs. Charlton and the ladies of the Netley staff so ably inaugurated. The number of men of the corps with the eight divisions already mobilised which have arrived or are now on their way to South Africa is some 3000. The men with the fourth division are locked up in Ladysmith and will have to wait, we fear, for their presents from home which are now on their way to the men with the first three and fifth divisions, while the boxes for the men with the divisions more lately sent out are soon to follow. We hear that a philanthropic gentleman in the north of England has sent a quarter of a pound of tobacco and a pipe to each man of the corps in South Africa as an independent present and that a large part of the consignment has already been received.

The Army Medical School shall open on March 1st instead of as hitherto on April 1st, and if the war be not brought to a speedier termination than is at present anticipated the young medical men so soon to commence their military career may find themselves at the front immediately to replace the waste inevitable to such a campaign as the empire is now involved in.

ROYAL VISIT TO NETLEY.

On Tuesday, Feb. 6th, H.R.H. Princess Christian paid a visit to the sick and wounded soldiers under treatment in the Royal Victoria Hospital. The sun was shining brilliantly when the Princess, accompanied by her daughter, Princess Victoria, and attended by Colonel Donald Brown, Equerry in Waiting, crossed over from Cowes to the mainland on board the Royal yacht *Alberta*. The yacht was brought to anchor off Netley pier, a steam launch being employed to land the Royal party. At the head of the pier the Princess was met by Colonel W. J. Charlton, Principal Medical Officer, Netley, and by Colonel W. B. Creagh, Assistant Adjutant-General. After the formal introductions the party were escorted to the base of the pier, where they entered the Hon. Mrs. Eliot Yorke's carriage and drove with her to the main entrance of the hospital. Here the Princess was met by Miss Norman, the lady superintendent of nurses, and by Lieutenant-Colonel W. E. Webb, R.A.M.C., Major W. Dick, R.A.M.C., and other members of the present military and civil staff of the hospital. Both the medical and surgical divisions of the hospital were in turn visited, the former being under the command of Lieutenant-Colonel W. E. Webb, R.A.M.C., and the latter under that of Major Dick, R.A.M.C., who respectively explained what was necessary to the Royal visitors. The convalescent patients were drawn up in line in the corridors and were spoken to by the Princesses as they passed on their way to see the more serious cases in the wards. Each of the divisions of the great hospital is divided into A and B sections, and all in turn were visited. The surgical patients were shown to the Royal visitors first, the Princesses going from bed to bed, speaking words of comfort and sympathy and distributing a profusion of beautiful flowers which had been specially sent by Her Majesty the Queen and which were brought off the *Alberta* b some of the crew. The Princesses showed much interest in th young drummer, John Dunn, of the Royal Dublin Fusilier who was acting as bugler at Colenso, and who, when h right arm was disabled, transferred his bugle to his oth hand and refused to quit the fighting line. Among t patients were several men who have been recommended the decoration for distinguished service in the field. On day on which the Princesses visited it the hospital contai over 650 men from South Africa besides some 150 men f other parts of the Queen's dominions. The Royal p remained in the hospital for about an hour and a half, at end of the visit returning to the pier and re-embarkin Cowes.

HOSPITAL ACCOMMODATION FOR THE SICK AND WOU
FROM SOUTH AFRICA.

The following is a continuation of the list publish THE LANCET of Feb. 10th

Wolverhampton and Staffordshire General Hospital
Royal Southern Hospital, Liverpool
Queen's Hospital, Birmingham
Charing Cross Hospital
Charing Cross Hospital Convalescent Home
St. Mark's Hospital for Fistula
Royal Lancaster Infirmary
Northampton General Infirmary
Convalescent Home, Hunstanton
Paisley Eye Infirmary

* As many beds as may be available.
† As many more as may be available.

DENTAL SURGEONS FOR THE ARMY IN SOUT

BY MR. F. NEWLAND-PEDLEY,

DENTAL SURGEON TO THE IMPERIAL YEOMANRY HOS

When the staff of the Imperial Yeomanry H being appointed I was asked by Mr. Fripp if I v I said "Yes," and have devoted the interval to suitable equipment. The difficulty has been to de lines the appointment could best be held. In ro there will be an army of 160,000 troops in th large percentage of head injuries are reporte be explained by the peculiar nature of in which fighting under cover is the lea A dental surgeon would be very usefu sultant, especially in cases of fractured his services are not less required by patients who must be suffering from neuralgia and diseases of the jaw consequent upon a in a climate where sudden changes of t common. I read that at the Modder river the plaints about dental suffering than about ty dysentery. One feels compelled to face the can one dental surgeon do for an army ? that he can do is to go prepared for any his lot, leaving the extent of his duty to shape its own course.

With this determination I went to one of the chief instrument makers in the dental branch of the trade and bought everything that I thought might be needed for three operators engaged in the work of ordinary dental practice. I purchased two operating chairs and took a third from home. I also provided myself with the tools, appliances, and materials that might be required by two or three dental mechanics in making splints and mechanical contrivances for cases of mandibular and maxillary fracture. Messrs. Ash and Sons treated me with very great liberality and let me have everything which I required, excepting precious metals, at a discount of 50 per cent. Then arose the question of obtaining a continuous supply of nitrous oxide gas. I wished to take 6000 gallons with me. There is rather a strong prejudice in the shipping trade against carrying the iron cylinders that contain the liquid gas; some firms seem to be more afraid of laughing gas than of ammunition. Even where the matter of transport was satisfactorily settled there was the heavy expense of the bottles to be considered, but Messrs. Ash and Sons solved the difficulty by lending me the bottles. The Imperial Yeomanry Hospital undertook the cost of gas, oxygen, and anæsthetic apparatus. By the time my things were packed there were only 48 hours before the *Majestic* was to sail, so I had to take everything as my personal luggage. I had to send it in a pantechnicon van to Waterloo Station. There were nearly 20 parcels weighing about two and a half tons.

Since I accepted the appointment I have been arranging for a supply of skilled assistants if they should be required. About 15 of my pupils have volunteered to sail at short notice if wanted. Each of them will take his own set of instruments and dental engine. They would sign for six months certain, expecting a free voyage out and home, with maintenance within the hospital to which they may be attached. Some are qualified men, some are students, but they can all do a day's work in the conservation room or in the laboratory, and can, under instruction, make any splints and appliances wanted. The Royal College of Surgeons of England have consented to recognise six months' service in hospital at the seat of war as the equivalent of the ordinary curriculum, provided that the student shall produce satisfactory evidence concerning the manner in which the time has been spent.

From the foregoing rapid sketch it will be seen that with my strong reserve of skilled assistants I hope to meet the requirements of the Imperial Yeomanry Hospital, and if it be desired to send small efficient contingents of skilled assistants to the great camps and hospitals in South Africa. The matter beyond this point must depend on what the authorities wish to be done. F. NEWLAND PEDLEY.

AMONGST THE BOER WOUNDED AT ORANGE RIVER:

NOTES BY MR. S. W. F. RICHARDSON, M.B., B.S., B.Sc. LOND., F.R.C.S. ENG.,

CIVIL SURGEON TO HER MAJESTY'S FORCES IN SOUTH AFRICA, ATTACHED TO THE CAPE FIELD HOSPITAL, ORANGE RIVER.

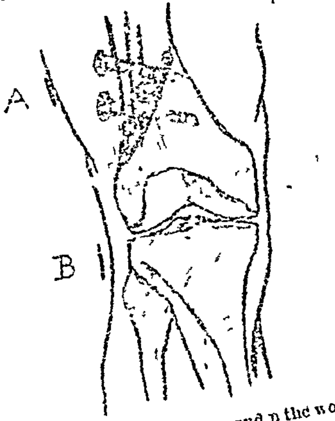
Amongst the Boer wounded admitted into the Cape Field Hospital under the command of Major J. H. Greenway, R.A.M.C., stationed at Orange river, were many cases of unusual interest, especially owing to the fact that they were examples of gunshot wounds caused by Lee-Metford bullets. Amongst those who came under my care were wounds of almost every region of the body. In describing the details of the following cases I would mention that their chief interest lay in that they were treated in a field hospital and consequently the surgeon had to combat all the difficulties necessarily following upon operations performed under such circumstances. We possessed at Orange river, however, the great advantage of having at our disposal the constant advice and assistance of Mr. Makins, whose skill and judgment were freely placed at our disposal.

Besides the following cases, which are described in detail, were many other interesting cases of gunshot wounds, including three fractures of the left of the femur, one fracture of the humerus, one fracture of the clavicle, three fractures of the radius, and two fractures of the tibia, besides four cases of penetrating wounds of the knee joint without fracture. There were also three interesting cases of penetrating wounds of the abdomen—in one patient the bullet passed transversely through the right lobe of the liver—and all three are satisfactorily recovering.

CASE 1.—A Transvaal Boer named Wergotini, aged 36 years, was shot at Modder river on Dec. 8th, 1899, and was admitted into the Cape Field Hospital at Orange river the next day. He did not remember anything before the operation was performed, but a first field-dressing was applied to the wound when he arrived at Orange river. On admission he was semi conscious, but easily roused. His pupils were equal and acted to light. There was much bruising about the supra-orbital regions and slight sub-conjunctival ecchymosis, but no paralysis. The temperature was 99° F. The aperture of entrance of the bullet, which presumably was a Lee-Metford, was situated three inches above the centre of the left eyebrow; it was circular and of about the size of a threepenny-piece, and its margin was somewhat inverted. Around the skin aperture a slightly larger opening in the bone could be felt with a definite margin. The aperture of exit was situated three inches above the outer end of the right eyebrow and was slightly larger and more ragged than the aperture of entrance, and the underlying bone could be felt to be much fragmented over a small area in this region. From both openings, especially from the exit wound, escaped a blood-stained discharge mixed with flakes of brain-matter. No marked depression of bone could be felt at either opening, each of which was quite clean and not inflamed. The operation was performed on Dec 9th. Chloroform was administered and a semilunar periosteal flap was turned down, with its base at the eyebrows, the flap including the whole frontal region of the scalp. The apertures in the frontal bones were thus disclosed. The aperture of exit was twice the size of the aperture of entrance and there were a few loose pieces of the external table of the skull at its edges, and a fissure ran from this aperture towards the roof of the right orbit. The aperture of entrance just admitted the little finger and was very cleanly cut. The edges were slightly irregular, but no fragmentation of the internal table could be discovered. The dura mater at both of the openings showed a deficiency about the size of the apertures in the bone and a definite bruised track in the brain matter between the two openings could be easily made out. The brain pulsated around both apertures. The bone between the openings was normal. There was slight bleeding from a meningeal vessel at the exit aperture which was easily stopped by ligature, but there was no great blood extravasation. The loose fragments of bone were removed and the edges in the apertures in the bone smoothed off with gouge forceps. The whole wound area was then cleaned with carbolic lotion, the apertures in the scalp were excised and sewn up, the large flap was replaced and sutured in position and cyanide dressing was applied. The progress of the patient was uneventful. He gradually became more conscious and complained of headache for the first few days following the operation. The temperature did not rise above 100°. When the wounds were dressed on the 18th they were found to have healed, and on the 28th he was quite well. The brain could be felt pulsating over the apertures both of entrance and exit, especially over the latter. On Jan. 13th, 1900, the patient was transferred as a prisoner to Cape Town. On the evening of the day of the operation, owing to a very heavy downpour of rain, the patient's tent was rapidly flooded, and without waiting for assistance he waded ankle-deep in water with his coat over his head to drier ground. This patient is one of seven patients with penetrating gunshot wounds of the skull who have been successfully operated upon at Orange river.

CASE 2.—A Free State Boer, named P. Nel, aged 39 years, was wounded in the battle at Belmont in the lower third of the right thigh. He was admitted into the Cape Field Hospital two days later—i.e., on Nov. 25th—having a fracture of the femur. The bullet, a Lee-Metford, entered about three inches above the external condyle and was felt close under the skin over the external tuberosity of the tibia. It was cut down upon by Surgeon-Major Cox, of the Cape Volunteer Medical Staff, and removed. Both wounds healed readily under antiseptic dressings, but great difficulty was experienced in getting the two fragments of the femur into good apposition, so much so that on Dec. 8th operative measures were suggested by Mr. Makins as the only means of obtaining a good result. At this date both wounds had practically healed and an oblique fracture, as shown in the diagram, was felt. There was shortening of the limb to about three inches, but the knee-joint [illegible] to [illegible]
The lower end of the upper

ose under the skin on the outer side of the knee. The atient was a strong, healthy man with no signs of organic isease. It was consequently decided to expose the seat of he fractures and screw the fragments together with Lane's crews, which Mr. Makins kindly supplied. On the 8th chloroform was administered by Dr. Pershouse (civil surgeon) and an incision from four to five inches long was made parallel to, and in front of, the biceps tendon.



A marks the wound of entrance and B the wound of exit.

The lower end of the upper fragment was thus exposed, projecting through the vastus externus muscle, while a large strip of this muscle intervened between the fragments of bone. This intervening strip of muscle was divided and after removal of a small piece of the upper fragment of the femur the fractured ends were brought into good apposition. The bone was then drilled and two screws were inserted which held the fragments well together. Owing to the removal of a longitudinal piece of the upper fragment the lower screw could not closely approximate the two fragments. There was no comminution of bone at the seat of fracture and very little fissuring at the ends of the fragments. Care was taken not to unnecessarily strip off the periosteum from the bone. Deep sutures were then inserted and the edges of the wound were approximated. A gauze drain was inserted at the lower end of the wound and cyanide dressing and a Lister long outside splint was applied. Mr. Makins and also Dr. Crispin, civil surgeon, kindly assisted me at this operation. The progress of the patient was satisfactory. The wound was dressed on the day following the operation and the gauze drain was removed. The patient's temperature on this day was 99° F. and on the 12th it was 100° There was no pain. On the 14th the wound was dressed and was found to have practically healed by first intention, but over the situation of the aperture of entrance of the bullet there was a fluctuating swelling which was opened and an ounce of broken-down clot was evacuated. On the 18th the temperature was 101°. The wound was syringed out, the discharge being purulent. The condition of the knee-joint was normal and there was only very slight pain. A bracketed long outside splint was applied. The wound was now dressed every day. The cavity gradually contracted. The fracture was examined on Jan. 13th, when it was fixed in plaster-of-Paris, and was found to be firmly united and in good position with practically no shortening of the limb.

CASE 3.—A young man named Du Toit, aged 19 years, a Free State Boer, was shot in the back at Graspan battle and lay on the field for 12 hours before he was removed. He was then taken to Modder river and on the next day he was taken to Orange river. Before admission he suffered from severe hæmoptysis with cough and pain in the chest. When first seen at Orange river on Dec 3rd the patient was found to be suffering from a gunshot wound of the left side of the chest with lodgment of the bullet. The aperture of entrance was situated an inch to the left of the second lumbar spinous process and an inch below the top of the last rib on the left side. The track appeared to pass in an upward direction. There was dulness over the left chest to the level of the second rib, with loss of breath sounds and vocal fremitus over the area, pointing to a condition of hæmothorax. The heart apex could not easily be made out, but appeared to be displaced pulsation could be easily felt in the fourth right interspace close to the sternum. The pulse was 110 and the temperature was 102° F. There was no fracture of the ribs; the right side of the chest was normal, and there was no hæmaturia. There was slight cough with blood-stained expectoration and some dyspnœa. The patient was a thin, anæmic, large-boned youth. The entrance wound rapidly healed under a collodion scab, but the cough and dyspnœa, together with an almost uniform temperature of 102° in the evenings, combined with the physical signs in the chest, made us decide to empty and drain the left pleura. Consequently, on the 13th chloroform was administered by Dr. Pershouse and two inches of the eighth rib on the left side in the posterior axillary line were resected and the pleural cavity was opened, when five pints of dark-red, grumous, inoffensive fluid with a few clots were evacuated. The lung was found to be considerably collapsed and a track appeared to pass between the two lobes towards the spinal column, and on the insertion of a probe it seemed likely that the bullet was firmly fixed near this situation. Nothing further was done beyond a drainage-tube being inserted and cyanide dressings applied. On the following day the patient was much relieved by the operation and the heart was then easily felt beating in the fourth right interspace near the sternum. The temperature was 101° F. On the 16th the wound was dressed and the drainage-tube was removed. Considerable discharge was found upon the dressings, which were, however, quite sweet. The temperature was 101·4° F. On the 20th the temperature had declined to 99 8° F. and the wound was rapidly healing. The lung was expanding; there was some slight dulness over the left base. The patient was much improved. On the 31st the wound was practically healed. Breath sounds could be heard to the base of the left chest. There was no dulness. The temperature still rose to about 101 2° every evening. The patient's chest had been x-rayed, but the position of the bullet could not be localised. This examination was kindly performed for us by members of the New South Wales Medical Corps of which Colonel Williams was in command. On Jan. 4th the patient developed some impaired resonance with tubular breathing on the right side of the chest just below the angle of the scapula. This, however, rapidly cleared up and on the 13th the patient was quickly convalescing, but the heart still remained displaced to the right side.

CASE 4.—A Boer named Fouri, aged 41 years, was shot in the right knee at the battle of Belmont. The bullet entered by a very small opening at the lower and inner part of the popliteal space and gained an exit through the centre of the patella, causing a transverse fracture of the bone, and emerged by an irregular wound considerably larger than the wound of entrance. The patella was not comminuted and there was about two fingers' breadth interval between the fragments. The joint was considerably swollen. After a few days' rest upon a MacIntyre's splint this swelling diminished, the fragments of the patella were almost approximated, and the wounds healed. Consequently the knee was immobilised in plaster of Paris with strapping applied to keep the fragments of the patella together. This splint was kept on until Jan. 10th, when upon removal of the splint the fracture was well united. The joint being normal the patient was allowed to walk about.

CASE 5.—A Free State Boer named Fonchee, aged 34 years, was shot at Modder river on Nov. 28th, the bullet entering the inner side of the left knee on a level with the upper border of the patella and gaining exit close to the inner side of the patella, which latter it slightly splintere at its edge. When first seen at Orange river on Dec. 3r the wound in front of the patella was septic and there we some swelling and distension of the joint. The temperatu was 101·8° F This condition of the joint did not impro under rest and antiseptic treatment of the wound; theref on the 7th the joint, which was then considerably disten and painful, was opened by an incision on the i side of the patella and about four ounces of turbid se fluid were let out. The joint was then washed with a carbolic lotion (1 in 10) and the inc sewn up. The limb was placed on a MacIntyre's and dressings were applied. The condition of the gradually improved and the wounds healed, so that 27th a plaster-of-Paris splint was applied. Thi removed on Jan. 13th, when the joint was found quite normal in character with no pain and ver swelling. The patient was then transferred as a prisoner to Cape Town.

CASE 6.—A Scandinavian Boer named Van Ekem was shot in the abdomen on Dec. 11th at Magersfontein. He lay on the field for 12 hours and the wound was then dressed with first field-dressing. He was then removed to Modder river where he remained until the 14th, when he was taken to Orange river. Before arrival at the latter place he was continually sick and had great pain in the abdomen which was considerably swollen. The bowels acted soon after the receipt of the wound, but there was no passage of blood either by the bowel, by the bladder, or by the stomach. On admission to the hospital the patient was found to be a thin, anæmic man with an anxious expression. He lay with his knees drawn up. There was considerable distension, especially in the epigastric region, and tenderness, especially in the right loin. The wound of entrance of the bullet was very small and was situated in the left loin four inches from the fourth lumbar spinous process and one inch below the tip of the last rib. The wound of exit was somewhat larger than that of entrance and was situated over the edge of the costal margin on the right side of the abdomen in about the mid-axillary line—i.e., about the level of the cartilage of the tenth rib. No fracture of rib was felt. The chest was quite healthy. In the right loin there was dulness to percussion which extended in front to the right semilunar line; this dulness did not appear to shift with the movements of the patient. The pulse was 100 and the temperature was 100·8° F. Liver dulness was present, but the chest was normal to examination. It was decided to watch the patient and administer a dose of magnesium sulphate. This produced a complete evacuation of the bowels, and the patient considerably improved, the distension becoming less and the sickness stopping; but the temperature still remained at about 100° F. in the evenings. The dulness on the right flank also remained, but diminished somewhat in extent till about the last week in December, when a definite, tender, and painful swelling was detected close to the costal margin, opposite and deep to the wound of exit of the bullet. Consequently on the 31st chloroform was administered and an incision was made parallel to the costal margin and close to the wound of exit which, as well as the wound of entrance, had by this time quite healed under a collodion scab. On deepening the incision the attachment of the tenth rib to its costal cartilage was exposed and a fracture of this rib was found at half an inch from its cartilage end. The fractured ends of the rib were resected and the intercostal muscles and the attachment of the diaphragm to this rib were cut through. On doing this about four ounces of thick inoffensive pus were evacuated from a cavity whose floor was apparently formed by the surface of the liver. The cavity was circumscribed and as far as could be made out without danger of opening the general peritoneal cavity it did not pass in a downward or inward direction. A drainage-tube was therefore inserted and antiseptic dressings were applied. This operation completely relieved the pain and the wound was washed out and dressed daily. One week after the operation the patient began to have severe pain in the right iliac fossa and rigidity and impaired resonance in the same locality, and his temperature, which had become normal after the operation, again reached 100° F. in the evenings. On Jan. 9th, therefore, fearing that pus was tracking behind the peritoneum into the iliac fossa, an incision was made under chloroform just internal to the anterior superior iliac spine and deepened to the peritoneum, which latter was raised from the iliac fossa towards the pelvic brim. No pus was detected. A drainage-tube was inserted and the wound sewn up and dressed separately from the incision made at the first operation. The patient was relieved of his pain by this operation and he no longer suffered from the severe pain running down the right thigh which he did before the operation. The drainage-tube was left in for two days and was then removed and the wound was carefully dressed, and when dressed again on the 14th it was healing without reaction. The drainage-tube in the wound made at the first operation was now shortened as the discharge from this wound had considerably diminished. The rest of the abdomen was normal in character and the bowels were acting regularly. The patient was well on the way to convalescence when I gave up charge of his case on the 14th. This case is an example of several similar cases of penetrating gunshot wounds of the abdomen in which the perforation of the bowel, if present, is situated in the large intestine and thus probably extra-peritoneal, and where the results produced by the perforation become localised. These cases give extremely good results under expectant treatment.

Other cases of penetrating gunshot wounds of the abdomen occurred in which the perforation if present was situated in the small intestine and in which the result produced was a rapidly progressing general peritonitis from extravasation of the intestinal contents over the general peritoneal cavity. Patients in these cases must, of course, to ensure success be treated as early as possible after the receipt of the injury, otherwise no satisfactory results can be expected.

Orange River, Jan 15th.

(FROM OUR SPECIAL CORRESPONDENT AT THE BASE.)

Part of a sanitarium situated at Claremont has been taken over for the treatment of convalescent officers discharged from the various base hospitals. Claremont is a suburb of Cape Town. The sanitarium is complete in all particulars, including an admirable system of electric and other baths, trained masseurs, and a gymnasium. Each officer has a well appointed bedroom furnished with electric light, and there are large verandahs and extensive grounds—everything, in fact, that can tend to hasten the recovery of a patient suffering from wounds or disease. Up to the present some 60 or 70 officers have been sent there, and I need hardly say that it is a great boon to them and a convenience to the staff of our general hospitals, which can thus keep their wards ready for the more serious cases that will be coming down from the front. The letter to the *Times* complaining of the want of attendance, short rations, and maladministration said to exist at the officers' hospital at Wynberg has caused the greatest indignation amongst the officers who have been treated there, and many letters have been received from patients who have recovered and gone to the front denying *in toto* that there was a word of truth in the allegations. Had the authorities of the *Times* taken the trouble to inquire for themselves from any of the officers (of whom there are plenty at home at present) instead of publishing vague insinuations which could only emanate from outsiders suffering from pique at not being allowed to interfere in matters that did not come within their province they would have had ample evidence to convince them that these alleged defects were grossly exaggerated and had no foundation in fact. But I say no more, for, thank goodness, in this campaign the medical authorities can afford to be generous and to ignore "pin pricks."

Several trains bearing patients have lately come down, but the cases have been principally medical ones, as the field and stationary hospitals have been quite able to cope with the results of the scattered skirmishes that have taken place lately. I hear that enteric fever is beginning to become troublesome at the Modder, and we know that it is bad at Ladysmith, but before you get this letter I hope the latter will have been relieved, and the necessary comforts and nursing facilities which will follow in the footsteps of our relieving force will soon alter the state of affairs. I told you last week that the *Majestic* was on the point of leaving with wounded officers and men, and I took the opportunity of going on board on the day of sailing to see for myself the accommodation for the wounded, and from what I saw I hope that if bad luck causes me to be sent home invalided I may be given a passage in a White Star liner. Luxury was not the word for it, and the only grumbler I met with was an officer who had lost his arm and who complained with a twinkle in his eye that he had only been given a £100 state room instead of one quoted for the Atlantic passage at £160. The quarters and accommodation for the men were equally good; and I fancy that there will be no complaints regarding overcrowding as she took home only 13 officers and about 180 men, her usual complement being 250 saloon passengers and from 600 to 1600 third class passengers. The transports *Orient*, *Kildonan Castle*, *Cymric*, and *Nomadic* have come in during the last 48 hours, and have disembarked almost as many sick as we have sent home. Pneumonia seems to be the prevalent disease on board.

Claremont, Jan. 24th.

LITERARY INTELLIGENCE.—Messrs. Churchill are bringing out a new edition of "The Mental Affections of Children," by Dr. W. W. Ireland, published in the summer of 1898.

SICK AND WOUNDED OFFICERS' SURGICAL AND MEDICAL AID FUND.

THE following subscriptions in addition to those already announced have been received:—

	£	s.	d.
Miss A. G. Nobes	5	5	0
Sir W. Thornley Stoker	5	5	0
"A"	5	0	0
"A Lady," per the Rev. H. G. H.	5	0	0
Mrs. Percival Frost ..	5	0	0
In Memory of the late Countess of Lathom ..	5	0	0
F. I.	5	0	0
Miss F. M. Irvine ...	5	0	0
Mrs. Mary Jeffery ...	5	0	0
Mr. F. A. Johnstone ...	5	0	0
Messrs. Walpole Brothers	5	0	0
Mrs. Stewart Fellows ..	4	0	0
Mrs. G. Leith	3	0	0
Mrs. G. R. Elwes ...	3	0	0
Richmond-on-Thames..	2	13	0
The Misses M. and E. Meredith	2	10	0
Major W. J. Langford..	2	2	0
Professor G. H. Bryan..	2	0	0
Major W. Luard, R E ..	2	0	0
The Lady Emily L. Turnour . ..	2	0	0
Dr. W. Russell Abernethy	1	1	0
Surgeon-General and Mrs Hamilton ..	1	1	0
Mr. H E. Plank . ..	1	1	0
Mr. W. J. Boswell-Stone	1	1	0
Dr. Agmondisham Vesey	1	1	0
An Officer's Daughter and her Husband ...	1	0	0
Anonymous	1	0	0
Miss Jane C Allen ...	1	0	0
Miss Mary Burgess ..	1	0	0
"Commander, R.N" ...	1	0	0
Miss Evatt	1	0	0
Mr. W. F. Follett (collection) ...	1	0	0
Dr. E. Thompson	1	0	0
Captain D Wimberley, I.M.S.	1	0	0
Mrs C. Burke	0	10	0
Mr. W. K Davies	0	10	6
Mrs. J. Hart Dyke ...	0	10	0
Miss A. L Foulkes ..	0	6	0
Mr. T. Carleton Bates ..	6	0	0
Dr. W. D Lush ...	5	5	0
Captain Richmond Moore and Mrs. Moore	5	5	0
Dr. A. W. Orwin	5	5	0
Miss M. Whitfield ..	5	5	0
Hon. Herbert T. Allsop	5	0	0
Miss S M Broadwood	5	0	0
Mr G. B Buckton .	5	0	0

	£	s.	d.
Mrs. Christie	5	0	0
Mrs. Halsham Jones ...	5	0	0
Mr. A. M. Longueville	5	0	0
Mrs. Luxmoore	5	0	0
Earl of Mayo	5	0	0
Mr. R. Phillips	5	0	0
Lieutenant-General Charles Pollard ...	5	0	0
Mrs. J. L. Purvis... ...	5	0	0
Mrs. J. Stein...	5	0	0
Miss E. M. A. Wardle ..	5	0	0
Mr. John Holden... ...	3	3	0
Miss Marten	3	3	0
Mr. John D Paul	3	3	0
Hon. Mrs. Wilson Fox	3	0	0
The Misses Loveday ...	3	0	0
Miss E McClintock ...	3	0	0
Miss E. E. Nunn	3	0	0
Mr. W. H. Axworthy ...	2	2	0
Mr. W. M. Belcher ...	2	2	0
Mr. R A. Fawcett ...	2	2	0
Miss M. P. Forman ..	2	2	0
Miss M. Lattey	2	2	0
Mrs Parry	2	2	0
Dr. H. F. Hunt Phillips	2	2	0
Miss E Vernon	2	2	0
Miss Elizabeth D'Aubeney	2	0	0
Hon. Albinia Brodrick	2	0	0
National Society per Miss Turnbull	2	0	0
The Misses Williams ...	2	0	0
The Dowager Countess Winterton	2	0	0
Anonymous	1	1	0
Mr. H. Cayley	1	1	0
Mr. T. G. Clouston ...	1	1	0
Miss M. Ferrard	1	1	0
Miss Innes	1	1	0
Mr. J. B. Lawford ...	1	1	0
Miss Lord	1	1	0
"N."	1	1	0
Mr W. Baptiste Scoones	1	1	0
Miss L H Scott	1	1	0
Commander E. M. Stewart, R N.	1	0	6
Messrs. Lewis	1	0	0
J. E. P.	1	0	0
Mrs. Hughes	1	0	0
Hon. Mrs. Walter Portman	1	0	0
Mr G. W. Rawdon ...	1	0	0
Miss Shute	1	0	0
Dr. J. Sykes	1	0	0
"Waxwing"	1	0	0
Mrs. E. Roberts	0	10	6
Miss Drury	0	10	0
Miss E Temple	0	10	0
L.M. & M.B.	0	10	0
Miss Cooke	0	5	0

Subscriptions should be sent to Messrs. Coutts and Co, Strand, or to the honorary secretary and treasurer, Mr. Arthur Brodrick, at Hampden House, 61, Green street, W.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on Feb. 8th, the senior vice-president, Mr. H G. HOWSE, being in the chair.

Mr. W. H. A. Jacobson of Guy's Hospital was elected a member of the Court of Examiners, and Mr. H. W. Page was elected a member of the Board of Examiners in Dental Surgery.

The Vice-Presidents reported that in pursuance of the resolution of the Council of Jan. 11th they had nominated Dr. W. D. Halliburton, F.R.S., and Dr. E. H. Starling, F R.S., to give evidence before the committee appointed by the Local Government Board to inquire into the use and effects of food preservatives and colouring matters.

The Vice-Presidents reported that Mr. S. Hamilton Cartwright had ascertained that the Charity Commissioners were prepared to consent to the alteration of the Cartwright Trust for the purpose of giving effect to the scheme proposed by the Council, provided that the funds were invested in the name of the official trustee by whom the dividends would be paid to the trustees, who, they suggested, should be the President and Vice-Presidents of the College *ex officio*. The Vice-Presidents stated that they had agreed to this proposal.

A letter was read from Mr. F. Newland-Pedley, F.R.C.S. Eng., stating that he is going to South Africa as a dental surgeon and will greatly need the help of several dental students to make splints and to act as assistants, and asking that the service of such students in the Imperial Yeomanry Hospital may count as part of their hospital curriculum. It was resolved that Mr. Newland-Pedley should be informed that on the production of satisfactory evidence the service rendered by dental students in the Imperial Yeomanry Hospital shall be reckoned as part of the hospital curriculum for a period not exceeding six months in such manner as the Board of Examiners in Dental Surgery may recommend.

It was referred to the Committee of Management to consider and to report to the two Colleges on the recognition of the services rendered by medical students at the seat of war as a part of the hospital curriculum.

A letter was received from Mr. F. Rowland Humphreys, honorary secretary of the Midwives Bill Committee, forwarding a copy of the *Midwives Bill, 1900*. A small committee was appointed to consider the subject and to report to the Council.

A letter was read from the President and General Secretary of the Thirteenth International Medical Congress to be held in Paris, inviting the College to send a representative to the Congress. It was resolved that Sir William MacCormac should be asked to act as the representative of the College.

A letter was read from Sir John R. Paget, Bart, thanking the Council for their resolution of condolence on the death of his father.

THE ANNUAL REPORT (1898) OF THE MEDICAL OFFICER OF HEALTH OF LONDON.

II.

ON a recent occasion[1] we drew attention to certain sections of Part III. of Mr. Shirley Murphy's report, which treats of the administrative action of the London County Council for the protection of the public health. In the present article we shall briefly discuss Part I. of that report, which deals with the vital statistics of the Administrative County of London for the year 1898.

The statistical information which ever since his appointment some 10 years ago Mr. Shirley Murphy has furnished in his successive annual reports differs considerably from that which emanates from Somerset House. For whilst the General Register Office deals of necessity with the question of mortality alone, the county medical officer of health considers in addition the behaviour of the sickness which *leads to that mortality*—as far, at least, as he possesses the means *of so doing*. It is evident, therefore, that in regard *to those* diseases which are most obviously amenable to control by sanitary measures Mr. Shirley Murphy's statistics must be regarded as possessing a value which is unique; and we do not hesitate to repeat the opinion which we expressed concerning some of the earlier numbers of the series, that these reports will in the near future come to be acknowledged as the type of what such documents *ought to be*, and that, in respect of form and arrangement at any rate, they will furnish models for adoption by medical officers of health throughout the kingdom.

Passing over the ordinary statistics of births, deaths, and marriages in 1898, which we have already noticed in connexion with the Registrar-General's annual summary, we come to an ingenious method which Mr. Shirley Murphy has adopted for the purpose of *demonstrating* the effect *on* the community of fluctuations in mortality. With the help of a life-table published in his report for 1893, and referring to the decade 1881-90, Mr. Shirley Murphy contrasts the London mortality in 1891-98 with that of the previous 10 years. By comparing the mean annual number of deaths occurring since the year of the last census with the annual number that would have occurred according to the rates obtaining between 1881 and 1890, he obtains the number of lives gained or lost in each year, and by the help of certain columns of the life-table he expresses this gain or loss in terms of "life capital," the years of life being obtained by applying the mean future life-time of the life-table to the number of lives gained or lost at each group of ages. "In the county of London there was a mean annual saving of 4161 lives during the period 1891-98, as compared with the decennium 1881-90, and this represents a mean annual salvage of 161,321 years of "life capital." Mr. Shirley Murphy gives a table which shows that, as compared with 1881-90, the mean annual number of lives saved has been steadily increasing since 1891, while the amount of "life capital" in proportion to the number of lives saved has decreased, this decrease being particularly marked in the periods ending with 1896, 1897, and 1898 respectively. This apparent anomaly is explained by the fact that the amount of "life capital" gained is not directly proportional to the number of lives saved, but is dependent also upon the ages at which the life-saving is effected.

---

[1] THE LANCET, Jan. 27th, p 256.

In discussing the behaviour of small-pox in London Mr. Shirley Murphy naturally devotes considerable space to a criticism of the new Vaccination Act. After passing in review the alterations effected by the Act of 1898 in the law with respect to vaccination, he expresses the opinion that at the present time it is too early to form a judgment concerning the merits of the Act or to dogmatise as to whether it will or will not eventually secure the better vaccination of the community. The appointment of a Royal Commission in 1889 led, as might have been expected, to greater laxity in relation to vaccination, and, equally of course, a decision of Parliament in favour of vaccination might have been expected to lead to increase of vaccination subsequent to the presentation of the report of the Royal Commission. The question, however, which needs to be determined and which can only be determined by the experience of subsequent years, is whether the amount of vaccination default will be found in the future to be greater or less than it had been before the appointment of the Royal Commission of 1889. Not till then will it be possible to determine whether the new law with its provisions for domiciliary visitation and for the supply of glycerinated lymph as well as its clauses exempting from compulsion the so-called "conscientious objector" will attain the object in view. In any case, as Mr. Shirley Murphy very properly insists, "the present position of the vaccination law gives opportunity for further legislation such as shall provide an effective system of revaccination of the community. That such a system is necessary for the protection of the people against small-pox is shown conclusively by the experience, not of England only, but that of other European countries also." In connexion with this subject Mr. Shirley Murphy gives a table showing the proportion of children who appear in the London vaccination returns as "not finally accounted for," that is, as presumably unvaccinated. This table reveals the startling fact that in 1896, the most recent year for which returns are as yet available, the proportion of children born in London who at the end of the year had not been *finally accounted for* was equal to more than 26 per cent. The position of London may be imagined in the event of a serious invasion of small-pox when we remember that fully one quarter of the infantile population are, or were quite recently, wholly unprotected by vaccination.

The prevalence of measles is again referred to at some length in the present report, especially in connexion with the question of school attendance. Particulars are given as to the closure of schools in consequence of the prevalence of measles among the scholars in various parts of London, and the opinions of the local medical officers of health are quoted concerning the precautions which should be taken against the spread of this *disease in schools*. Thus the medical officer of health of Stoke Newington expresses his "regret that the regulation of the London School Board requiring that the health officer of the district shall be informed of a child's exclusion from school on account of symptoms of infectious disease is not given effect to as a routine practice, for it would often materially assist the medical officer of health in taking measures to remove further risks of school infection." The medical officer of health of Lambeth, also, who reports that on one occasion during the year as many as one-fourth of the scholars at an infant school were absent on account of measles, is of the same opinion with reference to the School Board regulation above referred to. The question of including measles among the "dangerous infectious diseases" to be notified under the London Public Health Act is now under the consideration of the London County Council, who have invited the opinion of the local sanitary authorities as to the desirability of extending the provisions of that Act to the disease in question. There can be no question as to the advisability, on medical grounds, of providing against the spread of measles amongst the children in our elementary schools, for the disease is not only exceedingly fatal under conditions sometimes obtaining but it frequently leaves behind it mischievous sequelæ which are well known to the profession. Whether, however, the London County Council are prepared to face the very considerable outlay which the notification of measles would involve is another and not unimportant question, and their decision will, we are convinced, be awaited with much interest by the authorities of other large centres of population throughout the country.

SPECIAL FESTIVAL DINNER AT KING'S COLLEGE:

MR. BALFOUR ON SCIENTIFIC TRAINING.

MR. BALFOUR presided on Feb. 14th over a special festival dinner given by the Council of King's College at Lincoln's Inn Hall in aid of the new scientific laboratories of the College. Lord GLENESK, in speaking to the toast of the "Naval and Military Forces of the Empire," elicited loud applause when eulogising the services of the medical officers at the seat of war. Lieutenant-General KENT and Sir JOHN COCKBURN acknowledged the toast.

Mr. BALFOUR in proposing the toast of "King's College" said: The toast, reduced to its narrowest limits, which I have to propose to you is the advancement of scientific research in this great metropolis of ours, in the University which we have recently remodelled, and more especially in that College where I hope and trust your liberality will enable the interests of science to be pursued in the future with an even greater success than they have been pursued in the past. Now, ladies and gentlemen, we have all probably been concerned either in making speeches or in listening to speeches in recent years on the subject of technical education—a very loose phrase, sometimes used or misused to mean education in manipulation or dexterity of hand treatment; sometimes, and I think more properly, used to mean that application of the principles of science to industrial life which we are more and more beginning to recognise as an increasing need of the age in which we live. Now it has been found easy, and I hope it always will be easy, to enlist popular sympathy in anything so obviously useful as the application of scientific method to industrial pursuits. And it will be all the more easy from the fact that we have before us in certain foreign countries striking and admirable instances of the method and of the success which attends or may attend such application of scientific method to industrial pursuits. That everybody can understand. An appeal for that purpose is an appeal which touches the heart of everybody, nearly or remotely connected with the industries on which this nation as a whole lives and on which it must continue to live if it is to live at all. I appeal for something not less necessary, but something perhaps more remote from the ordinary every-day popular educational interest, for I appeal on the present occasion not so much for anything in the nature of technical instruction or applied science as for aid to carry out that instruction in science itself, and those researches in pure science which lie at the base of that instruction, which, from the very nature of the case, can only appeal indirectly and remotely to the great mass of mankind. And yet, after all, science is the essential matter that we have got to consider. Its applications will come and must come—will come almost of themselves, must come in the course of time; but you cannot have applied science without having science in the first instance, and if you do not cultivate scientific research and scientific education it will be in vain that you multiply your technical schools and it will be in vain that you labour to erect a great superstructure where your foundations have been so inadequately laid.

I feel it the more incumbent upon me to urge upon you the claims and the glories of science pursued for itself from the very fact that such science cannot directly appeal to general interest. Among the great number of persons deeply interested in and astonished at, for example, so interesting and sensational a discovery as wireless telegraphy, the majority could neither know of nor take an interest in the speculations of Maxwell or the experiments of Hertz, without which no such discovery as wireless telegraphy would have been possible. These discoverers had indeed fame and reputation among scientific men, but have not even now that world-wide reputation, that currency in the mouths of men, which fall to lesser inventors who have built their work—and rightly and properly built their work—upon the foundations laid by others. Now, according to my view, it is the bounden duty of every great place of university education not merely to keep before it the immediately practical needs of technical or other education, but also not to permit the ideal of scientific investigation to be for one moment clouded. That great object must require, and must increasingly in my judgment require, the generous and liberal coöperation of all classes in the community, whether they be immediately interested in science, intimately acquainted with scientific details, or whether they be merely part of the general public. Men of science themselves are not always in a position to give that pecuniary aid necessary to build the modern laboratory and to equip it with modern appliances, and they are right to call upon all those who take any interest in their subjects to aid them with that pecuniary assistance which in many other counties is extended to them by the Government, but which in this country, rightly or wrongly, by an almost immemorial tradition it has been left chiefly to the energy of private enterprise to provide.

King's College will without question be one of the great teaching centres of the new London University. It requires at this moment, to enable it to carry out that great function, the assistance of the public to supply it with adequate scientific accommodation, especially, I am informed, in the matter of bacteriological and physiological laboratories and lecture-rooms. And it may be some consolation to those who take little interest in scientific investigation unless they can immediately perceive its practical application, to reflect that both bacteriology and physiology have a most immediate and direct bearing upon the health and the happiness of mankind. In both branches of study King's College has proved itself rich in teachers of eminence. I am not going to discuss—it would be almost impertinent for me to even touch upon—the stupendous interests which are bound up in the successful prosecution of those two branches of scientific research, but I may, perhaps, remind you of the enormous practical importance to us, of all people in the world, of some of these more recent researches in bacteriology. Bacteria are a very humble class of organisms, very unjustly abused, as far as I can discover, by ordinary public opinion—they suffer, as other classes have suffered, by having among them a certain number of black sheep; but for the most part they are not only innocent but most useful allies—most useful allies of industry and almost necessary coöperators in some of those functions which have to be discharged if the health of great cities is to be maintained. Our chief interest in them lies with the pathogenic members of the group and we, of all people in the world, are especially interested in dealing with those forms of tropical disease which they produce, for we, of all people in the world, are most interested in maintaining a large number of our population in countries where those diseases born of bacteria are the greatest of scourges. And it is, I believe, to a distinguished professor in King's College, more perhaps than to any other man in this country, that some of the most useful researches in this department are due. I do not know that it is necessary for me at greater length to impress upon you the theme which has been committed to my charge, but I confess that I cannot conclude without admitting that I think this great city has been somewhat remiss in the support which it has hitherto given to scientific investigations in the commercial metropolis of the world. Technical education, if I may revert to that subject for an instant, has in it almost necessarily some element of competition. You hear it said: Germany is doing this, France is doing that, some other country is doing the other; unless you keep abreast of them in your methods of education you will fall behind them in your industrial enterprise. That is a very proper argument, it is a very patriotic argument, it is an argument which I myself have used before, and it is an argument which I shall think myself justified in using again. But I am appealing to you on behalf of the cause which has in it none of this element, this inferior and lower element of competition, whatsoever. Every scientific discovery wheresoever made, be it in Berlin, Paris, London, New York, Vienna, wherever it be made, as soon as it is made it is the common property of every man of science. Nations may erect against each other some barrier of tariff, they may engage in some absurd rivalry animated by I know not what spirit of suicidal jealousy, but men of science wherever they live, to whatever nation they belong, have a cause which is common to humanity at large, which knows no provincial boundaries and which is not interfered with by any sectional rivalry. To that great common fund of knowledge, the basis, after all, of your civilisation as it is—the basis, after all, of the industrial progress you hope to make—I think London should contribute its full share. London takes the tribute, a well-earned tribute, from every discovery made throughout the world, from every advance of civilisation, from every encroachment of civilisation upon barbarism, and from all these London, or some section of it, gets the benefit. Let us, then, who are dwellers in London, feel that we have some obligation to the world at large corresponding to the great position, the international position, which we occupy. Let us do what we can as a community to further that investigation into the *secrets of nature*, that *storming* of the citadels of natural knowledge in which all civilised men are, and ought to be, coöperators. Let it not be said that while there are great centres of scientific teaching in every other great metropolis, we have allowed ourselves for one moment to fall behind in the race in which we, of all people, ought to be leading. It is as contributors to that great end that I ask you for assistance to-night. It is because we know that in King's College we have an organisation ready made to our hand, which has shown us what it can do in the way of scientific investigation and has given us, therefore, an earnest of what it can do in the future in the same great cause; but if it is to do all that it is capable of it demands your assistance, and the assistance of others like-minded to you. It is only by that help, liberally offered, that this great metropolis can fulfil the duty it owes to the scientific bodies in its midst. I ask you now to drink with me the toast of the evening, "Prosperity and success to the future scientific investigations of King's College."

The toast was responded to by the Hon. W. F. D. Smith (treasurer of King's College) and the Rev. Dr. Robertson.

"Science" was proposed by Mr. Justice Byrne. This was replied to by Sir Michael Foster, M.P., who said that with regard to the toast itself, he did not know whether it was gracious or ungracious to say it, but it seemed to him wholly unnecessary, for science had been toasted the whole of that evening. The speech of Mr. Balfour was one continual toast of science, which he ventured to say would carry gladness into the heart of every man of science in this country. Some of his scientific friends abroad had said to him that science did not hold the position in this country that it did in theirs, but from that evening he could appeal to the speech of their chairman. Science had several aspects: there was the science militant, which tilted against every opinion and tradition, and there was the extreme wing of this science militant, which might be called the science blatant. Science blatant was always making pretensions for science to which science itself made no claim. The science blatant was preached by men who had never taken part in the fight or in the work but had stolen the trumpet from someone and simply blown it. Then there was the science vigilant, and vigilant was, he considered, the real adjective for the science which was always wide awake, which was always looking out for occasions for advance, and which was always looking carefully on its own defects and striving to profit by them. Lastly, there was the science mendicant. "Leech" was in old time the term for a man of learning, and it held good still, for scientific men were always crying "Give, give." And why was that? Because they were never content with what they had, because everything they had was always depreciating in value and use. It was because old appliances had to be thrown away and new apparatus procured that they were continually demanding help

The Bishop of LONDON proposed the health of the Chairman, who briefly replied

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD

On an Outbreak of "Fever" in the Village of South Witham,[1] by Dr R BRUCE LOW —South Witham is a small village in South Lincolnshire in which the prevalence of an anomalous "fever" was brought to notice in a somewhat unusual way In the course of the four weeks ending on Dec 6th, 1898 four deaths occurred in a farmer's family in the village under circumstances which led first to local suspicions of criminal poisoning and later to representations to the Home Secretary with a view to the exhumation of the bodies Meanwhile, however, the occurrence of subsequent cases of "fever" in the village became known and the matter was referred to the Local Government Board by the Home Office for the determination of the nature of the prevalent malady Dr Stell, who had attended the cases of illness in the farmer's family, had formed the opinion that all the cases were in fact enteric fever of unusual type This conclusion Dr Bruce Low, after careful inquiry into all the circumstances, considers as the most probable solution. If the farmer's family alone had been in question it would have been impossible, from the clinical history available, to accept or to reject a diagnosis of enteric fever The symptoms had been those of an acute and rapidly fatal enteritis, complicated by meningeal symptoms The latter had, indeed, been so marked as to suggest that the patients had suffered from cerebro spinal meningitis and not from enteric fever at all But a series of cases followed in the village, the majority of which were evidently quite typical enteric fever Between the date of attack of these typical cases and the original illness in the farmer's family intermediate cases occurred which, though presenting the usual symptoms of enteric fever were also attended by unusual meningeal symptoms such as had been manifest in the farmer's family Dr Bruce Low also ascertained that every household invaded by the illness had come into some relation with the farmer's household of a kind which would permit explanation of enteric fever having been introduced from that source The value of Dr Bruce Low's observations would have been enhanced if it had been possible to obtain post mortem examinations or if the serum test had been employed But the numerous clinical data which he gives are well worth noting for comparison with those in other cases where similar doubt and difficulty arise

We have recently received four other reports of inspectors of the Medical Department of the Local Government Board to which, as their interest is in the main local and administrative, we can only make brief reference In *Reports as regards the Eton Rural District* Dr Ralph W Johnstone deals with a number of local insanitary circumstances, particularly in relation to recent diphtheria prevalence The obstacles to sanitary progress in this and in similar low lying districts bordering the Thames are considerable, but evidently many of them could be overcome if the place had a local authority of greater vigour and determination than the Eton Rural District Council Dwellings in most of the villages have their own leaky cesspools in proximity to and polluting the water of their shallow wells This is unsatisfactory enough, but in the growing parts of the district for instance on the borders of Slough and Eton the condition of new dwellings is in some ways worse They obtain water from the public water service but they have no sewers, and instead have more or less water tight cesspools of comparatively small capacity built in accordance with local by laws Such cesspools obviously require frequent and systematic attention to prevent overflowing But in this district the whole onus of cleansing cesspools is placed upon the occupier instead of being effected, as it should be, by the local authority. As a result, in the semi urban localities in question, overflowing of cesspools and "backing up" of house-drains is extremely common and gives rise to most unwholesome pollution of the soil about and beneath the dwellings In this district the undesirable custom of allowing houses to be built below the natural ground level on sites which have been excavated for brick earth appears to be common In a second report Dr. Johnstone deals with complaints from persons in the district living near the Grand Junction Canal of the nuisance arising from the use of the land bordering that canal for the deposit of London house refuse which is transported thither by the contractor to the Kensington Vestry From the view-point of sentiment, in any case, these complaints have a substantial basis, though Dr Johnstone is unable to substantiate a further allegation that these nuisances have been responsible for recent diphtheria prevalence in their neighbourhood

Reports such as that by Dr. G S Buchanan and Mr R H Bicknell—*Upon Inspection of the Gathering Grounds and Waterworks of the Bolton Corporation*—might be multiplied with advantage to the progress of public health measures in the country. The inspectors report a large number of potentially dangerous conditions affecting the gathering grounds and the reservoirs of the Bolton supply, and they are unable to regard the filtration practised as sufficient uniformly to remove the risks to which these conditions give rise When it is remembered that Bolton supplies not only its own borough, but seven other urban districts and some rural areas—in all over a quarter of a million of population—the importance of placing the supply above suspicion is obvious In view of the large powers which it has obtained from Parliament, and of the profit (about £14,000 yearly) which it derives from the water undertaking, the Bolton Corporation should find no difficulty in at once doing away with the sources of pollution described in this report It is surprising to read that in matters so closely affecting public health as the water supply this corporation appear to have hitherto excluded their own medical officer of health from their councils In this and other ways they seem to have failed to give the water consumers many of the advantages which municipal control of a water service is intended to confer, and instead to have regarded their water business too much from the view point of a third rate water company

Dr F. St George Mivart has recently contributed two reports upon local inspection of rural areas—*Upon the General Sanitary Circumstances and Administration of the Chailey Rural District* and the *Sanitary Circumstances of Biggleswade Rural District* respectively

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 7115 births and 5032 deaths were registered during the week ending Feb 10th The annual rate of mortality in these towns, which had declined from 30 9 to 21 2 per 1000 in the five preceding weeks, rose again last week to 22 8 In London the rate was 20 4 per 1000, while it averaged 24 4 in the 32 provincial towns The lowest death rates in these towns were 12 6 in Croydon, 14 4 in West Ham, 15 8 in Swansea, and 16 5 in Nottingham, the highest rates were 32 3 in Blackburn, 34 2 in Salford, 34 3 in Wolverhampton, and 35 1 in Preston The 5032 deaths in these towns included 449 which were referred to the principal zymotic diseases, against numbers decreasing from 578 to 427 in the seven preceding weeks; of these 138 resulted from whooping cough, 115 from diphtheria, 82 from measles, 39 from diarrhœa, 37 from scarlet fever, 34 from "fever" (principally enteric) and four from small pox. No fatal case of any of these diseases occurred last week either in Derby or in Birkenhead; in the other towns they caused the lowest death rates in Nottingham, Bradford, and Hull, and the highest rates in Wolverhampton, Liverpool, Salford, and Preston The greatest mortality from measles occurred in Plymouth, Wolverhampton, Leicester, and Halifax; from scarlet fever in Oldham and Sunderland, and from whooping cough in Croydon Liverpool, Salford, and Newcastle The mortality from "fever" showed no marked excess in any of the large towns The 115 deaths from diphtheria included 51 in London, 12 in Sheffield, 11 in Leeds, eight in Leicester, and five in Liverpool. Three fatal cases of small-pox were registered last week in Hull and one in Leeds, but not one in any other of the 33 towns. There were 17 small-pox patients under treatment in the Metropolitan Asylums Hospitals at the end of the week, against 24 and 21 at the end of the two preceding weeks; one new case was admitted during the week, against five, four, and none in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, Feb. 10th, was 2089, against numbers decreasing from 3578 to 2179 on the 12 preceding Saturdays; 157 new cases were admitted during the week, against 207, 190, and 174 in the three preceding weeks. Influenza was certified as the primary cause of 63 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had declined from 1221 to 432 in the five preceding weeks, further decreased last week to 423, and were 53 below the corrected average. The causes of 69, or 1 4 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Nottingham, Leeds, Hull, Newcastle, and in ten other smaller towns; the largest proportions of uncertified deaths were registered in Portsmouth, Liverpool, Halifax, and Sheffield.

---

[1] London: Eyre and Spottiswoode, East Harding street Edinburgh John Menzies and Co. Dublin Hodges, Figgis, and Co

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased from 23·0 to 23 7 per 1000 in the four preceding weeks, further rose to 27·1 during the week ending Feb. 10th, and was 4 3 per 1000 above the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 15 9 in Leith and 22 6 in Aberdeen to 31·3 in Dundee and 57·3 in Perth. The 836 deaths in these towns included 19 which were referred to measles, 18 to diarrhœa, 14 to whooping-cough, seven to "fever," three to scarlet fever, and not one either to small-pox or diphtheria. In all 61 deaths resulted from these principal zymotic diseases, against 81 and 66 in the two preceding weeks. These 61 deaths were equal to an annual rate of 2 0 per 1000, which corresponded with the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of measles, which had declined from 32 to 25 in the three preceding weeks, further decreased last week to 19, of which 15 occurred in Glasgow and three in Paisley. The deaths from diarrhœa, which had been 23 and eight in the two preceding weeks, rose again to 18 last week, and included six in Glasgow and six in Dundee. The fatal cases of whooping-cough, which had been eight in each of the three preceding weeks, increased last week to 14, of which six were registered in Glasgow, four in Perth, and two in Aberdeen. The deaths referred to different forms of "fever," which had been three and five in the two preceding weeks, further rose to seven last week, and included four in Glasgow and two in Edinburgh. The three fatal cases of scarlet fever showed a decline of eight from the number in the preceding week, and were all registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 172 and 212 in the two preceding weeks, further rose to 241 last week, but were 105 below the number in the corresponding period of last year. The causes of 27, or more than 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined from 50 3 to 35·5 per 1000 in the five preceding weeks, further fell to 29 7 during the week ending Feb. 10th. During the past four weeks the death-rate in the city has averaged 37 0 per 1000, the rate during the same period being 22 3 in London and 24·8 in Edinburgh. The 199 deaths registered in Dublin during the week under notice were 39 below the number in the preceding week, and included 17 which were referred to the principal zymotic diseases, against 10 and 12 in the two preceding weeks; of these five resulted from diphtheria, five from whooping-cough, three from measles, two from scarlet fever, two from diarrhœa, and not one either from small-pox or from "fever." These 17 deaths were equal to an annual rate of 2 5 per 1000, the zymotic death-rate during the same period being 1 8 in London and 0 9 in Edinburgh. The deaths referred to diphtheria, which had been three, one, and two in the three preceding weeks, further rose to five last week. The fatal cases of whooping cough, which had been three and none in the two preceding weeks, rose again last week to five. The deaths from measles, which had declined from 18 to four in the four preceding weeks, further decreased to three last week. The two fatal cases of scarlet fever showed a slight excess over the average of recent weeks. The 199 deaths in Dublin last week included 30 of infants under one year of age and 66 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline from the number in the preceding week. Four inquest cases and three deaths from violence were registered, and 56, or more than a quarter, of the deaths occurred in public institutions. The causes of 14, or more than 7 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE

Fleet Surgeons G. J. Irvine and H. T. Cox to be Deputy Inspector-Generals of Hospitals and Fleets.

The following appointments are notified:—Fleet Surgeon A. J. J. Johnston to the *Edgar* for medical charge on voyage to England and afterwards to Plymouth Hospital. Staff Surgeons: A. F. Harper to the *Edgar* for medical charge on voyage to China and afterwards to the *Victorious*; and J. H. Whelan to the *Thunderer*. Surgeons: P. H. Bannister to the *Benbow*; R. S. Osborne to the *Tamar*, additional, and to the *Robin*, on commissioning, to take passage in the *Edgar*, and for duty, if required. A. G. Eastment, lent to the *Rodney*; and F R. Mann to the *Britannia* for the *Racer*. Surgeon J. E. Powell to the *Centurion*

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel W. Johnston, A.M.S., is appointed Assistant Director at headquarters.

Captain Henry Arthur Berryman, from half-pay, to be Captain, with precedence next below K. M. Cameron, vice A. L. Borradaile, promoted.

Lieutenant-Colonel R. T. Beamish proceeds to Woolwich for medical charge of No. 8 General Hospital; Major H. Carr is posted to the Station Hospital, Shorncliffe, for duty. Major J. S. Edye and Lieutenant E. McDonnell, and Surgeon-Captains H. E. Mortis and J E. O'Connor, Militia M.S.C., joins No. 8 General Hospital for duty. Major A. Wright joins at Woolwich Major E. C. Freeman has arrived at Portsmouth, and Major H. B. Mathias, D S O, has arrived in the Home District.

IMPERIAL YEOMANRY.

C. B. Howse to be Medical Officer.

YEOMANRY CAVALRY.

Surgeon-Lieutenant-Colonel W. J. Naismith, Ayrshire (Earl of Carrick's Own), has been seconded for service with the Imperial Yeomanry.

ARMY MEDICAL RESERVE OF OFFICERS.

To be Surgeon-Lieutenant-Colonel: Surgeon-Major J. H. Hay and Surgeon-Major T. Fort.

MILITIA MEDICAL STAFF CORPS

Surgeon-Major W. W. Lake to be Surgeon-Lieutenant-Colonel.

VOLUNTEER CORPS.

Artillery: 2nd Middlesex: Surgeon Captain A. Thorne to be borne as supernumerary in his corps while serving in the City of London Imperial Volunteers. *Rifle:* 2nd Volunteer Battalion the Northumberland Fusiliers: John Clay to be Surgeon-Lieutenant. 5th (Deeside Highland) Volunteer Battalion the Gordon Highlanders: Surgeon-Captain J. H. Anderson to be Surgeon-Major. 1st Volunteer Battalion the Worcestershire Regiment: James Howard Wilkinson to be Surgeon-Lieutenant. 2nd (Berwickshire) Volunteer Battalion the King's Own Scottish Borderers: Surgeon-Lieutenant D. R. Dobie to be Surgeon-Captain. The following officers will be borne as supernumeraries in their corps while serving in the City of London Imperial Volunteers: 16th Middlesex (London Irish): Surgeon-Captain E. W. St. V. Ryan. 20th Middlesex (Artists): Surgeon-Captain R R. Sleman.

The Royal Army Medical Corps and the Indian Medical Service

The following is a list of successful candidates for commissions in the Royal Army Medical Corps at the recent examination in London

Order of Merit	Names	Marks.
1	T Biggam	2554
2	H Richardson	2532
3	C H Carr	2430
4	W L Baker	2402
5	T W Cotton	2370
6	L Bennett	2275
7	F M Larry	2243
8	D R Dimits	2221
9	J S Twigg	2135

Order of Merit	Names	Marks
10	W J P A lye Curran	2195
11	J Powell	2156
12	R L Argles	2099
13	J G Foster	1971
14	F P Lauder	1970
15	E G Ford	1803
16	F S Walker	1802
17	L M Purser	1800

The following is a list of the candidates for Her Majesty's Indian Medical Service who were successful at the competitive examination held in London on Feb 2nd and following days —

	Marks
J D Graham	3640
C A Sprawson	2936
W H Cazely	2928
W V Coppinger	2812
F A Browne	2785
A Spitteler	2768
M MacKelvie	2651
L J M Deas	2621
W G Hamilton	2620

	Marks
J O S Oxley	2615
H R Mackie	2570
W Lapsley	2521
W D A Keys	2497
A Chalmers	2459
J Good	2453
W McM Houston	2402
G J G Young	2363
S B Godkin	2262

Volunteer Officers' Decoration

The Queen has conferred the Volunteer Officers Decoration upon the undermentioned officers —*North Eastern District Artillery*: 1st Lincolnshire Volunteer (Western Division, Royal Garrison Artillery) Surgeon Lieutenant Colonel Edward Bass Peckitt *North Western District: Rifle* 1st Volunteer Battalion the Royal Warwickshire Regiment Surgeon Major Edward Luke Freer *Scottish District Rifle* 7th Volunteer Battalion the Royal Scots (Lothian Regiment) Surgeon Lieutenant-Colonel James Bruce Ronaldson 2nd (Berwickshire) Volunteer Battalion the King's Own Scottish Borderers Surgeon Major Robert Shirra Gibb *Southern District Rifle* 2nd Volunteer Battalion the Hampshire Regiment Surgeon Major Richard Thompson Cæsar *Western District Artillery* 1st Gloucestershire Volunteer Artillery Surgeon Major John Shaw Carleton

A good service pension of £100 a year has been granted to Surgeon General William Taylor, C B, A M S, P M O on the Staff of the Commander in Chief in India

Transvaal War Notes

Major A S Rose, R A M C, was wounded in the action Potgieter's Drift

In view of the recent Army Order officially sanctioning the services of officers and men of volunteer medical staff corps and bearer companies of volunteer infantry brigades for South Africa steps have been taken to at once raise two bearer companies from the brigades of the Home district

On the outbreak of the war the committee of Queen Charlotte's Lying in Hospital undertook to receive into the hospital for their confinements the wives of soldiers and sailors on active service in South Africa Orders of admission have been issued to 37 women and 15 others are being attended as out patients

The citizens of Edinburgh have resolved to raise a fund by public subscription of not less than £12 000 for providing a Scottish hospital for South Africa The doctors and nurses will all be Scottish, but the use of the hospital will not be confined to the treatment of Scottish soldiers only More than £6000 have already been received

The American Field Hospital the gift of Mr Van Alen and consisting of 25 beds, left the Albert Docks on Thursday, Feb 8th Captain E T Powell R A M C is in charge of the hospital and the orderlies have been furnished by the St John Ambulance Brigade Mr S Osborn, F R C S Eng, chief surgeon to the Metropolitan Corps of the St. John Ambulance Association, who has been attached to this hospital left for South Africa in the *Norman* on Feb 10th

A telegram from Modder river states that an Army Order has been issued improving the status of civilian medical men

A telegram from Lady Randolph Churchill at Durban states that on the hospital ship *Maine* there are now 140 patients, among them being stretcher bearers and men of the Royal Army Medical Corps There are 16 cases of dysentery, 14 of rheumatism three of enteric fever, and four of ague

Messrs W C Windover Turrill, and Sons of Long Acre and South Audley street have ready for shipment to South Africa two "Manders's Flying Hospital Cars" and two "Manders's Flying Ambulance Cars" for service with the Imperial Yeomanry The first named cars are somewhat similar to the Irish jaunting cars and the wounded are prevented from falling from the seats of the cars by straps Between the two seats, on each of which there is accommodation for four men, the dressings, water &c, are placed, and there is also a seat for the surgeon The flying ambulance cars are each fitted with six stretchers — All the cars are fitted with springs specially constructed for travelling over rough roads.

Dr L J Weatherbe, police surgeon of the borough of Sheffield, has volunteered for service in South Africa with the Imperial Yeomanry and has been accepted by the War Office

The St John Ambulance Association, which is entrusted by the Central British Red Cross Committee with the reception and forwarding of material for the sick and wounded to the seat of war, has already despatched 5855 pyjamas, 9293 shirts, 23 603 handkerchiefs, 2319 pillows, 7330 pillow slips, 6409 pairs of socks and stockings, 6210 slippers and shoes 1471 knitted caps nightcaps, &c, 246 pairs of gloves and mittens, 1080 jackets woollen waistcoats, and cardigans, 4735 mufflers, 1021 nightingales and hospital capes, 694 cushions, and many thousands of other articles

The *Times* publishes a letter from Mr Anthony A Bowlby to the Duke of Portland, dated "Portland Hospital, Rondebosch, Jan 15th" in which he says "The arrangements made by the Royal Army Medical Corps for the treatment of the wounded on the field and for their transference to the base hospitals are altogether admirable, and it is certain that in no previous war undertaken by any country have such facilities been afforded for the prompt succour of those injured or for their suitable and safe conveyance by properly equipped trains Many men have arrived at the hospitals in the neighbourhood of Cape Town within 48 hours of being wounded some 600 miles away, and it must be remembered that within this time they have been dressed on the battlefield, conveyed in ambulances to field hospitals, and subsequently removed to the trains It is in consequence of these arrangements that the wounded are all treated at general hospitals placed in the most convenient and healthy situations, where the work of the Royal Army Medical Corps can be supplemented by the experience of civilian surgeons, and it is here consequently that the Portland Hospital is at present of more use than it could be elsewhere The excellence of the general arrangements in this war for the treatment of the wounded cannot be too widely known" A letter from Lord Roberts to the Duke of Portland says "It will I am sure please the duchess and you to know that the Portland Hospital is all that could be desired I have never seen a nicer, better managed, or more comfortable hospital"

The Public and the War

One of the most striking features of the present war has been the remarkable manifestation of enthusiastic patriotism displayed on all sides There is no end to the generous efforts that are being made to help our soldiers in the field and to take care of those who have been left behind What is wanted now is to see that the philanthropic work is properly turned to account by effective organisation The distribution of all the stores of clothing, food, medical comforts and appliances, and tobacco that have already reached the Cape must be a source of some embarrassment and difficulty to the authorities there As regards the hospitals and hospital ships that have been provided by charitable organisations and munificent individuals much money and care have been expended in fitting them out and some of them are already doing excellent service They have accommodated quite a number of wounded officers and men and all who have gone round the institutions, the Portland Hospital for example and inspected the arrangements have expressed their satisfaction, and, what is more to the point, the patients themselves are gratified with the treatment they are receiving

Major Marchand's Medical Officer

The name of Dr Emily, who was recently promoted out of his turn to the rank of medical officer of the first class, has now been officially inscribed on the officers roll of the Legion of Honour as an additional reward for his "exceptional services" Dr Emily possesses an excellent record for professional efficiency and zeal and has contributed several papers of merit to medical journals His method of treating guinea-worm by the injection of corrosive sublimate solution, if possible, into the body of the parasite, but, failing this, into the tissues adjoining it, would seem to deserve a trial.

Correspondence.

"Audi alteram partem."

"THE PREVENTION OF SYPHILIS BY TREATMENT."

To the Editors of THE LANCET.

SIRS,—With reference to the letter in THE LANCET of Feb. 3rd (p 341), from Dr. C. R. Drysdale under the above heading, while probably many will agree with him that "syphilis being a contagious disease ought if possible to be prevented" by some "legal plan," some on the other hand may not estimate at a high value the means which he mentions to that end—"notification and prosecution of persons who voluntarily infect their neighbours." Notification implies the possibility of recognition of the existence of disease, and as one objection raised against the value of compulsory examination was based on this asserted difficulty the two methods are on this point, assuming the existence of the difficulty, on the same footing. Besides, the value of notification towards prevention lies in the extent and degree to which it would bring the disease under treatment; in range it is limited to those coming within the professional purview of the notifier, it can have no action on that large
umber who while diffusing the disease abstain from all
pplication for treatment until physically compelled to seek
elief; and to be valuable for prevention it must be asso-
iated with efficient continuous treatment so long as the
isease remains capable of transfer by contagion and with
mpulsory withdrawal of the sufferer from all ways of its
ssemination. Hence from a sanitary point of view the value of notification over the compulsory examination and enforced detention of the old Acts is not apparent; rather it is less in that so far as prevention is concerned it starts from pronounced disease compelling the sufferer to seek treatment, while the compulsory examination anticipated this period and withdrew the infecting person from acting as a focus of infection long before that condition had been arrived at, though to be efficient its mode of action follows the old compulsory lines. Nor is it apparent how notification could "give us correct information as to the extent of the evil" in view of its necessarily limited range of action, and before it can be acted upon the notifier must be relieved from the present legal disabilities attendant upon it.

Again, with respect to the "prosecution of persons who voluntarily infect their neighbours" the difficulties attending the procedure are many. We know already how profoundly obnoxious was the assumption of the rôle of the informer when directed only towards the recognition of the existence of disease and how much greater would be the obstacles when the additional object of punishment was entailed. I venture to think that these suggested means of prevention are, from a sanitary point, no advance over the old extinct procedures.

In his last paragraph Dr. Drysdale, referring to the last meeting of the British Medical Association, mentions an apparent wish on the part of some "to introduce the Parisian system into London," concerning which system he makes extracts from a pamphlet sent him recently by Professor Fournier. Although present and taking part at this signally inconclusive and abortive meeting and hearing a variety of opinions I cannot recall to mind any prominence given to the system bearing this designation. Speaking personally, my advocacy was for the prevention of syphilis by curtailment and control of its main diffusing medium—prostitution—and by sanitary legal action against its transfer. And, indeed, by the extracts given from Dr. Fournier's pamphlet we find that even in Paris the prevention of syphilis through "repression of prostitution by administrators and police measures" was not without "benefits," though the measures were "insufficient for their purpose" and failed "because so disgracefully unjust in application"—features of a remediable character and having reference not to the principle but to the means adopted. And that failure is no necessary sequel is shown by the results arrived at in the German army and in our own, and by the experience of the Ionian Islands and of Malta
Sir H. Storks and Mr. Inglott, to mention no
import.

The great extent to which the disease preval
pointed out by Dr. Fournier, and the evidence
effect among us is indicated in the addresses t
Minister in June last; the formulation of a pla
not facts of disease prevalence which are palpa
After repeated references to the scandalous s
streets and to the insane toleration of solicitation,
Council for the Promotion of Public Morality hav
held a meeting for attacking one contributing f
what is unquestionably wanted is not isolated
one point, good though it be in itself, but combi
directed both against prostitution with all its p
influences and against the resulting physical di
substantial durable results are to follow; and suc
must be compulsory in nature, as recognised by Dr. D

I am, Sirs, yours faithfully,

Feb. 12th, 1900.

FRANCIS H. WELCH, F.R.C.S.

Surgeon-Colonel (retired), A.M.S

"THE PHYSIQUE OF THE BOERS."

To the Editors of THE LANCET.

SIRS,—In the interesting article on the physique o
Boers in THE LANCET of Feb. 10th (p. 410) a
ment occurs which I think will cause some su
to those of your readers who have lived in Holl
The writer says: "In so far as they are of D
descent the Boers should be small. The French bl
which is mingled with that of the Dutch would
tend very considerably to increase the height of the B
The French, though taller than the Dutch, are not so tall
the English." I believe that the notion that a Hollander i
short squat man is derived from the days when almost o
only intercourse with him was in his sailor capacity, sailo
being generally men of short, thick-set build. We a
also familiar with his outward man through the seventeenth
century painters of rural life whose rustics are generally
clad in garments that give them a "broad-in-the-beam"
aspect. What struck me in the Dutch physique—I lived
several years in Holland—was that it was by no means of the
Teniers type and that gaunt tall men were quite as common
as with us English. The Dutch are certainly of a greater
average height than the French; but the stature of both
varies somewhat in the different provinces of the two
countries. The mingling of the French with the Dutch
blood would, I venture to say, tend to diminish rather than
to increase the height of the Boer; but it is doubtful
whether the influence of the French upon the Boer physique
is not *une quantité négligeable*.

I am, Sirs, yours faithfully,

HENRY ATTWELL.

To the Editors of THE LANCET.

SIRS,—Your correspondent who wrote last week (p. 401) on the subject of the physique of the Boers scarcely does justice to the physique of the Briton. He takes as his standard of comparison a crowded street in Glasgow, factory women in a Lancashire town, the inhabitants of a West-end slum, and ditto East-end, thus comparing a healthy agricultural class with the unhealthiest classes in the United Kingdom, if we except the healthy open-air workers in Glasgow. If he cares to revise his opinion let him go to any agricultural show in the country or even to the cattle show at Islington, and he will see a class more than able to hold its own in comparison. As it is not the time of year for these shows the next best opportunity is at a meet of the hounds or a local country steeple-chase. Then apart from the distinctly agricultural class take the athletes from the football and cricket fields and other branches of athletics. He seems needlessly troubled about replacing the Highland Brigade; it would be very interesting to know how many of them are pure crofters and how many town-bred; I fancy your correspondent would be astonished at the figures.

I am, Sirs, yours faithfully,

Forest-gate, E., Feb. 12th, 1900.

E. T. A. BOYTON.

"DEATHS UNDER CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—Dr. Edmunds has still failed to grasp the meaning of my query, "If the patient does not absorb a in each case why do we get a similar result?" er's mask or a Krohne inhaler) By "we" I munds and myself and by "similar result" I anæsthesia with regular pulse and respiration ntracted pupils A list of deaths under anæs- e of them given from a Krohne inhaler) is no is query, to which I am still waiting a reply.

unds's questions are · 1 "Can he show any measured dosage other than the volumetric ion of air charged with the vapour of the anæs- My answer is that by "dosage" I mean the sorbed by the patient, not the amount presented d excluding the use of a closed inhaler, which is too , I know of no method of estimating accurately it of chloroform absorbed except by watching its the pulse, respiration, and pupils 2 "Can he any apparatus by which precise and registrable n be secured other than by the improved Krohne "

ply is that neither the Krohne inhaler nor any achine that I have met with ensures the patient's g a "precise and registrable" amount of chloroform

A large portion of Dr Edmunds's letter is devoted ing that while the Krohne inhaler can supply the with chloroform it cannot be expected to provide ninistrator with brains I quite agree As in surgery , the rule holds good that multiplicity of instruments ever compensate for lack of knowledge A further of the relative (not absolute) safety of the open method ministration is found in Dr Edmunds's concluding re- s He says "*For some 40 years I was in the habit of g chloroform off a towel or anything else. I have never any sort of anxiety about my chloroform in any single*" (The italics are mine) Comment is needless

I am, Sirs, yours faithfully,
C HAMILTON WHITEFORD

ymouth, Feb 12th, 1900.

IE ELECTION OF A PARLIAMENTARY REPRESENTATIVE FOR THE UNIVERSITY OF LONDON.

To the Editors of THE LANCET.

SIRS—The result of the election for a Member of Parlia nent for the University of London should be a source of ery legitimate pride to the graduates The comments, however, which have appeared in the daily papers appear to show that the writers of the articles have not a very clear grasp of the facts which have influenced the electors. Although I cannot profess to have studied these articles with any great care the general impression which they have left on my mind is that the Conservative papers imagine that a great success has been won for the Tory party, and, on the other hand, that the papers which support the Opposition imagine that their party has been badly treated by a number of persons amongst whom they expected to find a majority of militant Radicals The writers of the political articles in the daily papers cannot perhaps be expected to look at such a position as prevailed in this election from a broad standpoint, nor can they be expected to have any knowledge of the various side issues which in a constituency like that of the University of London necessarily affect a considerable number of votes As a matter of fact it seems to me that the election did not turn on political matters Possibly a majority of the intelligent people in most constituencies consider that the present Government has obviously neglected its duties but the same majority probably think no less strongly that members of the front Opposition bench if they were in power would prove no more capable And it is my opinion that until a new party with a definite policy has been formed by the man who will within a short period be Prime Minister there will be no active agitation against the present Government

The result of the election of a Member of Parliament by e University of London is satisfactory, in the first place, cause beyond doubt the best man has been chosen The ewly elected Member by his training is eminently fitted to nstruct the Members of the House of Commons on matters great importance to the country concerning which most them are either ignorant or careless—careless possibly, because no votes are to be gained by paying attention to the subjects And apart from the positive side of the question it is satisfactory that the University of London has secured as its representative a man whose reputation has been made in municipal provinces Again, it is satisfactory that the London University has avoided electing the gentleman who was so quick in obtaining the support of an electioneering association with which he had for a long time been working It might very easily have happened that the determining cause of the selection should prove some dissatisfaction with the manner in which the affairs of the University have been managed But the many graduates who strongly disapprove and regret the alteration which has been made or is about to be made in the constitution of the University, putting all personal considerations aside, have undoubtedly voted for the man they thought would best represent the University.

The London graduates who in the past have had to work very hard to obtain a degree have felt aggrieved that by an alteration in the constitution of the University it is practically certain to happen that degrees of the same denomination will be obtained on much easier terms There can be no doubt whatever that for a long time there has been considerable and great injustice to the London medical student, and that he has not been able to obtain a medical degree without an enormous amount of work in subjects beyond the ordinary medical curriculum A student who went to Edinburgh or one of the other Scottish universities was, if he were a man of ordinary ability and fair application, practically certain to obtain at the end of his time a medical degree which he would afterwards find of great use to him in his battle with the world If instead of choosing Edinburgh or some other Scottish university the same student had come to London he would not have been able with the same amount of work and in the same time to take a medical degree, because the standard of the University of London required either that he should work harder or that he should spend an extra amount of time over the work. The teachers at the London medical schools, some of whom have been very active in obtaining the alteration in the constitution of the University, have undoubtedly, whether consciously or not, been dominated by the idea that a more easily obtained degree will be accessible under the altered constitution Now, by some of the older medical graduates this has been thought a distinct grievance, and it was quite within the bounds of possibility that they might have shown their discontent with the alterations by voting not for the best man, but for someone entirely opposed to the alterations which are now to take place in the University of London Again, it is conceivable that many members of the University, which has hitherto been free from any theological connexion, are looking forward with dislike to an alteration by which colleges which represent some of the better known forms of heresy become parts of the University; and that there should be thus a department formed for the study of pathological theology

It is a most hopeful portent for the future success of the University that setting aside all extraneous considerations the London graduates have elected a Member who will be able both to enlarge the sphere of usefulness of the University and also to instruct the Members of the House of Commons on subjects on which they are at present in sad need of light and leading

I am, Sirs, yours faithfully,
AN OLD MEDICAL GRADUATE

THE ORGANISATION OF THE PROFESSION

THE BATTERSEA AND CLAPHAM MEDICAL SERVICE

(FROM OUR SPECIAL COMMISSIONER)

IN October, 1896, a few medical men residing in Battersea and Clapham held a small meeting to discuss the question of medical aid for those who could not afford to pay the ordinary fees Dr R H Barkwell took the initiative in this movement and was elected president of the association which was formed on that occasion At this time most of the contract work done in these neighbourhoods was in the hands of the London and Manchester Industrial Assurance Company, Limited, and the medical men naturally objected to be in the service of an industrial company. They were imbued, on the contrary, with the idea that such insurance against sickness by small weekly payments as might be justified should be organised by those who did the work—namely, the medical attendants themselves. The medical men objected to being used as decoy ducks for an insurance business, and thought that the dignity of the profession was likely to be compromised if they worked for an organisation when they had no voice in the management. At the first meeting there were nine medical men present and seven of them at once undertook to form the nucleus of a medical service to be managed by the medical men themselves. Of course efforts were made to detach the medical officers from the service of the London and Manchester Industrial Assurance Company, but only two among them responded. The others expressed the fear that the company would import medical men to take their places if they sent in their resignations and that there was no organisation sufficiently strong to support them in the struggle that would ensue. Indeed, this fear was subsequently justified, for the company in question has imported two practitioners, thus increasing the competition prevailing. In spite, however, of this danger the small group of medical men who had met together were not long in setting to work. At their first meeting they adopted a set of rules, this task being greatly facilitated and simplified by a neighbouring organisation of the same description—the Wandsworth Medical Aid Society. The rules of this latter body served as a model and basis for the new society now brought into existence and designated the Battersea and Clapham Medical Service.

This society differs from the old provident dispensaries by the facts that the medical officers themselves form the executive committee, that it is absolutely self-supporting, and that no appeals whatsoever are made for charitable donations. There are no honorary subscribers. The members consist solely of persons living in Battersea or Clapham who "are unable to pay for medical advice in the usual manner." All persons desirous of becoming members must make a declaration that they are unable to pay for medical attendance and that they are *not suffering from any kind of illness*, whether acute or chronic. Any inaccuracy in such declarations confers on the committee the right of immediately expelling the member, and all the contributions paid by him are forfeited. The members pay 1*d*. per week. The highest amount charged for any number of children under 12 years of age is 4*d*. per week, and these must all belong to the same family. Further, the members must pay 1*d*. per quarter as a management fee, the maximum sum per family being 4*d*., and 1*d*. is charged for each new card of membership. The payments are made in advance and are marked on these cards. All payments are made to the collectors except in cases of certificates, vaccinations, and confinements, when these have been arranged for apart from the service. Members who are in arrears with their subscriptions for more than one month must pay 1*d* per week fine, and if in arrears for more than 13 weeks their names are erased from the books. If, however, the committee so decide the excluded members may be re-admitted on paying the arrears and fines for one quarter. Of course persons who are actually suffering from illness are not admitted unless especially recommended by one of the medical officers of the service, and then they must pay for one quarter in advance and an entrance fee of 3*s* 6*d*. Members who have contracted a disease through their own fault are not entitled to medical attendance. Married women who are members will receive medical attendance during their confinement on payment of from 10*s*. 6*d* to £1 1*s*. This payment may be effected by weekly instalments if the whole sum is paid in advance Miscarriage or premature birth at any stage, cannot of course, be paid for in advance. The fee for this is 10*s* 6*d* and members are allowed three months to pay the same in weekly instalments, but this does not exempt them from the payment of their ordinary subscriptions. If such payments are not effected in the time prescribed the committee may erase the defaulters from the list of members. The medical officers have the right to refuse to attend members for confinements, but they must attend these patients when a month has elapsed after the confinement The medical officers do not visit domestic servants at their master's house, but servants may obtain advice at the medical attendant's surgery or in their own home if it is situated in the district Messages for attendance must be received before 10 30 A.M., otherwise a fee of 1*s*. 6*d* is charged. For medical certificates a fee is charged of 1*s*. each. The medical officers supply medicines, but the members must provide their own bottles. Such, briefly, are the rules of the society

No sooner was it known that such an organisation was about to be established than several persons applied for the post of collector. One among these was selected and he has been retained in the employment ever since. The first subscribers were enrolled in the second week of November, 1896, so it will be seen that not much time was lost in the work of preliminary organisation; indeed, subscriptions were coming in within a month of the date on which it had been decided to establish the medical service. During the first two months the medical service had 63 members and in 1897 there were some 400 members The receipts from subscriptions and fines amounted for the first seven and a half months to £103. During the last six months of 1898 they rose to £175 and during the last six months of 1899 to £177 Thus there has been a steady progress, but the general expenses are still very heavy as compared with the receipts The relative expense would diminish if the number of members was augmented, as there would be a larger margin of profit. Thus 8*s*. 6*d*. per week is paid for the rent of three rooms. One of these rooms serves as a meeting-place for the committee and as the collector's office. Here [illegible] the registers and books are kept and are open at all times to [illegible] the inspection of the medical officers The collector himself [illegible] receives a regular salary of 9*s*. a week and has the two other [illegible] rooms attached to the office rent free to live in. Then he [illegible] receives a commission of 10 per cent. on all the money [illegible] he collects. But he has to give the whole of his time [illegible] the work. The number of members has now incre[illegible] much as to make it necessary to employ a second co[illegible] he is paid 5*s* a week and 10 per cent commissi[illegible] expected to give only half his time Last quarter [illegible] the receipts or expenses amounted to £23 1[illegible] amount collected was £83 9[illegible] seen, therefore, that the working expenses [illegible] a quarter of the total receipts. Th[illegible] the case when the number of membe[illegible]

Here, as elsewhere, [illegible] establishing an effective check on the colle[illegible] solved. The service is quite and absolutel[illegible] its collectors, but if at any time a dishonest [illegible]llector should be employed it would be difficult to detect [illegible] defalcations. The principal check is for the medical atten[illegible]ant to insist on seeing the patient's card, but if the mem[illegible]ber is not ill there is no pretext for examining the card. Certainly when from the books it appears that a member [illegible] is not paid, independent inquiries might be made at [illegible]mber's house. But who is to make such inquiries? [illegible] to be expected that medical men will undertak[illegible] [illegible]ive work every time a few pence [illegible] hand, there is this security, that [illegible] dishonest, would not run the risk of [illegible] sake of a few pence here and there. [illegible]ficulty is involved in the question of [illegible] respect the insurance companies have [illegible] their collectors do not hesitate to tout. The [illegible] members for the Battersea and Clapham Medical Service depended at first on the medical men themselves who brought in the members of their own private clubs Some of the medical officers had poor patients who instead of paying fees paid small sums weekly direct to their medical advisers. These patients were handed over to the collectors. Then when a medical practitioner found that his patient could not pay the usual fees he suggested that he should enrol himself as a subscriber to the medical service. But the committee is constantly striving to impress on the collectors that they must not tout. A few weeks ago the following resolution was carried unanimously:

> That the secretary be instructed to write to each of the collectors calling their attention to the fact that canvassing for patients in any part of the district is not allowed

The fact that the medical service has now a staff of 16 medical attendants greatly contributes to its popularity, as it gives the members a large choice If in this the advice of the collector is asked by a new member the rule is that he should recommend the medical officer who is nearest at hand. Members have the further advantage that they may change their medical attendant, but not during an illness. To change their medical attendant they must wait till the half-yearly meeting and give notice to their collector a fortnight in advance.

With regard to the possibility of abuse a list of new members is drawn up from time to time and sent round to all the medical officers If any one of them has reason to believe that one of the members can afford to pay the usual fees he need only draw his pen through the name The member is then at once struck off the books, so that it rests in the hands of the medical men themselves to prevent abuse Organised on these lines the service is working very smoothly. Formerly the managing committee or board of the medical staff met every month, but everything is now so well organised that there is little or no work for them to do; consequently, unless some unexpected emergency arises, they now only meet once a quarter Thus far, then, the service has been fairly satisfactory, but the profits are not large. Some 25 to 30 per cent must be deducted from the receipts to cover the cost of the drugs which the medical officers have themselves to provide and we have already seen that the working expenses slightly exceed another 25 per cent It is, therefore, probable that the net profits do not amount to quite 50 per cent of the receipts Consequently there is need of improvement in this respect

To my mind the weak side of this organisation is certainly the limited scope of its action It has taken up one single question and has therefore only received the support of those who are interested in that one question The time has perhaps arrived when an appeal might be made to all the practitioners of the districts in question to join hands and deal with all the problems in which the profession is concerned What is wanted is a general medical union, not merely for the purpose of providing medical aid to those who are too poor to pay the usual medical fees, but to deal with other questions at issue, such as the abuse of hospitals and the competition of the clubs and the insurance companies Such grievances cannot be abated by the work of the 16 medical officers of the medical service They can only be dealt with by a powerful and general union of all the practitioners of the district such as that formed at Cork and recently described in these columns[1] But the medical service now established could serve as a centre and starting point for the formation of a general medical union of the practitioners of the districts of Battersea and Clapham Dr W Carey, 41 Bolingbroke grove, Wandsworth common, S W, is the secretary of the Battersea and Clapham Medical Service Doubtless if he received some encouragement from the practitioners in these districts the organisation that he represents would take the initiative in convoking a meeting so as to form a union of all medical men in the neighbourhood for the purpose of dealing with the ethical and economical problems which affect the general interests of the profession

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT)

The Progress of the Plague Epidemic its Continued Spread to Fresh Areas and its Serious Development in Bombay City —The Jigger Pest

THE plague mortality in India for the week ending Jan 21st shows that the disease is again increasing The record of the week is 1595 deaths against 1279 in the previous week The disease, moreover, is spreading to fresh places We hear for example, from Patna that about 13 villages in the Barh subdivision of the Patna district are badly infected and that some hundreds of cases have occurred, although the official returns only give 52 deaths A case of plague detected in Rangoon has proved fatal the victim being a girl who arrived from Calcutta on Jan 13th The house in which the deceased died has been burnt and a segregation camp has been formed in an isolated position The case appears to have escaped the notice of the Government medical inspecting staff The town of Navsari which is in the Gaekwar territory, and is the headquarters of the Parsee priesthood hitherto free now reports a serious outbreak Again, a case has occurred at Arrah and an outbreak of a serious character is reported from Tripatore in the Salem district, where the whole town is said to be infected I give these details to emphasise the actual state of the plague epidemic which is not always correctly indicated in the official returns Plague has greatly increased during the past week in the Mysore State (253 cases being reported as against 40 last week), in the Hyderabad State (154 cases, against 101), and in Bombay City (official figures being 471, against 379) As I foreshadowed Karachi is threatened with a renewed outbreak. More cases have occurred and evacuation from infected areas has now been adopted. It is satisfactory to hear that inoculation has been received with favour by the Khoja community In Bombay city the general mortality for the week has risen to 2289 As the quinquennial average without plague is about 570 for the week this enormous mortality shows how severely the disease is once more raging Small pox and measles continue, but deaths from these diseases account for a very small part of the increase Week after week the official returns of plague for Bombay city give a small proportion of the actual mortality, and this week 471 deaths only are recorded I must point out that the mortality from plague alone in Bombay city possibly amounts to 1500, for the week in question, as there are no other causes to account for the increase In the city of Calcutta there is not much change A few cases continue to be seen and the plague mortality for the week is estimated at 56 From an examination of the mortality tables for the whole of the year I find that the deaths returned as from plague in Calcutta exceed the excess of the mortality above the average It must be borne in mind, however, that Calcutta has been but little affected by cholera and has been otherwise exceptionally healthy during the year The estimate of plague is therefore probably correct But many observers do not accept the same conclusion regarding suspected cases The causes of death in these cases may be very doubtful, but on the above grounds I should be more disposed to consider that they arose from natural causes and were not due to plague At the present time both the city and suburban districts have a higher mortality than normal In view of the discovery of more living cases of plague, the continued high minimum of estimated plague mortality, and the interval which has now elapsed since the last definite development I regard the outlook as somewhat threatening

The Government of India have published for general information the following memorandum of Dr Becker, principal medical officer to the German Imperial troops in East Africa, on the mode of treatment of the jigger pest —

> The jigger has become an unpleasant trouble to man as the pregnant female bores with its head into the human skin and in consequence of the large quantity of eggs swells to the size of a small pea and in the shape of a white ball This results in a small ulcer the skin not being red in the beginning, but gets inflamed in the course of a few days If the parasite is not removed the inflammation increases and matter forms whereby the parasite is then removed The trouble caused by the jigger at the commencement is of small account The pain of the boring with which it enters the skin is so small that it is usually not noticed Later there is irritation in the affected part With increasing inflammation the irritation gets stronger and can attain the length of pain Festering wounds, if not cleaned as in the case of all neglected wounds, can cause serious inflammation gangrene and even general blood poisoning As the jigger lives on the ground it seeks out the foot as the most suitable part for its purposes—the soles of the feet especially the toes these being parts more protected from rubbing the free ends underneath the nails, the wrinkles of the joints &c. It is rare for it to attack the thighs or scrotum and other parts of the body
>
> The mode of prevention and treatment is easy The wearing of thick boots such as are specially worn by Europeans and soldiers, is a strong protection against jiggers Still better are high boots It is recommended to rub copaiba balsam or Peru balsam into the feet or to powder the stockings with insect powder The principal thing however is to have the feet carefully examined—a matter of vital importance to the bare-footed population As soon as a jigger is noticed in the skin it must be removed with the utmost care With a view towards this the little opening made by the jigger in order to get into the skin must be enlarged so that the periphery of the swollen insect is laid bare and easily scooped out after which the wound should be cleaned out, and it generally closes quickly if kept clean An unsuccessful attempt resulting in the pregnant jigger being lacerated appears to cause severe inflammation which should be treated according to the usual rules of surgery Natives usually attain great dexterity in removing the jigger By carefully attending to the feet the above unfortunate results—ulcerations &c —are uncommon In case of indolence or indifference on the part of natives attempts must be made to convince them In many cases—for example, soldiers—punishment must be meted out to them When soldiers become incapable of marching or performing their duties on account of jiggers it is permitted to punish them as, had they examined their feet daily and removed the jiggers in time there would have been no need for them to absent themselves from duty

Jan 25th

COMPENSATION TO A MEDICAL OFFICER —The Local Government Board has determined that the compensation payable to Dr C W Belfield for loss of office as district medical officer in the Bristol Incorporation [illegible] at the rate of £50 9s 6d per annum

---

[1] The Lancet Fe[illegible], p. 312.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Medical Charities.

IN a former communication[1] the financial condition of some of the Manchester medical charities was mentioned as given by Mr. F. Brocklehurst in his paper read before the Manchester Statistical Society. In addition to the hospitals the financial condition of the dispensaries as distinguished from the Provident Dispensaries is equally unfortunate. The Hulme Dispensary is working at a loss and the Chorlton Dispensary reports a deficit on the year of £69. Though not quite in the same category the Nurses' Institute cannot extend its operations for want of funds. But the spirits of hospital managers are not easily damped. The report of the Royal Eye Hospital states that the financial position is satisfactory, although, according to Mr. Brocklehurst, in 1898 deficits of £2000 had to be cleared off by realising on investments and last year the expenditure exceeded the income by £286. In this case Mr. Brocklehurst seems to have been inaccurate, for Mr. H. J. Goldschmidt, the honorary secretary, corrects his statement and shows that the deficit of £2000 was owing to an enlargement of the hospital, and that as regards the £286 this deficit and the £2000 were paid out of money received during the year and from cash in hand, and that no investments have been realised to pay for an excess of expenditure over income. It is cheering to see this, and instructive as showing how good one story may be till the other is told. The Eye Hospital does an immense amount of good work, the total number of out- and in-patients being 25,050. But more than half the number come from districts outside Manchester, and this wide area sends more patients than subscriptions. But Mr. Brocklehurst does not deal only with the financial question. According to the reports 217,527 cases of all kinds were treated in 1898, but as many of them were old patients reappearing in the various categories as new cases he thought that 150,000 would be about the number of individuals who had received treatment at the medical institutions in 1898. During the discussion on the paper Dr. J. Niven said that if the estimate were correct it revealed either exceptional poverty or that thousands were using the charities who were able to pay. Dr. D. J. Leech spoke strongly as to the misleading character of the reports issued by the charities, which were compiled to attract subscribers. He referred to the report of the Infirmary and said that the same person when transferred from the "in" to the "out" department was counted as two persons and that the number of separate people receiving treatment should be greatly reduced. Much the same criticism is no doubt applicable to the reports of the other medical charities, and it is clear that the whole system of manipulating hospital statistics should be altered. Mr. Brocklehurst made various recommendations, such as that the medical charities should adopt a uniform plan of issuing their reports. Another suggestion was that care should be taken to ascertain the degree of indigence of the applicants for medical aid. He also proposes a central receiving hospital, to be called the Medical Clearing House. The idea is that patients should first go there and then be drafted off to the various hospitals according to the character of the case and the speciality of the hospital. These propositions look somewhat revolutionary, but a good deal may be said in their favour. The reports should be guiding, not misguiding. They should give the number of cases of treatment, the number of individuals treated, and the places where they come from. Mr. Brocklehurst said that, so far as he could gather from the reports, the Salford Royal Hospital alone had any organisation for getting this information. Some of the other hospitals, however, make use of the machinery of the Provident Society for this purpose. Mr. Brocklehurst thought that a third of the patients were able to pay moderate medical fees and should be sent on to the Provident Dispensaries. But these institutions are not very popular among the general practitioners nor, it is said, among the class of people who are urged to make use of them. The medical men not connected with them say that the dispensaries take their patients, often by touting and other underhand methods, and that while their members are indignant at the dispensaries being called charities they are bolstered up and supported by the subscriptions of the well-to-do, without which they would die from inanition; while their supposed lack of popularity with the "people" is said to be due to the attention given being too perfunctory. All this shows how difficult is the question of attendance on those who are a little too well off to be hospital patients. In the *City News* of Feb. 3rd Mr. Charles Behrens, the honorary secretary of the Provident Dispensaries, to prove their popularity states that according to the last report "22,119 members availed themselves of their advantages" and that 34 medical men are connected with the different branches. He also quotes a passage from one of the reports which gives quite a flattering pat on the back to the medical staff of that particular branch: "The committee have again the pleasing duty of testifying to the painstaking and skilful treatment by the medical officers of those members who have had occasion to avail themselves of their services." No doubt this was well deserved, for having accepted their positions the medical staff would do their duty. At the annual meeting of the Pendleton Branch, on Jan. 29th, the report stated that there was a falling off in membership from 3961 in the previous year to 3876, and Dr. A. Stewart, who has been a consistent advocate of the dispensaries while trying to get rid of their abuses, expressed surprise that in so populous a working-class district there was so comparatively small a membership. He accounted for it partly from the improvident habits of the poorer class and partly from the facilities for obtaining hospital treatment without charge, saying that there was much competition amongst the hospitals, each liking to show a large number of patients, as this encouraged substantial subscriptions. At this very meeting the chairman protested against the institution being called a charity, although it is well known that these dispensaries would not exist long without the support of the well-intentioned, but, as many practitioners think, mistaken, friends who give their help. Possibly as the result of the interest excited, some movement to avoid overlapping and to check abuse may be set on foot.

Feb. 13th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Epidemic of Influenza in Edinburgh.

DURING the month of January 41 deaths were register in Edinburgh as due to influenza and its various compli tions. The deaths occurred in persons over 60 years of a and the fatal cases appeared to have been almost entir confined to the districts of Morningside and the Gran In 1892, when there was a very severe epidemic of influe 45 deaths were recorded from the disease. In no year si 1892 has the mortality from this cause been so high a the present year. The poor parts of the city have in epidemic shown a remarkable freedom from the disease.

The Notification of Infectious Diseases in Edinburgh.

During the first half of the year 1899 the fees d medical practitioners in Edinburgh for the notificati cases of infectious disease amounted to £520 and i latter half of the year to £134 15*s*. During 1898 £35 was paid for the first six months and £542 7*s*. 6*d*. f latter half of the year.

Medical Officer of Health for the County of Sutherla

Dr. Patrick Murison (Dundee) has been appointed m officer of health of the county of Sutherland. Dr. M is a graduate of Edinburgh University and has b practise in Dundee for the last ten years. He is at pr magistrate of that city.

The Scheme for a Scottish Hospital in South Afri

A meeting was held on Feb. 9th in Edinburg Chambers to consider the scheme for the establish a Scottish hospital in South Africa. Lord Provost Thomson presided. The meeting was well attended siderable number of representative citizens being The Lord Provost explained that shortly after the scheme of the War Office for the accommodation of soldiers had been dropped he had been told pri General Chapman that the War Office authorities very grateful if the people of Scotland would gi hospital ship. He informed General Chapman th

---

[1] THE LANCET, Jan 27th, p 271

Lord Provost of Glasgow would enter into the scheme he would be glad to take the matter up. The Lord Provost and citizens of Glasgow, however, did not approve of the ship scheme in view of the amount of expenditure, £50,000 or £60,000, which it would imply. It had then been indicated to him by the War Office authorities that a very acceptable gift would be a hospital of 100 beds placed on the lines of communication and capable of being moved from place to place. The minimum sum for the equipment of such a hospital was £12,000, and he was glad to say that he had already received in all £6220 1s. from friends to whom he had applied The hospital would be used for the treatment of Englishmen, Irishmen, Welshmen, Scotsmen, and Colonials alike, but would be Scottish in other respects. The physicians and surgeons would be Scotsmen and the nurses would be from Scotland.' An executive committee was then appointed on which the medical profession is represented by Sir William Turner, Professor Chiene, and Dr. Joseph Bell. At the close of the meeting Sir William Turner moved a vote of thanks to the Lord Provost.

Aberdeen Royal Infirmary.

During last year 2516 patients were treated in the hospital, being a decrease of 89 compared with the previous year; but the number of out-patients rose from 5692 to 6625—an increase of 933. The annual report refers to the various efforts made to improve the finances of the infirmary, which resulted in an increase in the ordinary income of £1088. Legacies also showed an increase of £67, and notwithstanding the increase in the expenditure owing to the greater scope of the operations, higher rate of interest, increased cost of stores, &c, the deficit on the year's work was reduced by £467. The shortcoming, £785, it is remarked, is still formidable, but everything points to a nearer approximation of income to the needs of the institution. The number of cases treated in the Convalescent Hospital at Cults was 261, and the directors propose to take into the hospital a certain number of soldiers returned from the war suffering from wounds or illness.

Royal Asylum, Aberdeen.

The annual report by the directors shows that 185 patients were dischaged in 1899, as compared with 140 in 1898, there being 130 recoveries in 1899 and only 114 in 1898, while there were 16 more deaths last year than in the year preceding. The daily average of patients in the institution has increased by 48 4 The overcrowding, however, was partly relieved by the completion and occupation last spring of the laundry and workroom block for female patients, and within a few months two new wings at the hospital block will be finished Elmhill Cottage has meantime been made suitable for 25 female patients. The house of the medical superintendent has been enlarged at a cost of £450. The piggeries at the main asylum are to be removed to a site farther from the buildings. The new erections for the pigs will cost £500. The branch asylum at Daviot maintains its usefulness. For the year there is a surplus of income of £4175 2s over ordinary expenditure, £2000 of which is to be applied to the reserve for deterioration of buildings and furniture, and the balance in reduction of the cost of the extension and improvement scheme.

Feb. 13th

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Successor to the Registrar-General for Ireland.

MUCH interest has, of course, been excited among the medical profession as to the appointment of a successor to the late Dr. Wrigley Grimshaw, Registrar-General for Ireland. The most absurd reports on the matter have appeared in the local papers and indeed elsewhere Foremost amongst these wild statements was the announcement that Dr. J. W. Moore, President of the Royal College of Physicians of Ireland, senior physician to the Meath Hospital, and one of the best known physicians in Dublin, was a candidate. It would have been strange if a man of his position would accept such an onerous though dignified position for a salary reduced recently to £1000 a year. Dr. F. O. Martley, a graduate of Cambridge who is resident in Dublin, seems to be a likely candidate, for he has devoted much time to the study of medical statistics as his papers in the Transactions of the Royal Academy of Medicine of Ireland prove. The whole matter is, however, conjectural, and it is impossible even to say whether the precedent followed so recently in the case of the appointment of the new English Registrar-General may not be duplicated here by the choice of some layman.

Appointment of a Bacteriologist to the Local Government Board for Ireland.

A very important scientific appointment has just been announced. Professor E. J. McWeeney has been gazetted to the post of Bacteriologist to the Local Government Board for Ireland. This appointment means the establishment in Ireland of a scientific bacteriological department in connexion with the Local Government Board such as has existed in England for the last seven or eight years.

Royal University of Ireland.

The Senate of the Royal University of Ireland met on Feb. 8th and reappointed the various fellows, medical fellows, and examiners, there being very few changes of any importance. The following gentlemen were recommended to the Vice-Chancellor for nomination to the two commissions in the Royal Artillery placed at his disposal by the Secretary of State for War: (1) Mr. O. W. Nixon, (2) Mr. S. Perry, and in case either of these gentlemen fails to qualify, (3) H. J. Nolan-Ferrall.

Health of Belfast.

It was reported to the City Council on Feb. 7th that from Dec. 24th, 1899, until Jan. 20th, 1900, 69 deaths had been registered from zymotic diseases and 433 from chest diseases. The annual death-rate was 26 3. The cases of infectious diseases (scarlet fever, typhoid fever, and diphtheria) show a considerable diminution, and are generally becoming less numerous. The health of Belfast contrasts very favourably with that of most of the large towns of Ireland, and the death-rate (26 3) is very much lower than the average of the 23 principal towns therein (33 9). Owing to the epidemic of influenza the deaths from that disease are more numerous than in the corresponding month of last year.

Belfast and District Lunatic Asylum.

At the monthly meeting of the governors of the Belfast and District Lunatic Asylum, held on Feb. 12th a report was read from the Government inspector (Dr. G. P. O'Farrell) in which he stated that notwithstanding the fact that 185 patients had been transferred to the new County Antrim Asylum, there was no corresponding diminution in Belfast Asylum, so great has been the influx of patients. Of the 902 patients on the register 241 were chargeable to the county of Antrim and 661 to the city of Belfast. The plans for the new Purdysburn Asylum had been referred for report to Mr. Hine, consulting architect to the English Lunacy Commissioners. The joint finance and asylum sub-committee, after considering this report, recommended *inter alia* that the asylum should comprise two separate buildings for the different classes of patients—one a reception hospital for mental diseases and the other the asylum for chronic cases, and that such reception hospital need not provide for more than 150 patients. Dr. O'Farrell in his report congratulated the board of governors on the marked progress which, apart from its structural defects and overcrowding, the asylum continued to make.

The Battle of the Clubs at Cork.

In these notes I have pointed out more than once that the local press is hostile to the contention of the local profession to an extent that outsiders could hardly realise and one that is not at all justified by the real state of affairs. It is therefore very satisfactory to be able to chronicle that the *Cork Evening Special* not only publishes *in extenso* the very able report of THE LANCET Special Commissioner, but devotes a leading article to the subject which is distinctly sympathetic in its tone. The *Cork Evening Special* heads its article, "The Doctor and his Fee." Alluding to the report of your Commissioner it says.—"We transfer the article to our columns to-day for two reasons. One is that the *résumé* appears to be an impartial version of the entire dispute, though written, of course, from the professional standpoint. The other is that the history of the affair is brought up to date, and therefore covers a period with the incidents of which the general public are not acquainted. As regards what is left of the dispute we will not enter into a discussion of the merits of the case. Now that feeling has cooled down, so to speak, it hardly seems worth while to keep up the little friction that remains any longer. If the publication of The Lancet article in our columns, where it will come under the notice of the general public, will help to bring about a complete restoration of peace it will serve a useful purpose."

Feb. 13th.

PARIS.

(From our own Correspondent.)

The Treatment of Dyspepsia by Natural Gastric Juice.

An important discussion has been occupying the attention of the Therapeutical and the Hospitals Medical Society for several sittings, the subject being a new method of treatment introduced by Dr. Frémont of Vichy. In his first paper on the subject he cited the case of three patients reduced to the last stage of cachexia who were saved by the administration of from 100 to 150 grammes of gastric juice given in divided doses of 25 grammes mixed with 75 grammes of cold milk, beer, or bouillon. If hot milk were used one single indigestible clot formed, but if the milk were cold numerous small clots formed which were easy of digestion. With beer as a vehicle an agreeable liquid with a slightly acid taste was obtained. If bouillon were used it should be cold, since the ferment was destroyed by hot bouillon. The duration of the treatment had to be regulated by the progress of the general health. The end to be sought was the gradual withdrawal of the gastric juice until the patient arrived at a stage at which he could do without it altogether. The treatment is contra-indicated in cases of hyper-secretion or cancer of the stomach. The undeniably good results obtained by this treatment cannot be explained away as being due merely to suggestion, for upon patients learning the nature of the fluid which they are taking they exhibit disgust and the good effects of the treatment become less apparent. Dr. Frémont has therefore taken to calling the gastric juice *gasterine*. The treatment is unhappily not within the reach of all purses, for in order to provide the large doses necessary a regular pack of small dogs with gastric fistulæ has to be kept so as to provide the necessary amount of gastric juice This difficulty was specially dwelt upon in the discussions on the paper. Nearly everyone, however, and especially those physicians most experienced in the treatment of dyspepsia such as Albert Robin, Mathieu, Huchard, Bardet, Linossier, and Legendre, recognise that the treatment adopted up to now of giving hydrochloric acid and pepsine has only given illusory results owing mainly to the far too small doses given. M. Linossier remarked that patients suffering from a deficiency of gastric juice might show a deficiency of acid to a degree of as much as 20 grammes below the normal. The strength of the average dose prescribed is four grammes to the litre, a strength very much below that of normal gastric juice. The same holds good with pepsin. The daily secretion of this by the stomach corresponds to 325 grammes and the amount generally given as a drug rarely amounts to more than from a half to one
gramme a central [illegible] considered that pepsins much more
Clearing House. The ich are ordinarily employed should
there and then be drafted the ordinary pepsins work out
ing to the character of the most—i.e , one gramme of
hospital. These propositions look that a temperature of
but a good deal may be said in their favouin 12 hours.
should be guiding, not misguiding. They should grined
number of cases of treatment, the number of individuals treated, and the places where they come from. Mr. Brocklehurst said that, so far as he could gather from the reports, the Salford Royal Hospital alone had any organisation for getting this information. Some of the other hospitals, however, make use of the machinery of the Provident Society for this purpose. Mr. Brocklehurst thought that a third of the patients were able to pay moderate medical fees and should be sent on to the Provident Dispensaries. But these institutions are not very popular among the general practitioners nor, it is said, among the class of people who are urged to make use of them. The medical men not connected with them say that the dispensaries take their patients, often by touting and other underhand methods, and that while their members are indignant at the dispensaries being called charities they are

pepsina amylacea. Under these circumstances he thought that albuminous fluids with the proper proportions of acid and pepsin would give the same results as gastric juice. Professor Hayem remarked that the gastric juice obtained from dogs by Dr. Frémont differed considerably from normal gastric juice. It was hyper-acid and the acidity was due to free hydrochloric acid. It was, therefore, according to Professor Hayem, merely a rather strong solution of hydrochloric acid. In the preliminary operation Dr. Frémont divides all the branches of the pneumogastric nerve supplying the stomach, which has the result of rendering the gastric juice free from pepsine. It is a difficult operation and many animals die. Professor Hayem has tried this gastric juice treatment in the cases of a certain number of patients who were apparently none the worse. He concludes, therefore, that Dr. Frémont had given himself a great deal of trouble for very little result.

Obituary.

The death is announced, at the age of 53 years, of Dr. Gombault, physician to the hospitals. The death is also announced, at the age of 90 years, of Professor Tourdes, honorary dean of the Faculty of Medicine at Nancy. He was especially noted for his work in forensic medicine.

Notes on News.

The election of a member of the Academy of Medicine to fill the place in the section of obstetrics vacant by the death of Dr. Charpentier, which occurred last year, has resulted in the election of Dr. Champetier de Ribes, obstetric physician to the Hôtel Dieu, by 34 votes, as against 33 given to Dr. Doléris, obstetric physician to the Boucicault Hospital.

Feb. 13th.

SWITZERLAND.

(From our own Correspondent.)

Professor Kronlein on Cancer of the Rectum.

On Jan. 31st Professor Kronlein of the Zürich Surgical Clinique delivered an instructive lecture to the Clinical Society of Zurich. He first showed two patients, aged 26 and 31 years respectively, who had been operated upon successfully for cancer of the stomach. He wished to lay especial stress on the fact that gastric trouble in young subjects did not exclude the possibility of the existence of a cancerous growth. He then spoke on cancer of the rectum, basing his remarks on an experience of 19 years, pleading for early diagnosis and contradicting a pessimism which still pervades the profession with regard to operative results. In the canton of Zürich, with a population of 345,000, the average annual number of deaths is 6154, 4043 of which refer to people over 25 years of age. Of this latter number 10 9 per cent., or 442 per year, are due to cancer. Whereas cancer of the stomach averages 49 3 per cent. of all cancers, the cancers of the breast and those of the intestinal tract number only 4·6 and 4·7 per cent. respectively. Out of 22,760 hospital cases under Professor Krönlein's care from 1881 to 1899 there were 1305 cases of cancer, 101 of which referred to cancer of the rectum. Add to these nine cases from private practice and the number of 110 is obtained on which he bases his deductions. The age varied from 26 to 78 years, the number of males being in excess of those of females as 17 to 10. Hæmorrhoids could not be considered as a determining [illegible] factor, but the number of cases from tuberculous
Dr. Paras considerable. Notwithstanding the ease of
officer of by proper digital exploration many cases came too
is a graderation, so that only 63 cases were subjected to
practise ipation. The death-rate was 11 per cent., three
magistratdying from peritonitis, one from delirium
The one (aged 78 years) from marasmus, and two
er of the liver. Professor Krönlein greatly
A mee what he terms the usual falsifying of the
Chambers mortality by excluding hopeless cases. He
a Scottish number simply to be stated that leave the
Thomson 3 in this instance out of the 63. The death-
siderable her operators were: Rose, 53 per cent.; Kocher,
The Lord ent.; and Kraske, 18·7 per cent. The modern
scheme of rgery has death-rates varying between 9 and 12
soldiers ball thep atients operated upon were visited after-
General Cbin 72 per cent. of the cases the cancer recurred
very gratel ever, life was prolonged in some cases from three
hospital sl

---

[1] The Lancet, Jan. 27th, p 271.

to eight years, which contrasts favourably with the average life of one and a half years in cases that go without operation. Ten cases had remained free from disease for from three and a half to 12 years. The functional results depend on the extent of the cancer and the operation, and were good in 45 per cent of the cases, indifferent (partial insufficiency) in 40 per cent , and bad (total insufficiency) in 15 per cent. of the cases that underwent operation.

Roentgen Rays and Renal Calculi.

Dr. E. Tschudy of Zürich reports an interesting case of nephrolithiasis. The case occurred in a woman, aged 30 years, who had suffered for one year from pyelitis which, as cystoscopic examination proved, affected the right kidney. Nephrotomy was performed in March, 1898; the renal wound was closed by deep sutures after removal of a renal calculus. The patient was dismissed relieved in May, 1898. Recurrent symptoms took the patient to Wildungen in the summer and autumn of 1898, and examination in June, 1899, proved that the urine of the right kidney was normal, but that the left kidney was affected by pyelitis. After several attempts Mr. Wuest of Aarau succeeded in producing a Roentgen ray photograph demonstrating the presence of a renal calculus. Nephrotomy was then performed on the left side on June 27th with success and the patient was dismissed on August 9th. She feels well and has no renal symptoms; but microscopic examination of the urine still reveals an irritative process of the kidney. Roentgen rays promise to aid the surgeon to an early diagnosis in cases of renal calculi, which are very rare in Switzerland.

Zurich, Feb 8th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Small pox.

UPPER Italy, Central Italy, and Southern Italy are all of them visited by small pox—the numerous cases registered at Acqui in Piedmont having been followed by others at Comacchio in the Ferrarese, at Florence, and at Gaeta. The majority of these are of the confluent kind, or, in Italian parlance, "vaiuolo nero". (black small-pox); but as to Florence it is right to say that they have been, and still are, "benignant" or non-confluent. The Florentine prefect writes "In this province, out of five cases of 'benignant' small-pox one has been followed by death due to intercurrent pneumonia. It frequently happens in such cases that small cutaneous hæmorrhages appear which have no specially grave significance, but which, by the lay public, are easily confounded with 'vaiuolo nero.' All the types of small pox have one origin and one only—to wit, an infective origin—and the manifestation of benignant small-pox or of 'black' (confluent) small-pox stands in essential relation with the practice or non practice of vaccination and revaccination, and with the interval, shorter or longer, that has intervened from the last inoculation." It is from France that the disease has been introduced and, as I have said, stringent measures are being enforced at the frontier to check its further importation. At Florence, moreover, every effort is put forth to isolate the disease—a lazaretto having been specially organised *ad hoc.*

Italy and the Wounded from South Africa

Not only in the lake country, not only on the Riviera Ponento and Levante, are hotel keepers putting their houses at the disposal of wounded or convalescent officers from South Africa, but further south the same kindly hospitality is daily *en évidence*. I have mentioned the "Albergo delle Sirene" at Porto d'Anzio as having followed the initiative of the Alta Italia, and now I must add to the list the well-known Hotel Tramontana at Sorrento, the accommodation and advantages of site and climate of which have been liberally devoted by the landlord to the same beneficent purpose.

Sanitary Precautions at the French Frontier.

This has been a bad, almost a disastrous, season for the hotels and for all the interests that depend on the sojourn of visitors or "paying guests," and yet so alive is the Government to the danger of reinforcing the infective diseases now *en évidence* throughout Italy that it is adopting the most stringent measures which may still further exclude the outside world, comprising the "paying guests" aforesaid. This in the long run is the best, because it is the "honest policy," and Italy in future years will profit by the reputation she will have won for preferring the "salus populi" to immediate pecuniary gain. The following is the official ordinance issued by the Government for the protection of the Italian public against insanitary importations at the French frontier:—

Article 1st.—All persons proceeding from Marseilles and travelling "in carovana" (in companies) by land, on their arrival at the first railway station of the Italian Kingdom, will have to undergo a medical visit, and should the sanitary officer charged with its performance find it necessary they will have also to undergo the disinfection of their appurtenances whether of personal or common use.

Article 2nd.—Provision will further be made (*a*) for the sending of suspected cases, under due precautions, into the *locale* of isolation belonging to the commune in which the railway station is situated; (*b*) for the vaccination of all persons who do not present the obvious, recognisable marks of recent vaccination; and (*c*) for the diligent disinfection of the carriages in which the said cases have been travelling.

Illness of Dr. Baccelli.

The Minister of Public Instruction, whose convalescence from influenza I recently announced, has had a relapse, due, there is no doubt, to his imprudence in returning to the cares of office when he should still have kept within doors. These cares have been aggravated by the turmoil and insubordination now prevalent at the universities, chiefly Naples and Padua, causing animated "interpellations" in Parliament and involving his Excellency in vivacious controversy with such formidable antagonists as Professor Cardarelli and Professor D'Ancona. Remanded perforce to bed, he has had to delegate his parliamentary duties to Signor Manna, Under Secretary of State at the "Minerva," as the Education Office is called; and now I hear that this functionary, too, is ill and cannot appear—the "hidden Manna," as a Deputy with more *esprit* than reverence calls him. For the moment public instruction is, officially speaking, in "suspended animation," *àpropos* of which the following epigram has been going the round of both Houses, Upper and Lower:—

> Aegrotus Baccellus abest; quoque Manna laborat,
> Morbo nostra malo tota Minerva perit.
> (Baccelli's ill and Manna follows suit,
> And so our whole Minerva plays them ute)

Feb. 13th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Antirabic Institute.

A YEAR ago Dr. Tonin, who has made a special study i the institutes of Turin and Naples, opened an antirabi institute in Cairo. Until that time individuals bitten by ma animals had to proceed at their own or at the Governme expense to Paris or Athens for treatment. Naturally it sometimes happened that this delay proved fatal, so the Italian Benevolent Society were delighted to place a room at Dr. Tonin's disposal. He has now issued a report of 10 months' work and has had 86 patients sent to him. Of these nine were bitten by animals proved to be not mad and there therefore remain 77 to be considered. Of these 62 were Egyptians, five Germans, five Italians, four Greeks, and one was a Frenchman. 10 were bitten by wolves, six by cats, one by a jackal, and one by a hydrophobic woman at the native hospital The remaining 59 were bitten by dogs in the proportion of seven European dogs to 32 native pariahs. 24 of the cases were diagnosed as certain rabies by experiments on rabbits. In four other cases an absolute diagnosis was made in writing by the veterinary surgeon who diagnosed rabies in the living animal, and the remaining 49 were cases in which rabies was strongly suspected. All the patients who completed the routine treatment are now healthy and well, but seven of the 10 wolf bites developed hydrophobia during the antirabic inoculations and died at Kasr-el-Aini Hospital. All these unfortunately began their treatment more than 10 days after being bitten and they exemplified the usual circumstance that patients with wounds in the face or head were earliest affected. In two of the hydrophobic cases intravenous injections were tried without avail Attention is thus drawn to the fact that rabies and hydrophobia certainly exist in Egypt. During by Mr. Knaggs to which I have already referred is a most admirable example of this.

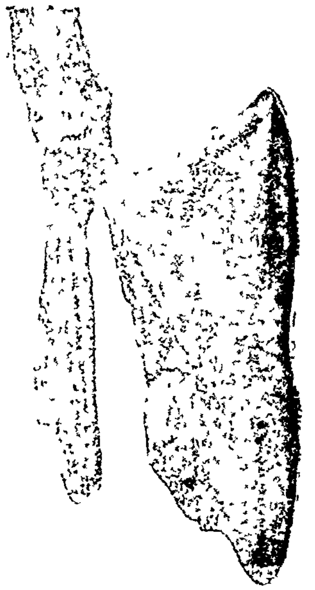
ETIOLOGY OF INTERSTITIAL HERNIA.

Much that has been said of properitoneal hernia applies with equal weight to interstitial hernia. The pouches of Rokitansky and of Aschoff cannot, of course, stand in any causal relationship. The portion of the funicular process from which the diverticular sac is formed is either the "third portion" of Eppinger or the portion immediately outside the external oblique. The anomalies of the testis are noticed with even greater frequency in interstitial than in properitoneal hernia. Of 129 cases tabulated by Macready in 73 4 per cent. there was some abnormality of the testis and in 67·1 per cent. the testis was either completely retained or had only partially descended. In 28 cases the testis could not be found at all. This form of hernia is, however, of decidedly greater relative frequency in females than in males. Macready gives the percentage as 0 13 per cent. for males and 0 61 per cent. for females. The same preponderance of cases on the right side is also noticeable.

The most satisfactory explanation of the development of interstitial hernia is, I venture to think, founded upon the connexion of the hernia with retained testis. The testis bars the way to a further descent of the hernia and the inguinal portion of the sac bulges out in the direction of least resistance. This explanation is strengthened by the observation, which is almost universal, that the scrotum is hardly ever fully occupied by a sac containing bowel or omentum. As a general rule the lowest point reached by the descending hernia is at or just outside the external abdominal ring. An exquisite example of this is found in the Guy's Hospital Museum, No. 1120. The bulging sac behind the barrier-like testis held "nearly a foot of ileum." In 129 cases observed between 1866 and 1890 at the Truss Society in nine only was the scrotum occupied by the hernial swelling. If the testis has not passed clear of the external ring the scrotum is ill-developed, but "a flat band of tissue, the remains of the gubernaculum, can generally be traced passing from the canal over the crest and body of the pubes" (Macready).. In some cases, however, the testis is normal in position and the explanation just given is therefore inapplicable to them and to the cases occurring in women. There is one explanation, however, which, although I do not think it adequately accounts for these cases, is still deserving of recognition. In the earlier records there is occasional mention of the "thinness" of the abdominal wall in the inguinal region, of "obliteration of the layers," and so forth, but, so far as I am aware, it is to Macready that we owe the assertion of the importance of this condition. He has shown that "the wasting or congenital defect of the muscles is chiefly noticeable below a horizontal line through the anterior superior iliac spine. It concerns sometimes the external oblique as well as the deeper muscles. In a greater or less degree it seems to be a constant feature in the interstitial hernia now under consideration." I cannot do better than quote the following passage from Macready's "Treatise on Ruptures": "If we seek for the principal difference between interstitial and those herniæ with anomalies of the testis we find it in the condition of the parietes. I have drawn attention to the delicate membranous state of the abdominal walls about the inguinal region. Here is a difference between interstitial and other herniæ which is common and which is real. If the imperfection of the abdominal wall, so often noticed with these herniæ as existing in greater or less degree, is their original cause, it does not militate against the supposition that a large proportion are attended with anomaly of the testis. On the contrary, when that organ is defective it is very probable that the parts through which it passes and with which it is so intimately related will be likewise deficient, more especially as the anomaly of the testis in these cases is generally of a high grade." It must, however, not be forgotten that this muscular atrophy and thinning may in some cases be the result rather than the cause of the hernial formation. The weight of a large hernial mass constantly pressing unduly on the muscular wall may lead to its wasting or disappearance. Macready does not bring forward any arguments in support of his views which seem to me convincing. I should certainly be disposed to consider the wasting of the muscles which undoubtedly exists rather as an effect than as a cause of the hernia.

In that class of case where the hernial sac lies between the external and internal oblique, if the external muscle be firm and the internal and transverse be thin and atrophied the resistance met with at the external ring would cause a bulging beneath the aponeurosis of the external oblique. The condition in which the sac lies upon the external oblique may be caused by a testis retained immediately outside the canal, or possibly by the misapplied pressure of a truss, apart altogether from any irregularity, congenital or otherwise, in the muscular layers. The records of the cases show that in almost all of them the internal and external rings are opposite one another, forming practically one large opening. The sac can readily enough leave the canal therefore. The obstruction to its downward tendency must then arise external to the ring in one or other of the ways suggested. A study of the peritoneal conditions existing in properitoneal hernia suggests a close relationship between this form of hernia and the condition described as "bilocular hydrocele" (Fig. 6). If we suppose that the ostium abdominale becomes closed (by the normal process of "physiological agglutination") and that fluid collects in the inguinal and properitoneal sacs we *should have then a* hydrocele of the tunica vaginalis communicating with a serous cavity lying in the abdomen between the peritoneum and the fascia transversalis. That is precisely the condition found in bilocular hydrocele. A reference to the recent case reported by Felix von Winiwarter shows that the conditions found in the removal of the sac of this form of hydrocele are the same as in properitoneal hernia save that in the former the mouth of the sac (ostium abdominale) has closed and fluid has collected in the serous cavity and in the latter the mouth has remained open and a hernial descent has occurred.

FIG. 6.



Bilocular hernial sac "Two thin membranous sacs, communicating with each other and having a common opening at what appears to be the internal abdominal ring The sac contained a hernia and a quart of 'ascitic' effusion" The identity of this condition with bilocular hydrocele is at once apparent. (Guy's Hospital Museum, No. 1159.)

SYMPTOMS AND SIGNS: PROPERITONEAL HERNIA, INGUINAL.

With the rarest exceptions cases of properitoneal hernia are first seen when symptoms of acute or sub-acute strangulation are present A patient who for years has had a hernia for which, perhaps, a truss has been worn begins acutely to suffer from symptoms of obstruction. The hernia may be found on examination by the surgeon, taxis may be applied, and the hernia with little difficulty reduced. Symptoms of strangulation persist and steadily increase and operation is resorted to, or the patient dies and the condition is revealed. In some cases—a minority certainly—some swelling may be noticed *after* the reduction of the hernia; a "sausage-shaped swelling reaching the anterior superior spine" has been more than once recorded. But in most cases no swelling is seen and an examination of the specimens in the London museums explains that. As I have already described, the properitoneal sac may pass outwards, backwards, or inwards and downwards. If outwards a swelling or an indefinite though appreciable tumefaction may be caused; if backwards there will be probably no swelling; and if inwards and downwards there will certainly be none. Kronlein figures one case in which the tumour on the outer side of the canal is well shown. Since this author drew special attention to this point more accurate examination has revealed a tumour in the majority of cases. Thus, in Breiter's 36 cases a "tumour or tumefaction" was present in 22. In only eight of the cases is it definitely asserted that careful, purposeful examination revealed no bulging. Judging from museum specimens I should decidedly say that in the great majority no swelling could have been revealed during life. The cases where swelling is absent are less likely to be correctly diagnosed; the result, therefore, is that such cases are more likely to die and the specimen reach the museum. Breiter's proportion of 22 out of 36 is therefore very considerably in excess of the truth.

Strangulation of the contained omentum or bowel may occur in one of three places: (1) at the ostium abdominale, the common orifice of the two sacs into the peritoneal cavity; (2) at the neck of the properitoneal sac; and (3) at the neck of the inguinal sac. If at 1 the bowel or omentum may be "reduced" from one sac to the other, remaining strangled at the ostium abdominale; if at 2 there may be no signs and symptoms but those of acute obstruction, and attention may never be specially called to the inguinal region; and if at 3 the case clinically is a strangulated bubonocele or scrotal or femoral hernia. In some few cases, according to Breiter, it has been observed that when two sacs are clearly present reduction of the hernial contents from the outer one causes an immediate and concomitant bulging of the inner sac, and *vice versâ.* The symptoms of strangulation are, one gathers from the record of the case, neither so sudden in onset nor so swift in their increase as in the ordinary strangulated hernia As a result operation has frequently not been resorted to till the sixth, eighth, or tenth day. In some of the records I have noticed that "vermicular contraction" of the intestine, "coiling," and "hypertrophy" are mentioned. This would seem to indicate that some obstruction has been of long duration. The sudden stoppage of the intestine by any cause, internal strangulation, or strangulation in a hernial sac never, in my experience, causes any such condition of hypertrophy as is here referred to. A hypertrophied intestine, the contraction of which can be seen through the abdominal wall, giving rise to "coiling" and "vermicular contraction," must inevitably be the result of long-standing and either intermittent or incomplete obstruction. In properitoneal hernia the ostium may be the cause of the partial or temporary obstruction. Almost all the museum specimens that I have examined are to be found, not under the heading of "properitoneal hernia," but under "reduction in mass." The symptoms, therefore, are in a large number of cases those of the latter condition. To this point I shall refer again So far as the contents of the sacs are concerned there is little to remark. In three-fourths of the cases small intestine alone is present; the omentum, large intestine, and in one case the cæcum have all been noticed. Three of the cases are said to have been examples of what is commonly, though unreasonably, termed "Richter's hernia." Crural properitoneal hernia is much rarer than the former. Breiter records only nine cases, four on the left side, three on the right, and two undetermined. The average age of the patients is higher by several years than that of the inguinal variety The external swelling is invariably small and the obstruction has always been furnished by the ostium abdominale.

DIAGNOSIS.

As can readily be understood the diagnosis of properitoneal hernia before operation is sometimes a matter of difficulty or is even impossible. In cases where a swelling, bulging, or tumefaction is noticed the diagnosis can be and has been accurately made. Such cases should offer no difficulty to a careful observer The frequency of the association of testicular anomalies should make the surgeon prompt to investigate the precise nature of any hernial swelling where the testis is not in its normal position, especially on the right side. If, however, there is no inguinal swelling the symptoms are those of "reduction in mass," of acute obstruction, not, as a rule, of the most violent type.

SYMPTOMS AND DIAGNOSIS OF INTERSTITIAL HERNIA.

In interstitial hernia the mural sac is always capable of being recognised. At one time or another the sac can be seen distended with the usual hernial contents and no difficulty can be experienced in the recognition. The symptoms are generally inconspicuous and strangulation is infrequent.

TREATMENT.

Only one treatment can possibly deal effectively with properitoneal and interstitial hernia—operation. The wearing of a truss is useless and in most cases must also be a source of positive harm. The whole of both sacs should be excised, an undertaking which will involve a certain amount of division or separation of muscular and tendinous fibres. The "radical cure" can be afterwards carried out by any of the methods suited to the occasion. In some cases the removal of the testis is desirable. If it is retained in or immediately external to the canal it will suffer from the pressure of a truss if one has subsequently to be worn. A retained testis is, moreover, a source of some danger in any case. It is liable to suffer from inflammatory conditions or malignant disease; and as its usefulness is doubtful there can be no valid reason for allowing it to remain. In order to get at the second sac without a further incision than is needed for all herniotomies Baron suggests that when the outer sac is stripped to its neck a vigorous traction should be applied. The result will be that the ostium abdominale will be brought into view, any strangulation there can be relieved, and the bowel returned; subsequent removal of the inner sac if small is then possible.

In certain recorded examples of inguino-properitoneal hernia the neck of the sacs has been so high up that to reach it a formidable incision in the abdominal wall would have been needed. Operating under such conditions, Trendelenburg, Ward, and Lawson Tait have suggested and adopted the median abdominal incision—have, in fact, dealt with the case as one of intestinal obstruction. This procedure is certainly much simpler, probably very much safer, and, if recovery follows, less mutilating and disabling, than the older method of "hernio-laparotomy."

PROGNOSIS.

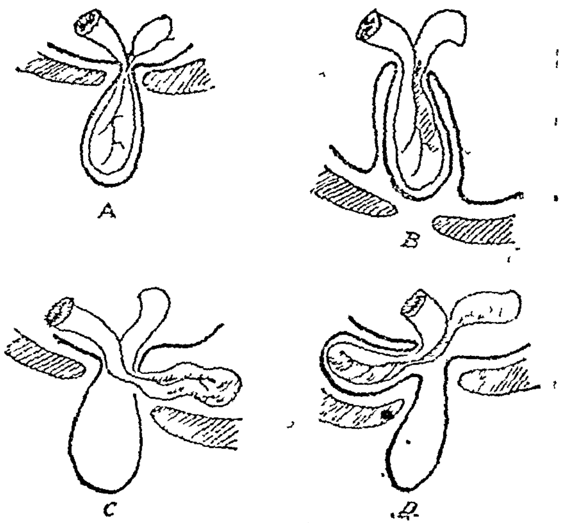
The prognosis is always serious in cases where symptoms of acute or sub-acute strangulation are present. There are the usual dangers of strangulated hernia, and in addition the danger accruing from insufficient evidence upon which to found an accurate diagnosis. There may be a quite gradual development of the symptoms of strangulation and operation is in consequence delayed in many cases. Moreover, the apparent reduction, reduction in mass, is misleading. There are not sufficient cases in recent years to make any statistics that may be compiled of the least value. The prognosis may perhaps be most aptly expressed by saying that the risks are slightly but appreciably greater than those of strangulated hernia.

REDUCTION IN MASS

I have already remarked that my observations have led me to conclude that many cases of "reduction in mass" are in reality cases of properitoneal hernia. "Reduction in mass" has been described as being the result either of a complete return of the hernia, sac and contents, undisturbed *so far* as their mutual relations are concerned, within the abdomen, but outside the peritoneum; or of a rupture at the neck of the sac by which the hernial contents escape *from* the sac into the lax subperitoneal tissue still strangled at the neck. I once operated upon a man suffering from strangulated inguinal hernia whom I believed to have suffered from a reduction in mass. On cutting down to the sac I found it quite flaccid and loose and I discovered a rupture in the sac near the neck through which all the fluid of the sac had escaped, leaving the bowel a mere knuckle lying undisturbed within the sac. I find that Birkett describes three similar cases; Streubel refers to three and Maydl has observed two. If the hernia be small and the patient stout the dispersion of the fluid will give an appearance of reduction whether the fluid has escaped subcutaneously or into the subperitoneal tissue. A rupture of a vaginal hydrocele under pressure applied too vigorously by the patient has been not infrequently recorded.

In searching the museums of London for examples of properitoneal hernia I was at once struck by the fact that the great majority of the specimens were described as "reduction in mass." Thus, in Guy's Hospital Museum specimens 1134, 1135, and 1143, and in St. Bartholomew's Hospital Museum specimens 2117 and 2118, are so labeled. Specimen 2118 (St. Bartholomew's) is a remarkable example of the inward and downward projecting pouch which reaches the bladder. A careful examination of each of these specimens shows indubitably that there is no rupture at the neck of the sacs, but that the bowel, strangled at the ostium abdominale, has passed from an inguinal sac to the properitoneal one, the serous lining of which is quite clearly recognisable. A similar example in a case of cruro-peritoneal hernia is shown in Specimen 1143 of Guy's Hospital Museum. The impression gathered from museum specimens alone is that the very great majority of examples of "reduction in mass" are in reality no other than cases of properitoneal hernia in which the bowel has been reduced from the one sac to the other. An attempt to gauge the relative frequency of these conditions based upon museum preparations alone is necessarily unsatisfactory. Only the severer cases are there represented. Cases successfully dealt with by operation may be recorded by the surgeon, but his account, however precise, reveals a lack of that intimate acquaintance with the circumstances which a careful dissection is alone capable of giving.

FIG. 7.



Reduction in mass.

Reduction in mass may therefore be described as of the following varieties. 1. Reduction into a sac lying between the peritoneum and the transversalis fascia (Fig. 7, D). This sac has probably received the bowel on many previous occasions. It exists in both the inguinal and femoral regions, forming the special class of hernia known as properitoneal or bilocular. This sac may pass (*a*) inwards to the bladder, (*b*) backwards to the iliac fossa, or (*c*) outwards towards the anterior superior spine. This form is probably by far the most frequent. In a very few cases, not five in all, the apparent reduction has occurred into one of the interstitial sacs beneath or superficial to the external oblique. Such a case was that under the care of Mr. Cock (Guy's Hospital Museum, No. 1120). 2. Reduction of the whole sac within the abdomen but outside of the peritoneum, the relations of sac and contents to one another being unaltered and strangulation at the neck still persisting. (Fig 7, B) It is probable that the loosening of the sac is of long duration and is the result of vigorous and ill-regulated taxis. This variety is rare. It was first described by Saviard, afterwards by Le Dran, Lafaye, and Richter. 3. Rupture of the neck of the sac and escape of the contents of the sac through the rupture into a cellular space outside of the peritoneum (Fig. 7, C). The rupture generally occurs at the back of the sac just below the neck. This form of reduction has been well described by Birkett. If fluid alone escapes while the bowel remains an illusory appearance of reduction will be presented. It might be worth while to emphasise this condition as "false reduction in mass," for clinically the two conditions of "false" and "true" reduction may be precisely similar. If in "false" reduction the rupture is at the distal extremity of the sac and the discharge of fluid subcutaneous it is impossible, of course, for bowel to escape. As a variety of this form may be mentioned the passage of the strangled intestine through a cut made near the neck of the sac when a hernia knife had been introduced to divide the "stricture at the neck of the sac." Maydl has observed this accident. After the supposed division of the strangled band pressure is applied to the bowel and reduction apparently occurs. The neck of the sac is, however, untouched and the strangulation consequently persists. A very beautiful example of this kind is recorded by Farabœuf. This form also is rare.

A fourth form of "reduction in mass" is described and figured by Roser and mentioned by Pick. It consists in the reduction "into the inguinal canal" of the bowel that has formerly occupied the scrotum. A wide dilatation of the canal is considered as permitting this partial reposition. I have not been able to discover a museum specimen of such a condition, nor have I found any unequivocal case in the literature of this subject, though mention of the condition is made by several of the earlier writers on hernia. Chelius considered that in herniæ of moderate or large size when reduction was apparently complete a small segment of gut, thick with inflammatory products and paretic, might lie inert in the canal and undergo a later, secondary strangulation. Reduction of the strangulated contents of a hernial sac into a second underlying sac in the scrotum have been recorded by Armand, Horn, Sandyfort, and Scarpa. It is possible that these second sacs are pulled down into the scrotum by gubernacular bands, in the same manner as the sac of an infantile hernia. Demmeaux has suggested that whether the sac first present in the scrotum be congenital or acquired the press of intestine on a weak and loosely supported neck may cause a diverticulum slowly to develop. Such pouch may be in front or behind, to the inner or outer side. If rupture of the neck of a femoral sac occurs the bowel may pass into the subperitoneal tissue. Callisen recorded in 1777 a case where, owing to rupture of the sac below the neck the bowel had escaped and made for itself a lodgment between the pectineus and psoas muscles. These conditions may be represented in tabular form thus:—

True reduction in mass.—1. Reduction into a properitoneal sac; rarely an interstitial sac. 2. Reduction of the whole sac with contents within the abdomen outside of the peritoneum, the mutual relations of sac and contents being undisturbed. 3. Rupture of the neck of the sac or its division during operation and extravasation of the hernial contents into the subperitoneal tissue.

False reduction in mass.—1. Rupture of the sac at the neck or elsewhere with escape of fluid only. The hernial swelling becomes considerably smaller, but the bowel remains strangled. 2. Reduction of part of the hernial contents. A small portion remaining in the canal, paralysed and stiff with inflammatory products, undergoes a "secondary" strangulation.

LECTURE II.

Delivered on Feb. 21st.

ENCYSTED HERNIA.

MR. VICE-PRESIDENT AND GENTLEMEN,—The term "encysted hernia" is one which for well nigh a century has been the subject of abuse. There has long been, and there still continues to be, much difference of opinion as to the most apt and appropriate names for some of the less common forms of hernia. The term "infantile," introduced in the year 1803 by the first William Hey of Leeds for a certain condition of hernia which it in no sense accurately described, has recently been appropriated by Lockwood for that variety of hernia in which a separate peritoneal pouch is dragged down into the scrotum probably by an aberrant attachment of the gubernaculum. The majority of surgeons who have written since Lockwood's admirable work was published have accepted, unhesitatingly and with complete accord, his description of that hernia and his restrictive adoption of the term "infantile" for it. I propose to retain the term "encysted," which is strikingly appropriate for that variety of hernia which Hey described and figured and which Cooper subsequently verified I would define encysted hernia, therefore, as that form of hernia in which the sac, with its contents, wholly covered on the outer side by a reflected layer of serous membrane, hangs downwards from the internal ring in the cavity of the processus vaginalis The portion of the processus vaginalis containing the hernia may be the whole as far upward as the internal abdominal ring, or may be only the upper portion, that lying in the inguinal canal along the cord, the lower portion, tunica vaginalis, having in this case been shut off by the ordinary fusion process occurring at the upper end of the testicle This form of hernia, from some misconception which I do not understand, has not received adequate recognition from the later English authorities Macready in his work on "Ruptures," mentions encysted hernia only in a footnote, which is very brief, but is at least of sufficient length to show that he does not appreciate this variety Lockwood who has contributed by far the best work on hernia of any English authority of recent years, in defining and describing "infantile" hernia, had overstepped, as I think, the very definite boundary between infantile and encysted herniæ and has made an attempt to include some of the latter among examples of the former Birkett in his article in Holmes s System gives a good account, based upon Forster s observations, of one form of this hernia Other authorities either ignore the subject or quote without question the work of one or other of the writers whom I have named

HISTORY

The first case of this kind is probably that which occurred to *Mèry at the Hotel Dieu in 1701* *Forster s* case, recorded in Sir A Cooper's work is described as follows "A shoemaker, aged 31 years who died of strangulated hernia, on dissection the following were the appearances When the scrotum was divided the tumour was brought in view, taking the course of the *spermatic cord, evidently* involved with it, and much contracted at the ring On investigating further and cutting carefully through the tunica vaginalis of the cord near the ring a fluid escaped I then continued the incision to the bottom of the scrotum, through the tunica vaginalis of the cord, and the tunica vaginalis testis, which I now found to be one cavity, the edges of which being turned back on either side exposed a hernial sac pendent from the ring and descending towards the testicle From hence it evidently appeared that the hernial sac and its contents were contained in the tunica vaginalis of the spermatic cord, which formed only one cavity up to the ring On opening the hernial sac it was found to contain a portion of small intestine of a claret colour and in a mortified state" At Hey s request the specimen from this case was examined by Sir A Cooper and Mr J Pearson, and the following was their report —

"In consequence of Mr Hey having expressed a wish that the encysted hernia of the tunica vaginalis *taken from* a patient of Mr Forster s in Guy s Hospital and preserved in the museum of St Thomas s Hospital should be carefully examined,

"We, the undersigned, have inspected the preparation above mentioned with much care, and the result of our inquiry is —

"1 That the bag in which the intestine is incarcerated hangs within the tunica vaginalis testis, and reaches nearly to the superior edge of the epididymis

"2 The only connexion which this bag has with the tunica vaginalis is at its orifice, at which part it adheres firmly to the tunica vaginalis

"3 *From this adhering portion the bag hangs* like a pear depending from its stalk within the tunica vaginalis

"4 The tunica vaginalis forms a smooth unbroken surface as usual "&c, Signed,

"ASTLEY COOPER,
"JOHN PEARSON"

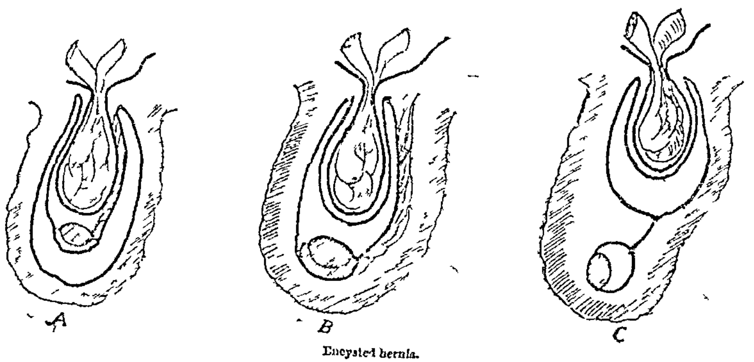
Dupuytren and Aston Key also wrote of this hernia, but little or no advance was subsequently *made until* the appearance in 1865 of an important monograph by Bourguet of Aix Other writers have added one or more cases occurring under their observation Among these are Berger, Monod, and Terillon Montazm, D'Arcy Power, Heaton, and Scloke There can, I take it, be little doubt that there has been considerable confusion in the description of cases as being "encysted" Many cases of hernia in association with hydrocele of the tunica vaginalis have been included under a misapprehension as to the authentic meaning of the term "encysted" *Cases of* hernia with a cystic condition of the wall of the sac possibly due to the organ of Giraldès and cases in which adhesions and fluid are present in the sac have been similarly misunderstood Until Lockwood carefully defined and restricted the term "infantile," many ruptures *of this form* were certainly looked upon as "encysted," and to some extent the error still persists

DESCRIPTION OF THE VARIOUS FORMS OF "ENCYSTED HERNIA"

I propose to describe three *forms of encysted* hernia · (1) encysted hernia of the tunica vaginalis, the testis lying at the bottom of the cavity (Fig 8 B), (2) encysted hernia of the tunica vaginalis, the testis lying at the lower end, and "apex" of the encysted mass (Fig 8 A), and (3) encysted hernia of the funicular process (Fig 8 C)

1 *Encysted hernia of the tunica vaginalis the testis lying at the bottom of the sac* —In this case the conditions presented on examination of the sac and tunica vaginalis are as follows —On opening what appears to be the sac a little fluid as a rule escapes On enlarging the incision it is seen that the sac has not been opened, but instead a serous cavity at the bottom of which lies the testis This is the tunica vaginalis Pendent from the neck of the tunica vaginalis, which extends almost or quite up to the internal abdominal ring, is a thick, rounded elongated mass, covered on the outer side by a reflexion of the tunica vaginalis, which is the hernial sac,

FIG 8

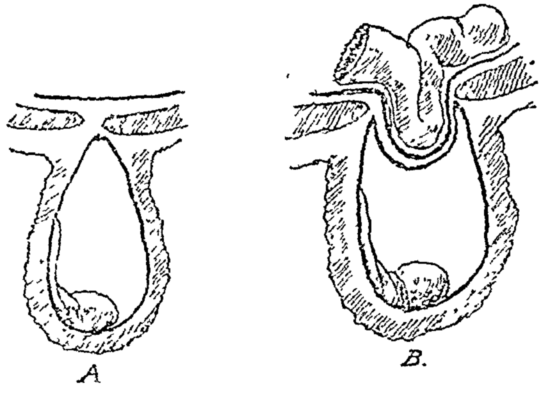


Encysted hernia.

containing the intestine, omentum, or other viscera. This pendent mass has been quite aptly compared by Bourguet to the "teat of a cow." In order to reach the hernial contents, therefore, from any point three layers of peritoneum will have to be divided, (*a*) the outer layer of the tunica vaginalis; (*b*) the inner, reflected layer of the tunica vaginalis; and (*c*) the sac. Between (*b*) and (*c*) there is some loose cellular tissue which is torn through with comparative ease. On passing the finger in through the original incision in the tunica vaginalis and attempting to enter the abdomen through the inguinal canal one is met everywhere by the reflexion of the outer on to the inner layer of the tunica vaginalis. Examples of this form of hernia, occurring in women, have been recorded by Berger and Reclus

The explanations which have been offered to account for the genesis of this condition are legion. They may be briefly epitomised thus: (*a*) Sir A. Cooper after describing Forster's case remarks: "The idea which I have formed of the nature of this case is that the tunica vaginalis, after the descent of the testis, became closed opposite the abdominal ring, but remained open above and below it. That the intestine descended into the upper part and elongated both the adhesion and the tunica vaginalis so as to form it into a bag which descended into the tunica vaginalis below the adhesion and becoming narrow at its neck though wide at its fundus, it received a portion of intestine which was too large either to be returned into the abdomen or to retain its functions while it continued in the sac." The disadvantages of this theory have been pointed out by many subsequent writers. There is never, so far as we know, any evidence in the closure of the funicular process of the formation of a "septum." The process of closure is similar in all its details to that which in the peritoneal cavity of the embryo is normal in certain points, the process of "physiological fusion." Notwithstanding this fact Berger has, on wholly insufficient evidence, accepted this explanation as elucidating the conditions in a case recently observed by him. (*b*) Dupuytren considered that the formation of a large congenital hydrocele was an essential preliminary. Subsequently to this a hernia developed and lay posterior to the hydrocele sac. Then owing to mutual encroachment the hernial sac became embedded in and surrounded by the hydrocele until in the final event the "encysting" resulted. (*c*) Jaboulay offered an ingenious but, as I believe, incorrect theory to account for the condition. He suggests that the funicular process consists of three parts—a scrotal, an inguinal lying in the canal, and an internal (very short) joining the latter to the parietal peritoneum—which may be likened to the three tubes of a telescope. By the "shutting up" of these tubes the conditions present in encysted hernia are reproduced. This explanation is rendered clearer by a reference to the figures which he gives. (*d*) The explanation which appears to me to be the most satisfactory was, I recently learnt, first suggested by Bourguet in his original work. According to this theory the closure of the funicular process has only occurred at one spot at or near the internal abdominal ring (Fig. 9). From here to the bottom of the scrotum the peritoneal tube remains open. A hernial sac now forms in the usual manner from the parietal peritoneum, at the internal abdominal ring, originated possibly by a small dimple of the upper part of the funicular process above the sole point of closure. This hernial sac as it gradually insinuates its way through the canal and into the scrotum pushes before it the peritoneum of the unclosed funicular process, and invaginates its upper end. The "fusion" point of the funicular process will then form the tip of the advancing hernial mass, which is therefore from its earliest beginnings "encysted." In three cases of this kind recorded by Dupuytren, Bourguet, and Berger, a rupture has occurred at the "apex" of the sac and the bowel, escaping into the tunica vaginalis, has been strangled at the point of rupture. Barret de Navaris has recorded an example of hernia encysted in a hæmatocele of the tunica vaginalis.

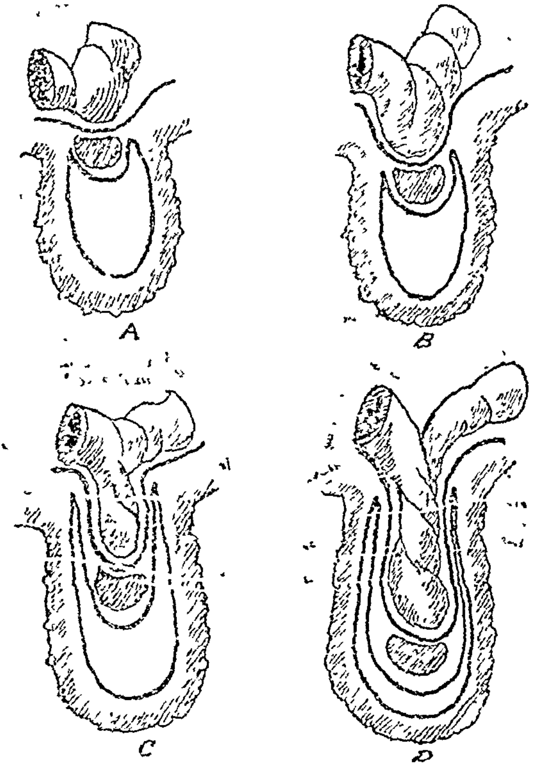
FIG. 9.



Formation of encysted hernia (first variety).

2. *Encysted hernia of the tunica vaginalis, the testis lying at the lower end, the "apex" of the encysted mass.*—The conditions found on examination of this class of hernia are precisely the same as those in the last class, with the exception that the testis, instead of lying on the floor of the tunica vaginalis, lies on the apex of the encysted tumour at the orifice, so to speak, of the "teat." The elements of the cord and the testis lie between the sac and the reflected layer of the tunica vaginalis. An essential preliminary to this form of hernia is the retention of the testis (Fig. 10).

FIG. 10.



Formation of encysted hernia (second variety).

This has been observed and carefully noted in some of the cases. In Heaton's case and in my own the testis had never to the patient's knowledge appeared at the external ring The condition antecedent to the onset of the hernia will be this. The testis will be retained just outside the peritoneal cavity. The upper part of the funicular process is closed in the usual manner, so that above the testis is the peritoneal cavity completely shut off, and below it, and reaching up to it, the lower unclosed part of the funicular process. A protrusion of parietal peritoneum from the internal abdominal ring abuts immediately upon the testis, and in the further hernial descent the protrusion is headed by that organ. But as the testis proceeds it at once meets the tunica vaginalis; this it dimples and pushes in upon itself, and in the last stage the similar serous reduplication is produced as in the former case. So far as I am aware this form of hernia, although described, has never been explained. The explanation which I suggest seems reasonable and in consonance with all the facts.

3. *Encysted hernia of the funicular process.*—In this form of hernia the sac is formed in the same way as in the first variety, but the closure of the funicular process has been more extensive. The normal fusion at the upper end of the tunica vaginalis has resulted in the natural formation of that serous cavity. The funicular process above that point of fusion has remained open and it is into this potential "hydrocele of the cord" that the hernial sac descends and becomes encysted. A very good example of this form is recorded and figured by Selcke. In one recorded case where the condition was in an early stage of its development there were two small hydroceles of the cord between the sac and the tunica vaginalis. As a general rule it has been specially noted by the recorders of the few genuine cases that hydrocele fluid of greater or less amount has been present in the enveloping serous sac, but this fluid is merely a chance product It stands in no causal relation to the hernial development.

SYMPTOMS.

There is no symptom, there are no signs, by which we can before operation recognise the presence of an encysted hernia. On the contrary, when any diagnosis other than that of a normal oblique inguinal hernia has been made it has indicated only the existence of fluid in connexion with the sac. In not a few cases this has been observed and a diagnosis of "hernia with hydrocele" has been accepted.

TREATMENT.

There is no need for any further remark than this, that in removing the tunica vaginalis, or part of it, and the hernial sac care must be exercised in dealing with the cord, otherwise the spermatic vessels or the vas deferens may be unduly interfered with. The whole of the tunica vaginalis, so far as possible, must be removed. It is not necessary to fashion a new and smaller serous cavity for the testicle. When this procedure has been carried out it has led to the occurrence of hydrocele.

The Erasmus Wilson Lectures
ON
THE ANATOMY AND PATHOLOGY OF THE EYE.

Delivered at the Royal College of Surgeons of England on Feb. 12th, 14th, and 16th, 1900,

BY E. TREACHER COLLINS, F.R.C.S. ENG.,
ASSISTANT SURGEON TO THE ROYAL LONDON OPHTHALMIC HOSPITAL.

LECTURE III.[1]

Delivered on Feb. 16th.

ELASTIC TISSUE OF THE HUMAN SCLEROTIC.

MR. VICE-PRESIDENT AND GENTLEMEN,—The human sclerotic, consisting chiefly of white fibrous tissue, contains also a number of delicate yellow elastic fibres. The distribution of these is well shown in sections stained with acid orcein by which they are picked out a bright red. They may be seen cut transversely when they appear as little dots, and longitudinally when for the most part they run parallel with the bundles of white fibrous tissue and have a wavy course. The outer layers of the sclerotic contain more elastic fibres than the inner, and they are more numerous posteriorly than anteriorly. Around the entrance of the optic nerve there is quite a dense plexus of them. The lamina cribrosa is largely composed of elastic fibres which extend across the nerve fibres from the plexus in the sclerotic on each side. From the lamina cribrosa a delicate network of elastic fibres extends backwards around the central blood-vessels of the optic nerve. In both the pial and the dural sheaths of the optic nerve there are numerous elastic fibres. In the former they are like those in the sclerotic, fine and delicate, but they run a more tortuous course. In the dural sheath the elastic fibres are thicker than are those in the sclerotic, but they have the same wavy character, and they run parallel to the bundles of white fibrous tissue. In the tendons of the recti muscles, where they are inserted into the sclerotic, thick elastic fibres are deeply stained by the acid orcein; they are especially numerous in the sheath around the muscles. This arrangement of the elastic fibres in the sclerotic which I have described corresponds very closely to that which was demonstrated by Professor Salter at the twenty-fifth Ophthalmological Congress at Heidelberg in 1896, who employed what he terms Spaltenholz's method of staining which he says shows up the elastic fibres black against a yellow background.

STRUCTURE OF THE SCLEROTIC IN DIFFERENT ANIMALS.

The structure of the sclerotic presents several variations in the different species of the animal kingdom. In elasmobranch fish it consists of hyaline cartilage from the sclero-corneal margin right back to the optic nerve with only a small amount of fibrous tissue on its outer surface. In most teleostean fish there is hyaline cartilage anteriorly extending up to the margin of the cornea, but posteriorly there is only fibrous tissue, or fibrous tissue with scattered patches of cartilage in it. In birds and in some reptiles there is a cup of hyaline cartilage posteriorly extending forwards beyond the level of the ora serrata and anterior to it are plates of bone. In other reptiles the sclerotic is fibrous throughout. In all mammals, with the exception of the ornithorrhynchus and the echidna, the sclerotic is entirely fibrous. In the two exceptional mammals it contains a cup-shaped piece of hyaline cartilage at the posterior part extending forwards as far as the ora serrata and having fibrous tissue on its inner and outer surfaces.

HYALINE CARTILAGE IN THE SCLEROTIC OF CONGENITALLY MALFORMED HUMAN EYES.

In some congenitally microphthalmic human eyes which have presented several malformations and had cystic protrusions connected with them pieces of hyaline cartilage have been found in the fibrous tissue of the sclerotic. I have met with one such case myself. The eye was removed from a child aged 14 weeks, and was noted to have been defective since birth. The cornea and the whole globe were exceedingly small. Attached to its lower part in front of the optic nerve was a thin-walled lobulated cyst lined with retinal tissue. At the upper part of the globe, lying in front of a large portion of the cornea, partly embedded in it and partly in the sclerotic, was a broad plate of hyaline cartilage which ended anteriorly in a rounded extremity amongst the fibrous tissues beneath the epithelium of the conjunctiva. Posteriorly it also ended in a rounded extremity surrounded by fibrous tissue and projected as a sort of spur from the sclerotic about the equator of the globe, there being fatty tissue in the recess left between the spur and the sclerotic. There was a second piece of hyaline cartilage in the sclerotic on the opposite side of the globe which commenced posteriorly in a rounded extremity a short distance from the optic nerve and the anterior termination of which was not shown in my sections. In some sections this last piece of cartilage was seen as a circular patch lying in the fibrous tissue between the eyeball and the cyst.

Mitvalski,[2] in the description of a somewhat similar microphthalmic eye with a cystic protrusion, says: "Where the scleral tissue passes over into the fibrous wall of the sac there is on each side in the entire length of the ball a mass of cartilage" Dr. Lapersonne[3] also mentions and figures a piece of hyaline cartilage embedded in fibrous tissue lying between a microphthalmic eyeball and a cystic formation connected with it.

VARIOUS FORMS OF CYSTOID AND BULGING SCARS MET WITH AFTER OPERATIONS.

The peculiar bulging translucent form of scar which is met with sometimes after operations on the eye, most frequently after iridectomy for glaucoma, was first described by von Graefe and termed by him "cystoid cicatrix." I have previously demonstrated how microscopical examination of such cicatrices shows them to consist of a gap in the sclero-corneal tissue covere[illegible]iva and lined by a piece of atrophied iris.[illegible] produced by the prolapse of a fold of iris does not, from their clinical appearances alone, appear obvious and has been doubted. Pathological examination of a large number of cicatrices has, however, convinced me that for a permanent fistula to become established in the fibrous tissue tunic of the globe it is necessary that the two edges of the wound should become lined by cells of an epithelial character, otherwise plastic exudation is sure to be thrown out and to lead to their union. When a fold of iris becomes incarcerated this epithelial lining is supplied by the pigment epithelium on its posterior surface. I have found in some cases the lining also in part furnished by the most anterior of the ciliary processes and a turning forward of one of the divided ends of Descemet's membrane with its endothelial cells. I have had recently to examine a glaucomatous eye in which a short time previously to excision the operation for incision of the iritic angle, in the way suggested by Valude, had been performed. It is interesting in two ways. First, it shows how difficult it is to know when the point of the knife is passed into the iritic angle, for though the operator, a most experienced ophthalmic surgeon, aimed at the angle of the chamber, sections of the eye show that the sclero-corneal tissue some distance inside of it was incised. Secondly, it shows that a wound in the sclero-corneal tissue at the periphery of the anterior chamber in a glaucomatous eye will, unless it has an epithelial lining, soon heal up, and not remain as a permanent fistula. In this eye the aqueous humour escaped beneath the conjunctiva at the time of the operation, but in the specimen the outer layers of the sclero-corneal tissue have already become united, with round-celled exudation between them.

---

[1] Lectures I. and II were published in THE LANCET of Feb 17th, 1900

[2] Archives of O[illegible]

[3] Archives [illegible]

Von Graefe pointed out that cystoid cicatrices are not met with in the cornea and we can easily understand how this is due to its not being covered by conjunctiva. A permanent gap established in it would lead to a leaking fistula. Cystoid cicatrices are rarely, if ever, met with anywhere but within a few millimetres of the sclero-corneal margin—i.e., they are rarely if ever met with anywhere except in the region in which prolapses of folds of iris are likely to occur. It is the loose and mobile character of the iris which allows of a piece of it so readily protruding into a wound. The more firmly fixed and stretched arrangement of the other portions of the uveal tract, the ciliary body and choroid, tends to prevent folds of them becoming entangled.

The pathological examination of eyes upon which operations have been performed has shown me that there are three conditions, presenting somewhat different clinical appearances, which result from entanglements of folds of iris in a scar. More than one of these conditions may be present in the course of the same cicatrix. First, there is the typical translucent cystoid cicatrix, the condition which is essential for its formation being the protrusion of a fold of iris through the whole thickness of the sclero-corneal tissue, so that there is nothing but conjunctiva external to its most prominent part. A tendency to increase of tension after healing of the wound favours its development, for when the tension is increased, the gap, which is a weak spot in the walls of the globe, more quickly stretches, the iris lining it consequently becoming more rapidly atrophied and permeable by the aqueous humour. (After a cystoid cicatrix is once established the tension is often found slightly minus, due to the ready escape of the aqueous humour through it into the sub-conjunctival tissue.) The smaller the fold of iris entangled, provided it is sufficient to line completely both edges of the sclero-corneal wound, the more readily will the cystoid condition develop, for then there is less iris tissue to become stretched out and atrophied. Thus the condition is often met with after iridectomy, when a portion of the root only of the iris is left to become entangled as a fold in the wound.

The second condition which results from the incarceration of a fold of iris is what would be termed clinically a bulging scar. In it the fold does not extend throughout the whole thickness of the sclero-corneal tissue, so that from before backwards there is conjunctiva, reunited anterior layers of sclero corneal tissue, entangled iris, and then a gap in the posterior layers of the sclero-corneal tissue. Such a spot in the walls of the eyeball would also be a weak one and, as the result of increase of tension, or even sometimes as the result of normal tension, liable to give and bulge. But owing to the presence of the reunited anterior layers of sclero-corneal tissue it does not allow of the filtration of aqueous humour through it and has not the translucent appearance of a cystoid scar.

The third condition is what might be spoken of as a staphylomatous scar, though the name does not very definitely distinguish it from the previous condition. It is met with when the whole length of the iris from its ciliary to its pupillary margin has become prolapsed as a fold into a wound at the sclero-corneal margin, so that its entire thickness is kept from reuniting. Before the whole iris becomes sufficiently atrophied to be permeable by the aqueous humour it is capable of considerable distension. Hence in this condition a large, thin-walled, greyish prominence of considerable dimensions forms in the region of the scar. This is the form of cicatrix which frequently resulted from the operation of sclerotomy as performed by the late Mr. Bader, who after completing his incision encouraged the iris to prolapse.

SUPPURATIVE PANOPHTHALMITIS IN EYES WITH CYSTOID SCARS.

The chief danger in connexion with cystoid scars is, as was pointed out by von Graefe, the liability of such eyes to become the seat of a suppurative panophthalmitis months or years after the healing of the wound. Many cases of this sort have now been recorded. The following is a typical one in which I have had the opportunity of making a pathological examination of the eyeball.

A man, aged 20 years, was admitted to the Moorfields Hospital in September, 1893. His left eye was said to have been first affected when he was two years old; he never remembered having seen much with it. He had had several operations performed, the first when he was three and a half years old. One of these had resulted in the formation of a small cystoid scar at the lower and inner part of the corneal margin. Three weeks previously to admission to the hospital, while boxing, he received a blow on the defective eye. The lids afterwards became discoloured and the eye inflamed and watery. On admission there was conjunctival and ciliary injection, haze of the cornea, an hypopyon, an opaque lens, and a coloboma of the iris down and in, in the direction of the cystoid scar. The tension was minus and the vision reduced to bare hand movement. The eye was excised and on examination, in the region of the cystoid scar, a well-marked gap in the sclero-corneal tissue was seen, lined by the root of the iris. The lens was *in situ*. There was extensive suppuration in the vitreous, most intense, and radiating from the lower and inner part of the ciliary body. Microscopically extensive round cell infiltration could be seen in the sub-epithelial tissue around the scar, and extending along the iris tissue incarcerated in it. There was also much round cell infiltration of the ciliary body and vitreous in its neighbourhood. In this case I think there can be no doubt that the infection of the eye passed through the cystoid cicatrix and was consequent upon the blow. This blow may have caused an abrasion of the epithelium over it or started an inflammation of the conjunctiva in the course of which the epithelium overlying it became softened; in either case, a route being formed for the passage of infective material into the sub-epithelial tissue of the conjunctiva it had evidently spread into the iris tissue adherent to that membrane and so through the gap in the sclero-corneal tissue to the ciliary body.

Wagenmann[‡] has collected 13 cases from Leber's clinique in which suppurative hyalitis occurred at periods varying from a few months to some years after the healing of a wound and in which a cystoid cicatrix or entanglement of iris was present. He made a microscopical examination of 11 of the eyes and in all of them found micro-organisms. He considers that the history and anatomical appearances in these cases is in favour of a new infection of the cicatrix from without rather than that the micrococci entered the wound before it healed and had then for a long time remained inert, or that they had been brought to the cicatrix by the circulation and found there a congenial soil.

SEROUS AND PLASTIC INFLAMMATION IN EYES WITH CYSTOID SCARS OR SUB-CONJUNCTIVAL ENTANGLEMENTS OF IRIS.

It seems, then, that there is good evidence that the infection which gives rise to a suppurative inflammation may find its way into the interior of the eye along the track of a piece of sub-conjunctivally prolapsed iris some considerable time after a wound has healed. It would be very probable, therefore, that the infection which gives rise to less severe forms of inflammation, of a serous or plastic type, might gain access to the interior of the eye in a similar manner.

[‡] Archiv für Ophthalmologie, 1889, Band xxxv., Abtheilung 4, S. 115.

The following is the brief epitome of a case, which I have elsewhere recorded in full, in which this is what seems to have occurred.

A lady had an iridectomy performed for chronic glaucoma; this was followed by relief of tension and the formation of a cystoid cicatrix. A year later when out driving she caught cold in the eye, after which iritis ensued with the formation of posterior synechia. The eye was excised for the relief of pain and microscopical examination showed the atrophied root of the iris and anterior part of the ciliary body lining the cystoid scar.

The next case which I wish to bring to your notice is that of a woman, aged 55 years, who was struck on her right eye by a fist and who attended as an out-patient three days later, when it was found that there had been a rupture of the sclerotic extending round and concentric with the upper half of the cornea, but without any lesion that could be detected of the conjunctiva. The iris was drawn up into the rupture so as to simulate a coloboma. 24 days later she again attended the hospital with circum-corneal injection in the left eye, iritis, and numerous posterior synechiæ. She stated that 18 days after the injury she first noticed a dimness of sight in that eye. The right eye, which was at that time also much inflamed, was then excised. The left eye, in spite of treatment, ultimately became quite blind. Microscopical examination of sections at the seat of the rupture in the right eye showed the epithelium of the conjunctiva forming an unbroken layer, and in the tissue immediately beneath it and superficial to the sclerotic much round celled infiltration. The iris was folded in two in the middle and drawn into the fibrous tissue at the seat of the rupture. In this position it was much thickened with infiltration of small round cells, as also was the ciliary body and choroid in the interior of the eye.

In this case infection evidently found its way into the sub-epithelial tissue of the conjunctiva and caused cell exudation there, though no apparent lesion of it was discovered. The iris lying in contact with the sub-conjunctival tissue next became affected, and along it through the line of the rupture in the sclerotic infection spread to other portions of the uveal tract in the interior of the globe, exciting in them a plastic inflammation. The plastic inflammation thus started, like plastic inflammation of the uveal tracts started by penetrating wounds of the eye, was capable of exciting inflammation of a similar character in its fellow eye—that is, sympathetic ophthalmitis. Other cases similar to this have been recorded; Schirmer collected several, in some of which the evidence as to absence of any lesion of the conjunctiva seemed undoubted.

HOW SYMPATHETIC OPHTHALMITIS MAY ARISE MONTHS OR YEARS AFTER THE RECEIPT OF AN INJURY.

The possibility of infection which gives rise to a serous or plastic inflammation finding its way into the interior of the eye from the sub conjunctival tissue along the track of a piece of prolapsed iris offers, I think, a possible explanation of the way in which sympathetic ophthalmitis may be set up months or years after the receipt of a wound to the exciting eye. In such cases it is usual, previously to the onset of the sympathetic disease, for some fresh attack of inflammation or irritability to have been noted in the exciting eye. Indeed, a committee of the Ophthalmological Society of the United Kingdom after much collective investigation could only find nine undoubted cases of sympathetic ophthalmitis arising after a long interval in which such an attack was not noted in the exciting eye, though they describe those in which it was present as fairly numerous. The fresh attack of inflammation or irritability in these cases is probably the starting-pointing of fresh infection of the exciting eye from without. Any eye with a sub-conjunctival entanglement of the uveal tract is probably liable, as the result of some conjunctivitis in which infective material enters the sub-epithelial tissue, to become the starting-point of sympathetic disease, no matter how long a time may have elapsed from the receipt of the original injury.

HOW SYMPATHETIC OPHTHALMITIS MAY ARISE AFTER THE OPERATION OF ABSCISSION.

Eyes which if left to themselves were not likely to have started sympathetic inflammation have sometimes had the operation of abscission performed on them, and then, after complete recovery from the operation, as the result of some fresh irritation, such as that caused by the wearing of an artificial eye, have become the exciting cause of an attack of sympathetic ophthalmitis. The way in which such a course of events may be brought about is, I think, suggested by the following case.

An eye was wounded by a nail and the same day the operation of abscission was performed. Two and a half years later the stump of the eye which was left, having become irritable and painful, was excised. Pathological examination of it showed that at the abscission operation the sclera had been divided close to the corneal margin; on one side nearly all of the ciliary muscle had been left, whilst on the opposite side it had in great part been removed. The retina was detached from the choroid but remained adherent at the optic disc; some remnants of degenerated vitreous were contained between its folds. The lens was absent. Microscopical examination of the cicatrix where the two edges of the sclerotic had been brought together showed a piece of the anterior portion of the ciliary body incarcerated in it. Beneath the epithelium in the sub-conjunctival tissue overlying the cicatrix was some round cell infiltration; there was also much round cell infiltration of the entangled piece of the ciliary body lying in the cicatrix. The infiltration had not, however, extended to the uveal tract within the eyeball, though it probably would have done so if the eye had been left and not enucleated. This eye might then later have excited sympathetic inflammation in its fellow. I may here remark that an entangled piece of the uveal tract may easily escape detection by clinical examination. To be sure that no entanglement is present it is necessary to examine microscopically sections taken from different portions of the whole length of a cicatrix. The above case is one in point, clinically no entanglement was noted.

A REASON WHY WOUNDS OF THE CILIARY REGION ARE SPECIALLY PRONE TO BE FOLLOWED BY SYMPATHETIC OPHTHALMITIS.

The ciliary region is the part of the eye in which sub-conjunctival prolapses of the uveal tract are most likely to occur. Behind the ciliary region the choroidal tissue but rarely prolapses through an opening in the sclerotic; it tends to retract away from the sides of the wound when divided. In wounds of the cornea entanglements of the iris may occur, but then the iris is not left with a vascular membrane lying over it prone to inflammation like the conjunctiva. The possibility of sub-conjunctival entanglements of the iris or ciliary body forming the track along which inflammation likely to excite sympathetic disease may enter an eye, any time after the receipt of an injury, may be one reason why wounds of the ciliary region are specially liable to be followed by this complication.

DECREASE IN THE AMOUNT OF SYMPATHETIC OPHTHALMITIS.

Ignorant as we still are as to the nature of the infective agent which causes sympathetic ophthalmitis and as to the course which it takes in travelling from one eye to the other, it is satisfactory to be able to show that at the Royal London Ophthalmic Hospital, Moorfields, of late years there has been a gradual decrease in the number of cases of this disease admitted for treatment. Thus, in the 15 years during which I have been connected with that institution (from 1884 to 1898) I find, dividing them into three quinquennial periods, that from 1884 to 1888 there were 97 cases of sympathetic ophthalmitis admitted, out of a total of 10,676 in-patients, or 0·9 per cent; from 1889 to 1893 there were 62 cases of sympathetic ophthalmitis admitted out of a total of 10,095 in-patients, or 0·61 per cent.; and from 1894 to 1898 there were 47 cases of sympathetic ophthalmitis admitted, out of a total of 10,366 in-patients, or 0·43 per cent. This decrease in the amount of sympathetic ophthalmitis may in part be due to more thorough aseptic and antiseptic precautions. I think, however, that it is also in part attributable to the greater care which surgeons have instinctively come to take in avoiding entanglements of the iris in their operations, and in clearing accidentally inflicted wounds as much as possible of any incarcerated portions of the uveal tract.

DANGERS RESULTING FROM THE PROLAPSE OF TAGS OF VITREOUS HUMOUR.

I have now to bring before you a specimen which exhibits another, probably not infrequent, way in which infective inflammation may gain entrance to a wounded eye, but in which the necessary conditions will not exist for any great length of time after the infliction of a wound.

A woman, aged 61 years, who had suffered from glaucoma in her left eye for four years, which had rendered it quite blind, with the hope of relieving pain had a puncture of the sclerotic performed with a Graefe's knife about the equator of the globe to the inner side of the superior rectus muscle. Ten days later the eye, being still very painful and the tension much raised, was excised. Pathological examination showed thickening and abnormal adhesion of tissue to the sclerotic between the superior and internal rectus muscles and just behind the line of their insertion. Yellow streaks were seen in the vitreous radiating from this position, where it was abnormally adherent to the retina. Microscopically, in the region of the incision a gap was seen in all three tunics of the globe passing through the anterior part of the choroid, the edges of which had become somewhat retracted, and through the retina just behind the ora serrata. Lying in the gap and protruding a little way on the external surface of the globe was a portion of the vitreous humour much infiltrated with small round cells and continuous with the rest of the vitreous in the eye, which in the neighbourhood of the wound and radiating from it was similarly infiltrated, as also were the divided edges of the retina and choroid.

There can, I think, be no doubt that in this case the prolapse of tag of the vitreous humour formed a channel along which inflammatory infection was able to travel into the interior of the eyeball. The possibility of infection gaining entrance from the conjunctival sac in this manner through a scleral puncture intentionally made can generally be guarded against by first displacing the conjunctiva in the position at which the operation is to be performed, so that when it is completed the openings in the conjunctiva and the sclera do not correspond. It shows also the importance of drawing together the edges of a scleral wound accidentally inflicted with superficial sutures.

Another surgical operation in which prolapses of tags of vitreous humour are sometimes met with is that of needling a membrane after extraction of cataract. Pieces of vitreous humour which follow the needle on its withdrawal may for days afterwards be seen as filamentous processes on the surface of the cornea. I have several times seen eyes in which such a complication has occurred become the seat of troublesome inflammation. I may add that since adopting the method of introducing the needle through the sclero-corneal margin instead of through the cornea for the discission of a membrane I have not had any prolapses of this nature.

Microscopical Appearances of Different Forms of Membranes left after Extraction of Cataracts.

The various conditions seen microscopically in membranes left after the extraction of cataracts are of considerable practical as well as pathological interest. The hyaline lens capsule left after removal of a cataract usually appears thicker than it does in the normal condition. This thickening is not due to any addition to its substance, for it is observed in eyes in which too short a time has elapsed since the removal of the lens to allow of any new growth. It is, I think, accounted for by the elastic character of the membrane, which is on the stretch and elongated when it surrounds the lens, but after its removal becomes shortened and thickened. Though there is a certain amount of shortening, it is not usually sufficient to allow of the anterior part of the capsule lying smoothly in contact with the posterior part over any large area. The anterior part is generally thrown into several folds. These folds by themselves must tend to break up rays of light and to cause some defect in vision; they are, however, nearly always associated with one of the other conditions to be mentioned directly. The microscopical examination of opaque membranes after the extraction of cataracts shows that they may be classified under the following headings: (1) retained lens substance; (2) new growth of capsule cells; and (3) adventitious fibrous tissue.

1. After the extraction of a cataract any lens substance which is left is at first exposed through the opening made in the capsule to the action of the aqueous humour, but later the opening becomes sealed up by the proliferation of the capsule cells at its margins; any lens substance thus locked up, which if not originally opaque will have become so, is shut off from the dissolving fluid. A lens, unless extracted in its capsule, is hardly ever removed so completely that some of its peripheral portions are not left which become closed up in this way. It is, of course, only when portions of lens substance are retained in the pupillary area that they give rise to any disturbance of vision, and opacity due to it is seen directly after extraction or within a few days of the operation. Lens substance retained in this way for several years will sometimes have calcareous matter deposited in it.

2. The epithelial cells lining the capsule in the region of the nucleated zone, when left after the extraction of a cataract, tend to proliferate, shift round, and then become separated from the capsule, as they do when the lens is intact. They do not, however, as they afterwards enlarge, become flattened out into lens fibres, but form large vesicular cells, sometimes oval, sometimes circular, in shape, this alteration being due to the lessened amount of pressure to which they are exposed. The cells lining the more central portions of the capsule sometimes, also, multiply and develop into the same swollen, bladder-like cells, the capsule then being raised into prominences over little groups of them. A more frequent result, however, of the proliferation of the cells lining the more central portions of the anterior capsule is the lengthening of them out into spindle shapes and into delicate fibres, which form a dense laminated tissue. It is with this sort of tissue that the opening left in the capsule after the removal of a cataract becomes sealed up, and with this sort of tissue the spaces left by the rucking of the anterior capsule most frequently become filled. This tissue exactly resembles that which is met with in anterior polar opacities, which is produced in a similar way, and like it varies in its density according to the time which has elapsed since its formation. Occasionally when it has been in existence for a long time hyaline bands are met with between the laminæ. It is the formation of this sort of tissue which gives rise to the opacity causing deterioration of vision coming on some time after the extraction of a cataract, and the longer it has existed the more fibrous, dense, and tough does it tend to become; consequently the more difficult to cut or tear with a needle.

3. Adventitious fibrous tissue may form as the result of cell exudation in iritis on the front of the anterior capsule after extraction or behind the posterior capsule about the hyaloid of the vitreous as the result of cyclitis. Sometimes a blood clot on the anterior capsule will form a sort of matrix in which fibrous tissue will develop.

In severe cases of iridocyclitis the anterior and posterior capsule may become embedded in fibrous tissue, forming a dense partition between the aqueous and vitreous chambers. It is the contraction of adventitious fibrous tissue on the surface of the anterior capsule, united to the extraction scar, that gives rise to an updrawn pupil after the removal of a cataract. I have examined microscopically an eye in which at the operation for the extraction of a cataract an opening in the lens capsule was made by grasping and tearing a piece of it away with forceps and which eleven years later was excised on account of detachment of the retina, which was thought possibly might be due to a new growth. The sections showed that about two-thirds of what may be spoken of as the anterior capsule with its lining epithelium had been removed opposite the pupillary area the posterior capsule without any lining cells alone being left. It is obvious that if a portion of the anterior capsule is removed in this way any cortical lens substance which is left cannot in the region from which the piece has been torn become re-enclosed away from the action of the dissolving aqueous humour; so that any opacity occurring after the removal of a cataract due to opaque cortical substance in which capsulotomy was thus performed would only be of temporary duration. Further, no opacity could form in the region from which the piece had been removed due to the proliferation of the cells lining the anterior capsule. Occasionally in cataractous lenses cells are met with lining the posterior capsule where normally they are absent. If these were present they would be left both when the capsule is opened with forceps and with the cystotome. Whether if left freely exposed to the aqueous humour they would be capable of proliferating and causing some opacity I am unable to say, but seeing that lens fibres, which normally develop from them, are dissolved by the aqueous humour I think it is improbable. The removal of a piece of the anterior capsule opposite the pupillary area with forceps would seem, therefore, to be a procedure likely to obviate two of the causes known to give rise to secondary opacities.

RADIOGRAPHIC RESEARCHES ON THE

TOPOGRAPHICAL RELATIONS OF THE BRAIN, THE FRONTAL AND MAXILLARY SINUSES, AND THE VENOUS SINUSES OF THE DURA MATER TO THE WALLS OF THE SKULL.

BY DR. PAUL REGNIER,
PROFESSEUR AGRÉGÉ, SURGEON TO THE HÔPITAL LARIBOISIÈRE;

AND

DR. JULES GLOVER,
ANCIEN INTERNE DE LA CLINIQUE OTO-LARYNGOLOGIQUE DE L'HÔPITAL LARIBOISIÈRE.

(*Translated for* THE LANCET.)

THE present paper is an account of a research undertaken by us in which radiographic methods were applied to the investigation of the anatomy of the skull and the face. The observations were made in the Radiographic Laboratory at the Ecole Pratique of the Faculty of Medicine of Paris. 14 radiographs, together with our memoir, were submitted to the Paris Academy of Medicine at the meeting held on August 10th, 1897. Reproductions of three of our radiographs will be found in the *Journal des Praticiens* of Sept. 4th, 1897, and also in *La Radiographie*. The investigations led us to the following results:—

1. Regarded in its surgical aspect the topography of the skull and brain may be studied by radiographic methods, allowance being made for the fact that the views which are obtained by the processes in question inevitably present some very slight distortions. By means of radiography it is possible to see the brain through the skull. More than that, an important guide-mark in the study of the topographical anatomy of the brain and skull is furnished by the circumstance that in the photographic plate it appears to be possible to superpose the outline of the cranial sutures on the outline of the fissures which separate the cerebral convolutions from one another By these methods the relations between the cerebral convolutions and the walls of the skull, so interesting from the point of view of surgical intervention, can be studied with almost no preliminary preparation which might have the effect of materially modifying the exact relations between the brain and the skull. Similarly we may point out that on the radiograph of the cerebral convolutions, viewed through their bony covering, the outlines and the form of the lateral ventricle of the cerebral hemisphere are very exactly traced.

2. The immediate relations existing between the venous sinuses of the dura mater and the skull, and in particular those existing between the lateral sinus and the skull, may be defined both in the child and in the adult. Injections of the venous sinuses of the dura mater made with liquids which ultimately become solid, and which hold metallic substances in suspension, as well as some other devices to the same end, have enabled us to see these sinuses very clearly through the bony wall Our radiographs show the lateral sinus, as our researches were particularly directed to this important point of surgical anatomy.

3. We have also been able to study, especially in dried preparations, the extremely variable extent and form of the cavities and bony cells of the mastoid process, as well as of the maxillary, frontal, and sphenoidal sinuses, and of the ethmoidal cells.

4. It has been possible for us to recognise in the infant and in the adult the exact position with reference to the outside of the skull occupied by the petrous portion of the temporal bone and the three successive levels of the base of the skull. We have easily obtained, in specimens covered with their soft parts, the opaque triangular outline of the base of implantation of the petrous portion on the squamous portion of the temporal bone, as well as the outline of the three successive levels of the base in their exact relation to the external wall of the skull.

MODE OF PREPARATION OF THE SPECIMENS AND METHOD OF PROCEDURE

For our anatomical preparations we used sections of the head through the middle line with the view of proportionately diminishing the number of bony surfaces, of which there would be too many if the entire thickness of the head had to be traversed by the cathodic rays. One must be careful to select young subjects in whom the cranial sutures are not yet ankylosed. Before making the section of the head in the vertical and antero-posterior directions the specimen was injected with formol introduced by the carotid artery. This arterial injection was repeated two or three times at intervals of one or two days with the object of hardening the brain without appreciably changing its shape or size. The soft parts covering the skull and face were carefully removed and the antero-posterior section of the specimen was not made until after the lapse of a period of three weeks. The cerebral hemisphere, hardened *in situ*, was then carefully removed from the skull, freed from its pia mater, and replaced in its former position in the skull. These manipulations cannot alter the mutual relations of the brain and the skull provided that they are kept within the narrowest possible limits. On this account we abandoned the idea of making casts of the brain, for in them the conformation of the part is more liable to become altered, even when it has been hardened by formol or some other dehydrating agent. The brain must be freed from the pia mater if we wish to have the convolutions visible on the photographic plate, for when it is covered by the meninges the representation of it is less sharp. Moreover, it is advantageous by a vertical section to get rid of the convolutions of the internal aspect of the cerebral hemisphere, if one wishes to avoid having on the plate any confusion between the convolutions of the internal aspect and those of the outer surface of the hemisphere. The injections of the venous sinuses were made with bronze powder held in suspension either in a solution of wax in alcohol or else in tallow. A still better result is obtained if the course of the sinuses is indicated on the specimen by means of small metallic points—pins, for example—which come out deep black on the plate. Our radiographs of the dried skull of the adult and infant deserved particular attention, for in them the extent and the conformation of the bony cells were very plainly to be seen, both at the level of the mastoid process and at the level of the bony sinuses of the face. Our various radiographs were taken with Colardeau-Chabaud cylindrical focus tubes. The distance from the tubes to the sensitive plate was always 45 centimetres (18 inches), a distance which enabled us to obtain sharp pictures. The length of the exposure varied according to the state of the vacuum of the tube, from a few minutes to 10 and 40 minutes.

INFERENCES AND APPLICATIONS OF OUR RESEARCHES TO THE METHODICAL STUDY OF THE SURGICAL *ANATOMY OF THE BRAIN* AND SKULL.

The superficial situation of the venous sinuses of the dura mater, of the cells of the mastoid process, and of the frontal and maxillary sinuses, and their definite relations to the external surface of the skull, which give easy access to them in a host of surgical interventions, are sufficient to show, on the one hand, the ease with which it was possible to obtain the results at which we have arrived, and, on the other hand, the practical importance which these results seem to us to possess. If a certain number of radiographs of different anatomical specimens are taken, as they were by us, and if they are compared with one another, it is easy to appreciate all the anomalies and variations of the size and shape of the frontal and maxillary sinuses, and this comparison, being made with photographs, is much more exact than the method ordinarily followed in anatomical treatises—namely, the comparison of drawings of a *series* of sections cutting the bones of the face in all directions. In many of our preparations the lateral (venous) sinus formed a part of the mastoid process, a fact which was recognised long ago but which had not been so clearly demonstrated without resorting to special methods of preparation. In some specimens it corresponded to the anterior part of the mastoid or even to its centre, or, finally, in general, to the posterior fourth of the process. Allowances have to be made for some distortions of the picture, and, this being done, when radiographs obtained from a child are compared with those obtained tate the lateral sinus is less closely connected with the nastoid process in the adult and that this important venous channel seems to lie at a progressively greater distance from the bony process in proportion as the age of the subject advances from infancy upwards. At the level of the mastoid process not only are the cells of the body and of the tip very clearly recognisable according as the bony tissues contain air or are dense in their texture, but one can also easily make out certain mastoid cells which often extend backwards and downwards into the diploë between the two tables of the occipital bone. One sees also cells of still greater interest from a surgical point of view which occupy a surface of considerable extent immediately above the external auditory meatus. Moreover, if the tip of the petrous bone be removed from the preparation by a section passing internal to the tympanic cavity it will be easy to see the antrum and the tympanic cavity. In some radiographs the petrous bone is, in fact, so transparent that the orifice of the internal auditory meatus can be seen. It is unnecessary to refer in detail to the anatomical and surgical interest attaching to these results, which we were the first to obtain by utilising the transparency of the petrous bone under radiographic examination. The question is one of special importance at the present time, when so much attention is being bestowed on the operative details of the combined trephining of the mastoid process and the tympanic cavity in complicated suppurative otitis media.

With reference to the views of the cerebral convolutions obtained through the bones of the skull it may be said that a minimum distortion of the image can be reckoned on when care is taken to have the incidence of the cathodic rays exactly vertical to the anatomical preparation and consequently to the sensitive plate; in the next place the tube ought to be at a sufficient distance (50 centimetres—i.e., 20 inches—as we have said) in order that the cone of emergent rays may present its minimum of divergence. With plates taken with these precautions (and with such plates only) the topography of the brain and skull in their various aspects can be studied in the adult and with still more facility in the child.

Notwithstanding the undeniable value of the simple method by the insertion of pins through the walls of the skull into the cerebral convolutions practised long ago by Gratiolet and Broca, who were the first to study the topography of the brain and skull, it is none the less true that it would be extremely interesting to resume these complicated investigations by the aid of the wonderful method which, as we now recognise, enables us to obtain a permanent and detailed representation of the brain, irregular in form as it is, even through the bony structures which contain it. We are convinced that our pioneer researches will be the prelude to others.

The Application of our Researches to the Clinical Exploration of the Brain and the Osseous Cavities of the Face.

On examining a child's head with the fluorescent screen it is sometimes possible to perceive a clear patch corresponding to the cavity of the lateral ventricle, especially when this cavity is dilated by more or less serous effusion in the case of sufferers from hydrocephalus or meningitis. Referring to the results obtained on the anatomical preparation by taking radiographs of the brain through the skull, a method which gives a detailed representation of this ventricular cavity, it is obvious that a radiograph taken in such a case from a living child will afford more exact information than a mere examination with the fluorescent screen would do. One of us, with M. Rémy, using the fluorescent screen, has seen in the head of a child suffering from meningitis a clear patch corresponding to the median portion of the brain. This patch exists normally in young infants, but its transparency is certainly more perceptible in the pathological state when the ventricle is dilated with fluid.

In conclusion, we will say that it is easy by mere examination with the fluorescent screen to verify the transparency and the condition as to emptiness of the frontal and maxillary sinuses, and perhaps even of the mastoid cells, with much more exactness than by making use of the ordinary electric light. Instead of employing a powerful light introduced into the mouth for the illumination of the maxillary sinuses, or applied to the upper and inner margin of the orbit for the illumination of the frontal sinuses, we recommend having recourse to cylindrical focus tubes. With this object, and in order to simplify the manipulations, the tube is fixed on a small and light stand made of ebonite, or even of wood, and the observer wears caoutchouc gloves to protect himself against shocks from the current. The tube can now be brought near to, or removed from, the patient's head until the proper distance is found without causing the patient any inconvenience or danger. In the examination of the face all the cavities become visible at the same time.

TUBERCULOUS DISEASE OF THE KIDNEY: ITS ETIOLOGY, PATHOLOGY, AND SURGICAL TREATMENT.

BY DAVID NEWMAN, M.D. GLASG.,
SURGEON TO THE ROYAL INFIRMARY, GLASGOW.

TUBERCULOUS lesions of the kidney present themselves to the surgeon in many phases. In some instances when first seen by him the disease is so advanced that little can be attempted to stay its progress or to mitigate the suffering of the patient, while in other cases the malady is still limited in extent and much may be done by early surgical intervention. Even a few years ago renal tuberculosis was looked upon as almost a certainly fatal malady, but now that new and more exact methods can be employed in detecting the disease in the early stage the surgeon is not uncommonly placed in a position to advise and to carry out operative measures with considerable hope of success.

Various attempts have been made to classify diseases of the kidney into "surgical" and "medical," but it must be admitted that any such grouping is not only arbitrary and unscientific but productive of much misunderstanding and harm. An endeavour to follow such a classification has been attempted by M. Du Pasquier and M. Brissand, who adopt even now the nomenclature in use prior to the development of renal surgery. The old term "surgical kidney" was given to all secondary purulent lesions of the organ resulting from primary septic foci in the lower urinary passages—that is to say, the word "surgical" was employed to denote that the renal lesion was secondary to a malady requiring the surgeon's aid. It pointed to the etiology of the renal lesion rather than to the circumstances of how the disease required to be treated. In illustration of this it may be observed that the French writers just referred to designate as "medical" those cases of tuberculous nephritis in which the virus has been carried to the kidney by the blood, whereas those in which infective material has extended upwards from the lower urinary tract they regard as "surgical." This classification is imperfect and unsatisfactory from all points of view. Indeed, the very cases which are included under their classification as being "medical" are those most suited for surgical treatment. Take, for example, cases of caseous nephritis where the kidney has been invaded through the blood and the virus has given rise to a localised renal tuberculosis unassociated with active disease in other organs. Those cases while included by the writers above referred to as "medical" are the very ones which give the most satisfactory results to the surgeon.

To have an intelligent view of the present position o surgery to tuberculous disease of the kidney it is necessar to study very carefully the various modes of infection an the different phases of the morbid process. From a clinic standpoint tuberculous disease may be said to manifest itse in three distinct forms—namely, (1) acute miliary tuber losis; (2) local tuberculosis or renal phthisis; and (3) chro tuberculous or caseous nephritis. All these varieties are to the presence of tubercle bacilli and to an infective pro resulting therefrom, but the channels through which virus reaches the kidney and the methods by which t infection takes place vary considerably.

The etiology of tuberculous lesions of the kidney has carefully worked out and the different avenues of inf have been ascertained. Two conditions are necessary establishment of tuberculous disease in the kidney—th sence of a suitable nidus there and the conveyance of s organisms to the part. Probably on account of its ab blood-supply the healthy kidney tissue, althoug vulnerable than other parts of the urinary tract, remarkable power of destroying organisms introduced into its substance or of eliminating them from the system. To discuss how this is brought about is beyond the scope of the present inquiry, but an important clinical fact must be here referred to—namely, that tubercle bacilli carried by the blood from distant parts may be eliminated without any morbid change in structure being produced in evidence of their sojourn in the kidney. For example, they may be found in the urine of persons suffering from tuberculous disease of bone, of the lungs, or of other organs. Their presence, therefore, in the urine is not pathognomonic of tuberculous disease of the urinary tract. Although the observation of these organisms furnish positive proof that the patient is tuberculous the precise seat of the lesion remains to be determined. In cases where the kidney eliminates these bacilli without itself becoming involved in the tuberculous process it must be assumed as an explanation either that the quantity carried to the organ at a given time is too small or that the virulence of the microbes is insufficient to overcome the normal preventive power of the renal tissue and to produce the specific pathological effect. The natural power of the renal tissue in destroying micro-organisms may be rendered less powerful by abnormalities such as malformations of the organ or by disease. Hence we find that Bright's disease, cystic degeneration, amyloid degeneration, or congenital malformations and displacements all tend to make the kidney more liable to septic and tuberculous diseases, and, as in other organs so also in the kidney, injury or hæmorrhage may be an exciting cause of tuberculosis.

In order that tubercle bacilli may grow and multiply in the kidney it is necessary that they be conveyed by the blood stream to a part where there is a favourable soil for their growth and where they are not liable to be washed away by the current of blood or the flow of urine. Hence tuberculous foci are more likely to originate in the parenchyma of the organ than in the urinary passages. It is now quite recognised that the presence of the bacillus is the most important etiological factor in the disease, but at the same time other influences are at work in determining the establishment of the malady in the kidney. Acute febrile diseases, such as enteric fever, measles, scarlet fever, pneumonia, &c., and injuries produced by blows and falls are the most important predisposing causes. Sometimes the injury may not be severe enough to cause hæmaturia, but patients so frequently blame a fall or a blow that the surgeon cannot overlook insignificant traumata as possible causes. Suppose that tuberculous bacilli are present in the blood when a blow is sustained by the kidney, then the effusion of blood, with thrombosis of capillaries and the injury to the tissues, provide the conditions required. The following cases are illustrations of renal *phthisis ab hæmoptoe*.

CASE 1. *History of a fall of 26 feet; severe pain in the left renal region; hæmaturia and effusion of blood around the left kidney; apparent complete recovery from the injury; and two and a half years afterwards the patient suffering from advanced tuberculous disease of the left kidney.*—A man, aged 30 years, was admitted to the Glasgow Royal Infirmary on May 11th, 1893. While working on the deck of a steamer he had accidentally fallen into the hold, a distance of 26 feet. He was rendered unconscious and when admitted to the hospital was suffering from severe shock. Besides other injuries he complained of severe pain in the left lumbar region and the first urine passed after admission contained a considerable quantity of blood. On examination a distinct fulness and increased resistance was made out in the left flank and over this area the percussion was dull. The patient made a slow but steady recovery and he was detained in hospital until August 17th on account of the other injuries, the kidney condition having apparently been recovered from within a fortnight. The hæmaturia disappeared ten days after admission.

The patient was again seen on Nov. 27th, 1895, two and a half years after the accident, by Dr. D. McKellar Dewar, who recommended him to come into hospital, but this he refused to do, preferring to be under the care of his private medical attendant, with whom I saw him in consultation. He said that he had remained well and had been able to follow his occupation until the end of May, 1895, when he complained for the first time of a recurrence of the pain in the left lumbar region, and although on palpation a distinct dulness could be made out no fluctuation was detected. The urine was free from any deposit, blood, or albumin, but tubercle bacilli were not looked for. In November the urine contained an abundant muco-purulent deposit, six specimens of which were examined for tubercle bacilli, and in two of these bacilli were found. From May to November the patient's general health rapidly deteriorated, his appetite was impaired, and he lost 16 lb. in weight. The evening temperature was elevated irregularly and he complained of night sweats but there was no vesical irritation. By the end of December a distinct fluid accumulation was discovered in the left kidney and the patient was advised to have a nephrotomy performed, when the kidney was found to be occupied by a typical tuberculous pyonephrosis.

CASE 2. *History of a blow causing ecchymosis in the right lumbar region; hæmaturia of five days' duration with one recurrence on the eleventh day; severe pain and some swelling in the right renal region; six months after the injury the urine became muco-purulent and bloody; symptoms and physical signs of renal phthisis.*—A woman, aged 47 years, was admitted to the Glasgow Royal Infirmary on August 2nd, 1895 On inquiry it appeared that in January the patient had fallen from "house steps" a distance of eight feet and on falling struck her "right side" against the back of a chair. The blow was received on the right lumbar region and caused considerable ecchymosis between the lower ribs and the crest of the ilium. On recovering from the immediate shock of the injury she suffered severe deep pain in the region of the kidney and the urine first passed after the accident contained blood. The hæmaturia continued for five days after the injury and recurred once only on the eleventh day. There was some swelling in the region of the kidney but how long it lasted the patient did not know. Since the fall the "side" had always felt weak, but the pain was not severe till seven weeks previously to admission. About the same time she observed the urine to be dark in colour and to contain blood together with a white deposit. On admission the patient complained of a swelling in the right lumbar region. She had always been rather spare in body and lacking in colour, but she said that of late she had fallen off considerably. A month prior to admission she experienced pain in the lumbar region whenever she moved about and at the same time the urine presented the abnormal appearance above mentioned. On examination the whole space between the liver and the crest of the ilium was dull and fluctuant and presented the characteristic features of a large pyonephrosis, but there were no sudden discharges of purulent urine at any time. The specific gravity of the urine was 1012, it was strongly alkaline, and contained a considerable quantity of pus, some blood, and crystals of oxalate of lime; tubercle bacilli were numerous. On August 17th the kidney was incised, when a large quantity of pus, urine, and tuberculous débris was evacuated and a large cavity was scraped out with a Volkmann's spoon. Later in the history of the case the lungs became involved, there being dulness and abundant moist râles at the bases of both lungs behind, but at the apices there was no evidence of consolidation.

In both of the foregoing cases it was clearly shown by the history that the patients enjoyed perfect health until the occasion of the injury, and it may be safely presumed that the traumatism was the only cause of the hæmorrhage. In cases where slight indirect violence has been followed by the appearance of blood for the first time the question may be legitimately raised as to the presence of pre existing disease, which may not up to the time of the accident have shown itself by hæmaturia, but in these cases the blows were severe and direct and of themselves sufficient to injure the kidney. The most reasonable explanation seems to be that the injury reduced the resisting power of the organ by the effusion of blood into its substance and that tubercle bacilli in the effused blood, or subsequently conveyed to the neighbourhood of the effusion, took root and multiplied, formed a centre of infection, and thus produced what may be called a renal *phthisis ab hæmoptoe*.

Again, septic inflammatory lesions of the pelvis or of the renal substance predispose to tuberculous disease.

CASE 3 *Acute tonsillitis and abscess, followed by what at first appeared to be a purulent embolic nephritis, but which ultimately became tuberculous.*—A man, aged 41 years, consulted me first in November, 1895, complaining of an acute inflammation of the right tonsil which culminated in the formation of an abscess. Three days after the abscess in the tonsil was opened and the temperature had returned to normal it suddenly rose again, and in the evening the thermometer registered 104 2° F., without any recurrence of the throat affection. The patient, however, complained of considerable discomfort and a dull aching pain in the right lumbar region, and he had during the afternoon several severe rigors. The urine was at first increased in amount, excretion rising during the first three days after the onset of the renal pain to an average of 80 ounces in 24 hours. It was acid, its specific gravity was 1008, a considerable amount of mucus was deposited on standing, and it contained a moderate amount of albumin (0 3 per cent.) and some blood, but no pus. On the fourth day the patient had six rigors and for the first time pus appeared in the urine. The quantity was large at first and deposited rapidly from the urine in which it escaped. The urine had no unpleasant odour; the reaction was acid. The patient did not complain of any vesical irritation The urine was examined on six occasions for tubercle bacilli, but none was found. Pus continued to be present in the urine for over two months, but during that time it gradually diminished in amount and at the end of February, 1896, the patient resumed his occupation and was lost sight of till July, 1898. Then he complained of marked vesical irritation, passing urine over 60 times in the 24 hours. The urine had all the characters of a tuberculous pyelitis. No operation was allowed, but when the kidney was removed post mortem it was found to contain numerous tuberculous centres.

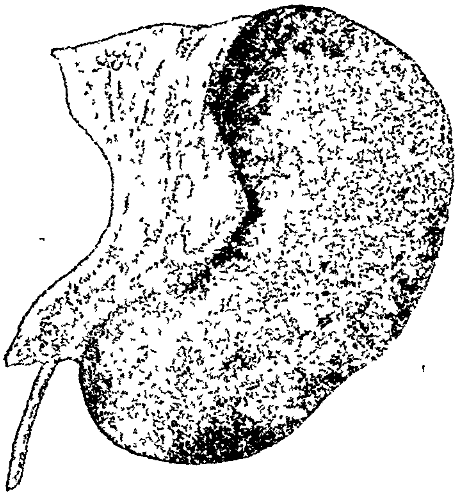
In this case the mode of onset and the early history of the disease points to the formation of an abscess in the parenchyma of the kidney, rupturing into the pelvis and there setting up a chronic pyelitis, which at a later stage became tuberculous.

It may be well now to consider the methods of attack or the channels along which the microbes of tubercle may travel. The kidney may be invaded in four different ways:—1. By the blood stream. (*a*) The tuberculous particles may be so small as to be stopped only in the ultimate capillaries, where they give rise to numerous miliary deposits (in such instances the blood stream becomes contaminated while passing through tissues or organs foreign to the urinary apparatus); or (*b*) tuberculosis may arise from infective emboli passing into a branch of the renal artery, the tuberculous virus becoming disseminated over the area of its distribution. 2. By invasion along the lymphatics of the kidney from foci in the lower urinary tract. 3. By contagion along the lumina of the excretory ducts. 4. By spreading to the kidney from continuity with other organs. It must, however, be borne in mind that while primary infection is conveyed to the kidney by one of these channels the infective process becomes more complicated as the disease advances; indeed, the mode of extension comes to involve a combination of the processes just mentioned.

The kidneys communicate with the outer world by means of the lower urinary tract, and in some instances the blood supplying these parts may become contaminated by the tuberculous virus, but probably in the great majority of cases the blood becomes infected when passing through the vessels of the respiratory organs, the alimentary canal, or the mucous or cutaneous surfaces. Having entered the circulation the bacilli may be carried into the renal artery and may be eliminated from the kidney without any serious harm resulting. Durand Fardel has demonstrated the presence of tubercle bacilli within and around the glomeruli without their giving rise to any structural changes in the kidney recognisable by the microscope, and on several occasions I have seen tubercle bacilli in the cortex of the kidney in subjects of rapidly fatal pulmonary phthisis, while in the same cases during life I have failed to detect the specific organisms in the urine.

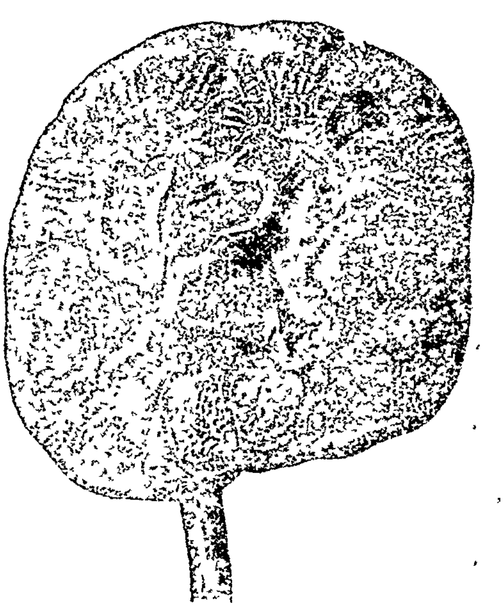
Infection by the blood stream.—(*a*) Obstruction of the capillaries. In acute miliary tuberculosis of the kidney the virus is conveyed by the blood-vessels and is widely disseminated, so that such cases seldom come under the cognisance of the surgeon. It may, however, be interesting to follow the changes in this acute process where the tuberculous nodules are small in size and all in about the same stage of development. The tuberculous virus being conveyed to the kidney by the blood-vessels the favourite seat of the disease is in the cortex, where the little miliary growths appear as small, semi translucent, greyish streaks surrounded by a darker zone of deeply injected renal tissue. These miliary nodules are frequently arranged in rows or they form linear streaks (see Fig. 2) following the direction of the vasa interlobularia and present an appearance which closely resembles minute hæmorrhagic infarctions. In Fig. 1 the fibrous capsule is seen to be stripped off the cortex of the kidney and the deeply injected parenchyma is exposed, showing the numerous miliary tubercles as clear white pearly specks embedded in a chocolate-coloured background. In the illustration they are shown to be distributed irregularly, but in many instances of acute general tuberculosis the tubercles are arranged in groups or irregular circles, following more exactly the arrangement of the vascular supply. Fig. 2 shows the section of a kidney in its long axes, the pelvis being laid open. The cortex is invaded by a great number of miliary tubercles forming clots and streaks. In some parts the tuberculous masses have joined together and have softened. The mucous membrane of the pelvis and calices is much thickened and at the lower end of the section two cavities have formed which are filled with tuberculous débris. (After Rayer) The regular arrangement is seen in a few cases, but in some of those which have come under my observation the tubercles have been distributed without any very evident relationship to the arterial supply, while in other instances the infective process

FIG. 1



External appearance of a tuberculous kidney.

FIG 2.



Section of a tuberculous kidney

has appeared as if limited to an area supplied by a single branch of the renal artery Borrel in his investigation into the etiology of renal tuberculosis found it necessary, in order to produce the disease, to inject infective matter into the aorta of animals, as when it was introduced into the veins even pure cultures of tubercle bacilli failed to pass through the lungs As regards etiology he concludes that there are two forms of tuberculous disease, primary renal tuberculosis, where the virus is by some means introduced into the arterial current and in which the tuberculosis rapidly follows the inoculation, and secondary renal tuberculosis, which after inoculation takes two or three weeks to develop The invasion taking place through the lymphatics leads to the formation of a caseous nodule and the production of caseous nephritis Borrel calls this "granular tuberculosis of the kidney" There is no precise localisation, the tuberculous material occupying any portion of the parenchyma of the organ In both forms of the disease the tubercle is clearly a connective tissue formation, the renal epithelium taking little or no part in the structure of the new growth The same view is held by Virchow and Metchnikoff

A considerable amount of labour has been devoted to the study of the origin of the various elements which come to form the miliary tubercle In miliary tuberculosis the small tubercles consist of altered portions of the kidney connective tissue appearing in small circumscribed areas infiltrated by leucocytes which are at first clear in colour and tolerably well defined The irritative action of the bacilli induces these early tissue changes The connective tissue cells become swollen and undergo mitotic division, and because of their large size they have been called "epithelioid cells" At the periphery lymphocytes appear and they gradually increase in number The toxic action of the bacilli is first seen in the centre of the focus where the "epithelioid cells" become hyaline and their outline indistinct Ultimately the cells become fused into a homogeneous mass which subsequently degenerates, or the "epithelioid cells" may by proliferation of their nuclei without segmentation of their protoplasm come to form the so-called "giant cell" which was at one time considered to be characteristic of tubercle At the same time the epithelium of the tubules undergoes fatty metamorphosis, the tubules become compressed by the abundant connective tissue formation around them, and the infiltrated leucocytes and epithelium swell up and undergo caseous necrosis, so that ultimately, should time permit, the whole infected area becomes disorganised This degenerative change begins at the centre of the tubercle and extends towards the periphery, where the micro organisms are most abundant The degenerative changes are probably partly due to thrombosis of the capillaries as a consequence of the action of the toxin upon their walls, but the necrosis and caseation are doubtless also the direct result of the bacillary products In some parts these little tuberculous masses coalesce and unitedly form patches of considerable size, which in the first instance are usually situated at the union *of the cortex and medulla*, *but* on account of the remarkable tendency which tuberculous inflammation has to spread they may ultimately involve a considerable portion of the kidney. In such masses blood vessels larger than capillaries become occluded by thrombi and as a consequence further necrosis ensues In this form of renal tuberculosis the disease is generally at first confined to the parenchyma of the kidney and does not immediately extend to the lower urinary tract

Miliary renal tuberculosis is always associated with tuberculous disease in other parts and is a disease which attacks children more frequently than adults It may be preceded by tuberculous formations in any part of the body, but the most common precursor is phthisis pulmonalis Next in order of frequency comes tuberculous meningitis, while in some instances lymphatic glands, joints, or bones have been found to contain the primary focus, and only in a few cases the prostate gland or the bladder have been named as the site of origin of the disease

The discovery of the presence of renal miliary tuberculosis is frequently made for the first time after the death of the patient, and as the lesion does not give rise to any distinctive symptoms the disease is one which is to be inferred from the general circumstances of the case rather than definitely diagnosed; besides, it is one for which nothing can be done surgically

(*b*) Tuberculous embolism of the arteries There is another method by which the kidney may be infected In place of conveying individual bacilli or small groups of bacilli the blood stream may carry an infected thrombus to the kidney, the artery in which it becomes impacted is closed, and the tuberculous virus is more or less disseminated over the area supplied by the blood vessels Hence we find considerable wedge shaped areas of tuberculous disease in the kidney with little or no evidence of involvement of the pelvis or ureter. These masses may, however, break down and lead to a widely disseminated lesion, or, as is not uncommonly the case tuberculous material may caseate or even become encysted (Fig. 4)

FIG 3

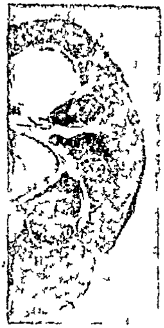
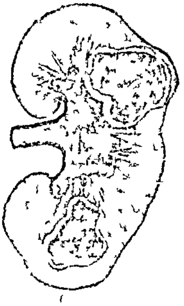


FIG 4



(Fig 3 shows the longitudinal section of a kidney in which tuberculous disease is seen in different stages In the peripheral portion of the cortex and extending towards the medulla there are numerous tuberculous infarctions in some of which caseation has taken place, while in others cavities have formed In the medullary area there are five large cavities, all of which contained caseous matter and tuberculous débris, but none of them communicated with the pelvis, and the urinary tract was free from disease Fig 4 shows the section of a kidney containing two distinct isolated foci of tuberculous disease limited to the medulla and cortex of the organ, the pelvis being free from disease)

The encysted form of the disease is of great importance to the surgeon, being in many instances amenable to operative treatment Generally the disease is unilateral and involves only a portion of the kidney substance, although it may have more than one focus While caseous nephritis arises in most instances as a consequence of tuberculous thrombosis it may be mentioned that in a few cases the renal lesion may be the result of an extension of the tuberculous process from the pelvis of the kidney to the parenchyma through the lymphatics or along the lumina of the uriniferous tubules

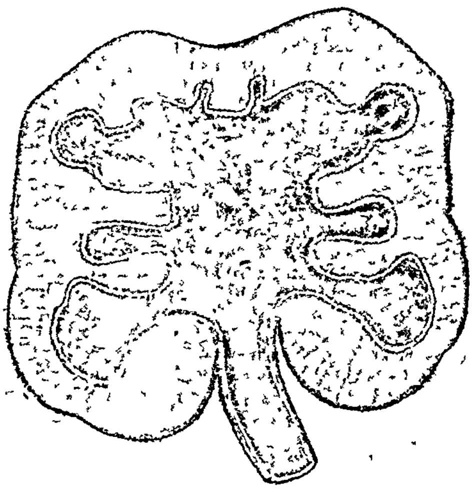
CASE 4 *Tuberculosis limited to the right kidney, compensatory hypertrophy of the left kidney, tubercle bacillus, pus and albumin in the urine from the right kidney only, nephrectomy, cure* —A man, aged 22 years, consulted me in July, 1897 At that time he complained of pain in the right lumbar region almost constantly present, but never very severe. On inquiring into the history of the case it appeared that the first departure from health was noticed three years previously At that time he complained of frequent micturition, requiring to rise six or eight times during the night The urine was copious, pale in colour, of low specific gravity, and contained no deposit Polyuria and frequent micturition were the only symptoms during the first six months, at that time, however, pain was complained of and in the urine the patient noticed on one or two occasions a small quantity of blood He never passed gravel or stone Six months previously (February, 1897) he had noticed a white deposit which, according to his description, appeared to be pus, at the same time pain developed in the right lumbar region, occasionally accompanied by nausea and sickness The appetite gradually became impaired and the patient was much troubled with sleeplessness and he gradually lost weight When first examined he weighed 10 st, he was 5 ft 10 in in height, thin, anæmic, and seemed highly nervous and anxious as to his condition organs were normal, but there was slight enlargement of the liver and spleen. Both kidneys were distinctly felt on palpation and were found to be enlarged; the right was irregular in form, the lower extremity being rounded while the upper was more pointed, giving to the organ somewhat the form of a pear; the left kidney was uniformly enlarged. The urine was pale in colour; its specific gravity was 1008; it was cloudy, and on standing threw down a moderate deposit of mucus and pus; it contained no crystalline deposit; there was a small trace of albumin but no blood. On four examinations out of six tubercle bacilli were found. Examination of the bladder with the cystoscope showed it to be free from disease, with the exception that the orifice of the right ureter protruded and the mucous membrane covering it was deeply injected. Catheterisation of the ureters showed that all of the pus, the albumin, and the tubercle bacilli came from the right kidney; that from the left kidney was normal with the exception of being low in specific gravity. The conclusion come to was that the right kidney was the seat of tuberculous disease while the left had undergone compensatory hypertrophy. The right kidney was excised and was found to contain two considerable tuberculous foci, but the pelvis was not involved in the disease (Fig. 4). The patient made a good recovery and reported himself well in January, 1899.

In the early stage the lesion is limited to the substance of the kidney, the virus being conveyed in the blood stream only, but in the later developments the advancing tuberculous process comes gradually to be carried forward through other channels, unless a conservative inflammatory action closes the lymphatics and prevents extension. If the caseous material breaks down rapid destruction of the organ may result, so that in one specimen renal tuberculosis in all its stages may be seen. The order of infection can, however, be generally determined by careful observation.

In tuberculous pyonephritis infection may take place in various ways. The primary focus may be in the kidney substance, and in such cases the parenchyma may be greatly destroyed before the pelvis is seriously involved and the walls of the ureter thickened sufficiently to cause much or any obstruction to the escape of urine. While the organ may be enlarged by the caseous deposits which have come to occupy its substance the increase in bulk is seldom due to a retention of urine or of tuberculous débris in the pelvis. The ureter is patent and the degenerated tuberculous material is allowed to escape into the bladder to be discharged with the urine. So long as this freedom exists there is no pyonephrosis, but if the ureter becomes blocked by tuberculous thickening of its walls, by impaction of masses of débris, by cicatricial stenosis, or by twisting of the ureter, the secretion is then dammed back and then sudden and rapid changes take place in the morbid condition and in the clinical aspect of the case. The secretion of the kidney and the tuberculous débris, which is probably up till the present free from sepsis, is now very liable to contamination by pyogenic organisms, and within a few hours the whole clinical features of the case may become completely altered. It is easy to understand how large collections of fluid, tuberculous débris mixed with urine, should become contaminated by pyogenic organisms and large renal abscesses or pyonephrosis result. On the other hand, it is undoubted that they may remain aseptic for long periods.

Primary tuberculosis of the pelvis of the kidney is less common than secondary infection of that part. The principal seat of the disease is at the apices of the papillæ, in the calices, or in the pelvis, and from hence, partly by the blood stream and partly by the lymphatic channels, the material virus is carried within the substance of the kidney. The primary focus becomes occupied first by miliary tubercles and subsequently by caseous masses. In the course of a few weeks or months these masses form an irregular softened area, which by progressive peripheral infiltration spreads inwards. At the same time by infection through the blood-vessels and lymphatics, now, and to the naked eye, apparently independent nodules develop in the tissue around, while in the more remote parts of the kidney and in the mucous membrane of the pelvis fresh eruptions of opaque white nodules appear. In recent cases these diminish in size and number the more distant they are from the primary focus, but when the disease is of long standing the individual nodules cannot be distinguished. The constructive process which has just been described is rapidly followed by a destructive one. The tuberculous nodules, having attained a certain size, undergo caseous necrosis, break down, and when in the pelvis of the kidney they become replaced by a tuberculous ulcerating surface, or if within the renal parenchyma they are transformed into irregularly globular cavities. These as they enlarge become elongated and assume a pyriform shape and approaching the cavity of the renal pelvis rupture into it. As the destructive process extends from within outwards greater and greater portions of the renal substance become involved, until finally the whole of the medulla and a large portion of the cortex may be destroyed. This leads to the formation of a large cavity (Fig. 5). But besides the encroachment on the renal tissue by tuberculous disease dilatation and sacculation of the organ may be caused by a blocking of the ureter, ultimately producing a tuberculous pyonephrosis which sometimes, when the other kidney is free from disease, destroys all vestige of urine-secreting tissue. Should only one organ be involved the kidney may, by a drying-up of the contents of the pyonephrosis, become converted into a shrivelled, putty-like mass (Fig. 7). In old cases calcification may occur and a hard mass may form which is liable to be mistaken for a calculus.

FIG. 5.



Specimen of a tuberculous single kidney. The pelvis and calices are greatly dilated and the mucous surface is ulcerated and thickened. The parenchyma of the organ is not diminished in amount but rather increased from compensatory hypertrophy.

CASE 5. *Bilateral renal tuberculosis without involvement of the urinary tract; the right kidney completely destroyed and caseous; the left kidney enlarged and occupied by tuberculous pyonephrosis; tuberculous disease of the sacrum, nephrotomy; death 18 days after from suppression of urine.*—A woman, aged 33 years, was admitted into the Glasgow Royal Infirmary on March 9th, 1899. She consulted me in private six weeks previously to admission, when she was advised to come into the ward as early as possible. She was a well-nourished woman, but she complained of symptoms of dyspepsia and of occasional attacks of severe pain in the region of the left kidney, generally limited to the lumbar region but occasionally extending down the thighs. The patient also complained of frequent micturition and discomfort in the bladder, which, however, subsided immediately the bladder was emptied. There was no history of hæmaturia, but the patient observed on many occasions a whitish deposit which from her description was evidently pus. When the patient was first seen a complete and systematic examination was made, and I concluded that she was suffering from a large pyonephrosis of the left kidney. The right kidney could be felt and it appeared to be normal in size and in situation, and the patient stated that as far as she was aware it had not caused her any trouble. The urine had a specific gravity of 1016 with an acid reaction; it contained a trace of albumin, a few red blood corpuscles, and pus was deposited on standing equal to about 2 per cent.; no crystalline deposit was thrown down, no tubercle bacilli were discovered, and there was no sugar. The heart, the lungs, and the liver and spleen were normal. The left kidney was so enlarged as to occupy the whole space between the costal margins and the crest of the ilium, and it extended as far forward as to within one and a half inches of the nipple line The swelling was dull on percussion and slightly fluctuant and the organ was distinctly tender on palpation The patient was advised to come into the Royal Infirmary at once, but this she failed to do until six weeks later Complete suppression of urine occurred on March 8th, associated with rigors elevation of temperature and profuse sweating The symptoms were so urgent that the patient was sent in on the evening of the 9th, and on the following morning it was found necessary to perform nephrotomy, when one and a half pints of pus and urine were evacuated The patient stated that she had suffered from pain in the left side for 15 years, but that it had been specially severe during the past three years After the operation the left kidney continued to discharge a considerable quantity of urine which for the first three days was mixed with pus, but after that time the pus diminished considerably, no urine, however passed from the urethra and on passing a catheter the bladder was found to be empty, the inference being that no urine was being secreted by the right kidney During the first 15 days urine in considerable quantity drained away from the left kidney, but on March 25th it was observed that although the drainage tube was still communicating with the cavity in the kidney almost no urine escaped The patient complained of an increased amount of pain sickness and diarrhœa Diuretics produced no effect and she died three days after from suppression of urine

Post mortem the left kidney was found to be fully three times the normal size and a large cavity was discovered occupying the pelvis and parenchyma of the organ, but on making allowance for the displacement of the substance of the kidney by disease the secreting tissue remaining appeared to be much in excess of what is found in the normal kidney, probably due to a compensatory hypertrophy (Fig 6) The right kidney was simply a multilocular cyst of about the size of a normal kidney There was no vestige of renal tissue left and the loculi contained soft white caseous material (Fig 7) A careful examination was made of the ureters and the bladder and they were found to be free from disease A caseous mass was found over the front of the sacrum and there was caries of both sacro iliac synchondroses

FIG 6

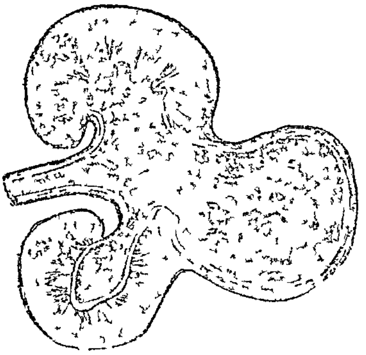


Fig 6 shows a section of the left kidney The pelvis and the middle third of the organ are occupied by a large tuberculous pyonephrosis and a large sac protrudes considerably beyond the outer border The upper and lower thirds of the kidney are not much involved in the disease (Royal Infirmary Museum Series VII No M 19)

Judging from the morbid appearances and the history of the case it is evident that the right kidney was destroyed at a very early date without causing the patient much suffering She could not remember having had aching in the right renal region although on the left side she had during a period of 15 years more or less intense pain sometimes amounting to anguish At the same time there must have been a very sudden and complete blocking of the right ureter, as there was no evidence of the kidney being distended or of the infection having spread downwards Coincident with or following the destructive process in the right kidney the left kidney underwent a compensatory hypertrophy, but at a later period infected matter must have been conveyed to it by the blood, probably in the form of a tuberculous embolism The tuberculous disease in the left kidney was not very destructive although of old standing

FIG 7

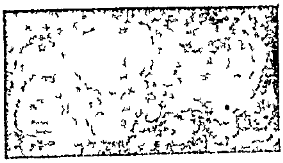


Fig 7 —The whole kidney has been destroyed the capsule and a few fibrous septa alone remain to represent the organ which has been replaced by caseous masses (Royal Infirmary Museum Series VII No. M 20.)

(To be continued)

EPISTAXIS FROM THE ETHMOIDAL VEINS

BY A BROWN KELLY, B Sc, M B GLASG,
SURGEON FOR DISEASES OF THE THROAT NOSE, AND EAR TO THE VICTORIA INFIRMARY, GLASGOW

IT is generally admitted that spontaneous epistaxis usually originates from the lower and anterior part of the cartilaginous septum Hæmorrhages from this source, however, are rarely so profuse as to be dangerous, and they give trouble rather on account of their recurrence In another variety of bleeding from the nose—viz, that observed in certain constitutional diseases, as in hæmophilia and purpura—the blood escapes from numerous points of the mucous membrane In a third class may be placed the hæmorrhages coming from neither of the sources mentioned The site of the bleeding in these cases owing to the fast-flowing stream, as a rule remains undiscovered, this has been traced however, to the inferior turbinate, to veins in the posterior part of the nose by Schmidt,[1] and to an artery on the floor anteriorly by Rosenberg[2] Several cases of epistaxis have come under my notice in which the blood descended from the upper and anterior part of the nasal cavity The anatomical relations of the vessels in this situation lead me to believe that they are not infrequently the source of severe hæmorrhage The following cases—for permission to publish which my thanks are due to Mr R H Parry, Dr A Napier, and Dr E Duncan—are reported with the object of directing attention to this hitherto unrecognised origin

CASE 1 —A man aged 34 years was awakened one morning by bleeding from the left nostril which continued for a quarter of an hour In the evening it set in again, lasted two hours and was followed by recurrence at short intervals throughout the night Various measures of relief were adopted by the three medical men summoned but with only temporary benefit On the next afternoon there was again epistaxis for two hours after which he was admitted in a weak condition to Mr R H Parry s ward in the Victoria Infirmary, Glasgow A little later in consequence of a further loss of blood the patient became unconscious During the next three weeks he had frequent epistaxis which was always promptly checked by plugging I examined him during one attack and found the blood coming from above the middle turbinate but owing to the profuse flow the exact seat of origin could not be determined In order to reach this, on a subsequent occasion part of the middle turbinate was removed I never happened, however, to be present at another bleeding, although he tried to bring on an attack during my visits by running, standing on his head, &c. Since his dismissal from the infirmary, over three years ago, there has been no recurrence.

---

[1] Die Krankheiten der oberen Luftwege Zweite Auflage, S 773.

[2] Heymann s Handbuch der Laryngologie und Rhinologie, Band III, S 710

CASE 2.—A man, aged 28 years, lightly built, healthy, and with no hæmorrhagic tendency, first had epistaxis on stooping to pick up something from the floor. The blood dropped from the right nostril but soon ceased. Next forenoon, while walking through his office, the bleeding suddenly re-commenced and he lost several ounces. During the following week there was frequent epistaxis, 24 hours being the longest period of cessation. There were no premonitory symptoms before the onset or subsequent attacks, but he felt irritation at a spot which from his description appeared to be in the neighbourhood of the anterior end of the right middle turbinate. His medical attendant tried various local and constitutional remedies, but found plugging the only means of even partially checking the hæmorrhage. On the ninth day, when I saw the patient for the first time, he was very weak and could not sit up in bed unaided. On removing the plugs the only point that appeared to have bled lately was on the right side of the cartilaginous septum below. This region was packed, and I was leaving the room when the patient began to spit blood. In the rhinoscopic mirror the stream could now be traced to the right posterior naris. The anterior plug was removed and fresh gauze was packed around the middle turbinate. Three days later this was renewed. The exact situation of the bleeding point in this case was not discovered, but after the upper part of the nasal cavity had been twice packed no further hæmorrhage took place.

CASE 3.—A woman, aged 44 years (who was seen in Dr. Napier's ward), stated that she had had epistaxis for the first time in 1890. She then lost a large amount of blood from both sides of the nose and the resulting debility kept her in bed for several weeks. The next attack was in 1896 and from the left side. The flow was very profuse at intervals for about five days, during two of which she was unconscious. After recovering from this attack she was well and doing her household work until four months before admission to the hospital, when in consequence of oppressed breathing she had to take to her bed. The third attack, during which I saw her, occurred in October, 1899. Bleeding began from the right nostril while she was lying quietly in bed, and according to her own statement she lost about a pint. At night there was another large hæmorrhage, after which she was brought to the Victoria Infirmary, Glasgow. During the first four days of residence in the infirmary she had three bleedings, during which she lost respectively 10, five, and 20 ounces. While the last hæmorrhage was going on I examined her and found the stream descending in pulse-like waves over the anterior part of the septum on the right side; the source was above the middle turbinate and out of view. A strip of gauze packed between this body and the septum at once checked the flow. Two days later when the gauze was being changed a slight recurrence took place, but there has been none since. The patient had a ventricular systolic murmur and the second sound was accentuated, but there was no cardiac enlargement. Epistaxis was preceded by a feeling of heaviness in the right half of the head.

CASE 4.—A man, aged 46 years, was admitted to Dr. E. Duncan's ward in the Victoria Infirmary, Glasgow, on Nov. 3rd, 1899, on account of epistaxis. The bleeding had commenced nine days previously while he was washing his face. There were several recurrences, the loss of blood on each occasion averaging from two to three ounces. When I saw him on the day after admission, although the right side of the nose was plugged anteriorly and posteriorly, blood was oozing through the packing. This was removed and the clots were syringed out. The blood could then be seen flowing down the septum from above the anterior end of the right middle turbinate. A strip of gauze firmly packed in this situation stopped the bleeding. A fresh plug was inserted next day and removed two days later, and there has been no subsequent recurrence. The patient was plethoric, but examination of his heart, lungs, liver, and urine revealed nothing abnormal. Shortly after leaving the hospital, however, albuminuria set in.

In Case 1, Case 3, and Case 4 the bleeding occurred above the anterior end of the middle turbinate. In Case 2 the patient was too weak to sit up and the blood flowed backwards into the naso-pharynx and could not be traced to its source. It is probable, however, that in this patient also the bleeding point was above the middle turbinate, for a plug inserted here checked the hæmorrhage. In addition it was observed in Case 3 and Case 4 that the stream descended over the septum. It is evident, therefore, that the ruptured vessel was on the roof or on the septum above the anterior end of the middle turbinate. This situation corresponds with that of the anterior ethmoidal vessels. The circumstances under which the bleeding commenced in the cases above reported suggest venous engorgement rather than arterial pressure as the cause of rupture; for at the onset the first patient was asleep, the second was stooping, the third was lying quietly in bed, and the fourth was washing his face. The anatomical relations also seem to point to the veins as the source of the hæmorrhage.

Is there any reason why the anterior ethmoidal veins should be specially liable to bleed? Their position certainly does not explain the tendency. They are situated in the most secluded and best protected part of the nasal cavity, and the tissues covering the septum do not yield less support in this region than elsewhere. In size they are by no means the most important in the nose. Although the naso-palatine is larger and follows a longer and more exposed course over the septum bleeding evidently takes place from it very rarely. Natier,[3] however, reports a case of hæmorrhage from the naso-palatine artery. A feature, however, that distinguishes the anterior ethmoidal veins from the other veins of the nose is their close connexion with the intracranial circulation. Herein lies, in my opinion, the explanation of the profuse and prolonged epistaxis in the cases above reported. The ethmoidal veins anastomose with the veins of the dura mater and with the superior longitudinal sinus. Another and more important vein, which has been specially described by Zuckerkandl,[4] accompanies a branch of the anterior ethmoidal artery, passes through the cribriform plate into the cranial cavity, and either opens into the venous plexus of the olfactory tract or is directly connected with a larger vein at the orbital lobe. The chief trunk of this vein has also been seen opening into the superior longitudinal sinus. The fact that these veins can be injected from the longitudinal sinus proves the absence of valvular obstruction to a backward flow. This condition and the pressure in the sinus, which has been shown by Hill[5] to follow closely the general circulatory pressures, would allow of abundant hæmorrhage from the proximal end of a ruptured ethmoidal vein. The other emissary veins are usually so small in the adult as to preclude serious hæmorrhage, and comparisons cannot be drawn between them and the ethmoidal veins. In the young, however, they may be of importance. Thus, in removing a cerebellar tumour from a child Parry[6] opened a large vein which communicated with one of the sinuses in the skull and great loss of blood resulted.

The connexion between the nasal veins and the intracranial veins referred to has received little or no attention from anatomists with the exception of Zuckerkandl. It is not astonishing, therefore, that these veins have escaped the notice of the rhinologist and that in an extensive search through the literature of the subject I have found no allusion to them as a possible source of epistaxis. Nevertheless it is from these vessels or from some anastomosing with them that one would expect the bleeding which is followed by a sense of relief in the head.

Epistaxis from the region of the anterior ethmoidal vessels is easily checked by firmly packing between the septum and the anterior half of the middle turbinate a strip of gauze reaching to the roof of the nose or as near to it as possible. The parts below may be left free so that nasal respiration is unimpeded. This is a great advantage over the method generally recommended, of plugging anteriorly, or anteriorly and posteriorly, which causes almost intolerable discomfort to some patients. After the packing has been changed twice or thrice at intervals of a day, or, if it can be introduced without becoming saturated with blood, of two days, the tendency to bleed will usually have ceased and the treatment may be suspended.

Glasgow.

---

[3] Epistaxis Spontanées, La Parole No. 8, 1899.

[4] Normale und Pathologische Anatomie der Nasenhöhle, 1893, Band i., S. 134.

[5] The Physiology and Pathology of the Cerebral Circulation, 1896, p. 43.

[6] Glasgow Medical Journal, 1893, ii., p. 39.

CASE OF

MEASLES IN A PATIENT AGED 18 YEARS COMPLICATED WITH MENINGITIS AND SPINAL MYELITIS; RECOVERY

By E. F. ELIOT, F R C S, L R C P, EDIN,
F F P S GLASG, &c.

DURING the last week of April, 1898, I was called upon to attend a finely grown, well developed girl 18 years of age who had been exposed to the infection of measles, and, as was anticipated, she developed a rash on May 1st Everything was perfectly normal and the rash was well developed over the face and the whole surface of the body On the 4th (the fourth day of rash) I saw her at 11 A M, and she was doing perfectly well and had had a good night About 3 P M she became restless and commenced "to grind her teeth," which continued till 6 P M when she was suddenly seized with a convulsive attack, described by the nurse as "epileptiform in character." There was no clonic spasm and the limbs were rigid and without motion Warm milk was swallowed whilst the patient was livid. The aperient medicine given on the night before had not operated, a glycerine enema was therefore given and whilst this was acting a second attack took place During this attack the face became livid (purplish) and there were random movements of the arms and the legs I saw her as she was recovering from this attack, which lasted for 10 minutes She was evidently much shaken by it The pulse was rapid and very feeble and she was "muttering" and "grinding her teeth." The temperature was 101 2° F I gave her two drachms of brandy and eight grains of bromide of potassium She remained fairly quiet for about an hour and during this time she was seen by Dr T W Trend The pulse had improved and the patient was in a profuse perspiration The heart sounds were normal but the breath sounds were somewhat harsh at the right apex She understood what was said to her At the end of an hour a third attack came on quite suddenly This lasted for two minutes It was epileptiform in character, the patient uttering a faint cry, her face and hands being livid and her whole body convulsed After the acute stage had passed off she continued to move her arms and legs, to grind her teeth, and to mutter for about 20 minutes Then a fourth attack came on, similar to the third, but only lasting for about a minute After this attack there was very little random movement Brandy and bromide and milk and soda-water were administered after each attack During the third and fourth attacks she passed flatus and fæces unconsciously For six hours after the fourth attack she steadily improved Her voice was strong, she had twitchings of the mouth but no grinding of the teeth, and she was quite conscious At 4 A M she was lifted out of bed and she passed a fair quantity of urine of a specific gravity of 1020 with no albumin The reaction was acid The temperature after the fourth attack was 103 2°, and at 4 A M it was 101 8°, the pulse being 98 I may add that the menstrual period was due on the 4th, but it appeared only slightly for a few hours on the 3rd Her mother informed me that the period usually was six or seven days behind time

My opinion at this time as to the cause of the convulsions was that they arose (1) from toxic poisoning from measles, (2) from cessation of the menstrual period, and (3) from the patient being in a somewhat neurotic condition

On May 5th I saw the patient again with Dr Trend Her temperature was then 100 6° and the pulse was 98 She was awake and quite sensible and was breathing well The heart sounds were good She had been quiet and sleeping for short intervals During the day the patient was very quiet and she took medicine and nourishment well I prescribed bromide in an effervescing mixture and brandy, milk, and barley water On the 6th the patient was very restless up to 2 A M, but afterwards she slept at intervals She passed urine twice in the night and at 4 A M her bowels acted At 7 A M she began to twitch her mouth and occasionally to grind her teeth, and at 8 A M I ordered a full dose of bromide She was perfectly conscious, her mind was quite clear, and she answered questions readily At 9 A M the temperature was 97 2° and the pulse was 80 There was a slight cough at times and her arms and legs twitched in her sleep, as did her mouth when she was awake I saw her with Dr Trend and we agreed that she was going on well An enema was ordered On the 7th we found that she had had a fairly good night and that there was nothing of importance to note We prescribed three grains of subchloride of mercury The pulse was low and depressed She had a quiet night on the 8th and her condition was much the same The percussion note was slightly dull over the right base at the back, but there were no râles or tubular breathing The patient appeared to be progressing on the 9th, with no fresh symptoms On the 10th she became very drowsy during the night and slept heavily There was more dulness over each base at the back The heart's action was feebler, but the sounds were clear We did not consider her condition satisfactory, and Dr Hughlings Jackson was asked to see the patient and he arrived at 6 P M. The treatment at this time was as follows The room was kept dark and cool We ordered her position in bed to be changed and her shoulders to be more raised Brandy, champagne, beef juice, and Benger's food were directed to be given, and subchloride of mercury and Rubinat water as necessary A mustard plaster was applied to the nape of the neck and cold to the head. Salines, digitalis, bromide, ether, &c, were also ordered Dr Hughlings Jackson (May 10th) reported that this was a very uncommon and difficult case The condition might have been due to "measles process" or to a simple meningitis from the first The treatment was to "keep her going," and it was just possible, even if there was meningitis, for a recovery to take place There was no pain or tenderness over the mastoid Examination of the eyes —After application of cocaine nothing abnormal was found in the discs; the pupils were equal and slowly reacted to light A bright light did not seem to annoy the patient Examination of the chest —The respiration was markedly abdominal; a percussion note was clear all over the chest; there were some few râles over both bases behind; and the respirations were 30 a minute The heart sounds were clear and normal The pulse was good and steady (80 per minute) The abdominal viscera were apparently healthy. The specific gravity of the urine was 1025, there was no albumin and but little phosphates. There was absence of patellar reflexes and ankle clonus. None of the symptoms were considered to be due to any neurotic element

On May 11th, since 6 P M on the previous evening the patient had been quiet and sleeping There was no twitching The urine and the fæces were passing involuntarily At times the patient roused up and answered questions The rigidity of the muscles of the neck was more marked, but the general symptoms were much the same At 5 P M I saw the patient in consultation with Dr Mitchell Bruce, who gave his opinion that there was nothing functional in the case, and that it was probably a local, non purulent, inflammatory meningitis, plus spinal myelitis, and that the question of thrombosis of the longitudinal sinus ought to be kept in mind He thought that the condition was a most rare and grave one, but that there was a possibility of recovery The treatment adopted now was as follows The room was directed to be kept cool and dark, the head and shoulders of the patient to be raised and the position of the body to be changed from side to side Eight minims of tincture of nux vomica every four hours and three grains of subchloride of mercury every second or third day were ordered, with brandy, champagne, and beef tea Mustard plasters to the nape of the neck from time to time were also ordered

On May 12th the patient had had a good night During the night there had been two marked periods of consciousness, the patient talking quite rationally At noon the temperature began to go up and during the afternoon she was evidently not so well The temperature continued to rise and the pulse became very rapid and weak Drowsiness was increasing and there was difficulty in swallowing At 9 P M she was much worse Her temperature was 103 2°, her pulse was 150 and she was breathing very badly. I ordered ice to be applied to her head and her hair to be cut off Digitalis and ether mixture, a nutrient and stimulant enema and general sponging with mustard were also ordered This treatment was continued through the night of the 13th The patient two or three times became almost pulseless but about 7 A M she rallied The temperature was 101° and the pulse was 120 She recognised her father. The ice, digitalis, and ether were continued. At 12 noon the patient had another very bad attack and a fatal result was expected, the temperature rising; but during the afternoon and evening she rallied and had several slightly lucid intervals. On the 14th she had had a much better night with fairly quiet sleep and nourishment was taken. The pupils slightly responded to light, which they had failed to do on the night of the 11th. During the last three days I had noticed that the temperature went up before the bowels acted and came down after the bowels had been relieved. During the next two days her condition was much the same. The attacks of coma were not so severe, and she took nourishment well. On the 17th her condition was much the same. The bowels were kept acting freely. The patient could talk and answer questions in a whisper. The limbs were absolutely rigid and the toes were extended. The patient now complained of pain in both legs. The legs were gently rubbed for the first time. There were no patellar reflexes or ankle clonus. She was able to move her arms a little better, and the muscles of the neck were a little less rigid. She could also move her head a little. The pupils responded sluggishly to light. The muscles of the lower limbs had only wasted a little, and there was no marked emaciation. On the 18th the patient had had a good night. The temperature varied from 100° to 100·6° and the pulse from 100 to 110. The plantar reflexes were slightly present and she could just move her toes. The pupil reflexes were not so good. The general condition was much the same. On the 19th the general condition was not so good, the patient seeming to be generally weaker. The symptoms were the same as on the previous day. At the middle of the day I decided to give her iodide of potassium and solution of perchloride of mercury, alternating with quinine, iron, and digitalis. During the day the patient was very drowsy. The temperature rose to 102° and the pulse became very rapid. Some cough developed during the day. The quantity of nourishment was increased. At 9 P.M. her condition was bad and I had her spine packed in ice. After ice had been applied she gradually improved and had had a fairly good night on the 20th. She complained during the night of pain in both legs. Ice was constantly applied and her temperature at 7 A.M. was 97·2°, the pulse being 80 and respiration good. At 7.30 A.M. the ice was removed from the spine. During the night the patient had expressed a desire to have the bowels opened, and at 12 noon they acted. At 5.15 P.M. she passed urine consciously, and at 6.30 P.M. the bowels acted well. During the day ice was applied at intervals to the lumbar spine.

On May 21st the patient passed a fairly good night. The nurse informed me that she had been more conscious on passing fæces but had taken no notice on passing urine. At 11.30 P.M. she asked for the bed-pan and used it, but urine passed involuntarily all day. On the next day there was no change, but at 8 P.M. the temperature rose to 101°; ice was immediately applied to the back. Her condition on the 23rd was much the same. She had not had a good night, but when she was washed in the morning she was able to bend her knees very slightly. It was noticed that during the previous three or four days the patient had decidedly lost flesh. During the night and the day she had a troublesome cough. The temperature was 100°. There was no material change in her state on the next day. On the 25th she had passed a good night and could move her right leg slightly, but not the left. Her intellect seemed clearer. She passed a good night on the 26th taking nourishment freely. Her legs were rubbed twice a day. I saw Dr. Mitchell Bruce in London and discussed the case with him; we were of opinion that it was now one of myelitis of the dorsal region of the cord. It was, therefore, decided to increase the iodide and the solution of perchloride of mercury and to continue the massage. On the 27th more movement in the lower limbs was noted. It was very slow but there was no pain. For the next three days the patient generally improved. On the 31st she commenced taking solid food. On June 1st slight patellar reflexes were found to be present for the first time, and there was more power generally. The next day the improvement was marked and the sensation in the limbs was normal. The patellar reflexes had slowly improved on the 6th. On the 11th she had a sleepless night and

except one drachm of syrup of iodide of iron. The menstrual period came on on the 22nd. The patient's sight was distinctly affected, there being short sight for all small objects, also red to green colour-blindness. Most greens looked at first—i.e., two weeks previously, when this condition was first noticed—orange; they now looked greener. Red and purples appeared as sage-green, green, or shades of mauve. She went out for a drive and she had been in the garden for the last 10 days. On Sept. 1st I learned that she had been away to the seaside. The patient was now perfectl well in every respect.

This case appears to me to be one of peculiar interest, although spinal cord lesions occurring in the exanthus sta of measles are recorded they are nevertheless somewhat rare, and in a number of cases they have proved rapidly fatal. A case is recorded by Barlow[1] which presented a somewhat similar train of symptoms. In Barlow's case death occurred on the eleventh day. A detailed account of the post-mortem and microscopical appearances of the spinal cord are given at length and are most interesting. In my own case I would suggest that the changes in the cord were vascular in character and of greatest intensity in the dorsal region. Probably the vessels were surrounded by a zone of coagulated exudation and the neighbouring tissues were infiltrated with leucocytes. It is impossible to say whether there were any interstitial hæmorrhages. I think there can be no doubt that the bladder symptoms, the paralysis of the lower limbs, the degree of paresis which existed in the upper limbs, and the absence of knee-jerks and of plantar reflexes, were all spinal symptoms. The question is, What was the relation between the myelitis and the measles? This patient was absolutely well before she sickened for measles. She contracted measles from a relative (who sat next to her at lunch and who developed a profuse rash on the next day). The incubation period was normal and a few days afterwards she had symptoms of meningitis, followed by symptoms of myelitis. I think that there are a sufficient number of cases on record to show that there is a distinct relation between measles and a form of myelitis which may be produced by the virus concerned in the other phenomena of measles.

I am very glad that I was able to have the opinions of Dr. Hughlings Jackson and Dr. Mitchell Bruce. At the time when they saw the case it was impossible to form an other opinion than that death must very shortly take place The result of this case teaches us how in an apparentl obviously hopeless condition a victory may be gaine Except for the incessant watching on the part of the nurs the patient would have died. On several occasions the pu was uncountable and scarcely perceptible and I har thought that death could be warded off. It was interest to note the comparatively rapid recovery, and I am sure t the iodide of potassium and solution of perchloride mercury were of great use.

I have published this case as it may be of intere practitioners, and it is comforting to know how absol complete recovery can occur in cases of this sort. greatly indebted to my partner, Mr. R. F. Chance, fo valuable aid and assistance during this very trying case

Southampton.

AN ANOMALOUS CASE OF CONTIN FEVER WITH ABSCESSES OF TH LIVER.

By J. G. McNAUGHT, M.A., M.D. GLASG
CAPTAIN, ROYAL ARMY MEDICAL CORPS.

THE following case may be of interest in conne that reported in THE LANCET of July 30th, 1898 (by Dr. Sidney Herbert Snell.

A gunner in the Royal Artillery, aged 24 admitted to the special wards of the Statio Quetta, on Jan. 9th, 1898. For some time h suffering from intermittent fever, apparently origin. For two days at least before admissio been continuous. His temperature on ad 102·6° F. His face was flushed and his tongue furred. There was no abdominal distension had three or four loose motions daily. The spleen was slightly enlarged; the heart and lungs appeared to be normal. On Jan. 12th his temperature was 100·4° in the morning and 105° in the evening; on the 13th it was 100·4° in the morning and 101·6° in the evening. On the 14th he complained of severe pain in the right side, aggravated by movement and by taking a deep breath. A friction rub was heard at the inferior angle of the right scapula on auscultation. There was no dulness on percussing the base of the lung. The lower border of the liver was tender on palpation. On the previous day he had had six loose, light yellow motions. On this date he passed about one ounce of bright blood from the bowel. The tongue was dry and brown in the centre. His blood gave incomplete reaction to Widal's test; distinct clumping occurred, but many bacilli remained actively motile at the end of half an hour. His temperature was 101·2° in the morning and 100° in the evening. On the 15th he seemed much better; the pain in the side was relieved, there was no diarrhœa, and the tongue was cleaner and moist. His temperature was 102·2° in the morning and 103·8° in the evening. On the 16th there was a second hæmorrhage from the bowel, about five ounces of bright blood being passed. There was still pain in the right side on coughing, the respiratory murmur was very feeble, and the percussion note over the extreme base posteriorly was dull. The facies was now very suggestive of enteric fever, the tongue was brown and dry in the centre, and red at the tip and edges. The abdomen was somewhat distended. There were no rose spots. The blood gave a marked but incomplete reaction to Widal's test. The blood was examined for malarial parasites, but only one degenerated pigmented spherical body was found. His temperature was 100° in the morning and 102° in the evening. On the 17th he was restless and had passed a bad night. His temperature was 101·6° in the morning and 103° in the evening. His pulse was 140 and his respirations were 48 per minute. His pulse was very weak; his tongue was brown in the centre, furred at the sides, and red at the tip and edges; his abdomen was more distended and there were no rose spots; a small motion was passed containing some dark altered blood and some bright blood. On the 18th his condition improved; his temperature was 100·4° in the morning and 104·6° in the evening. On the 19th he complained of abdominal pain and was perceptibly weaker; one motion was passed containing altered blood; his temperature was 100° in the morning and 102·6° in the evening. On the 20th his condition was somewhat better. He passed two fluid, light yellow motions without any blood in either. The lung condition remained unchanged. His temperature was 100° in the morning and 103° in the evening. On the 21st the blood was again subjected to Widal's test and gave an incomplete reaction. His temperature was 99·6° in the morning and 102·8° in the evening. On the 22nd his temperature was 99·4° in the morning and 101·6° in the evening. He continued to do fairly well till the 23rd when he became very restless and had two large hæmorrhages from the bowel. A swelling was noticed in the epigastrium; it was dull to percussion and no fluctuation was detected. The urine contained bile pigment. In the evening he had two large hæmorrhages and became collapsed; the pulse was fluttering and very weak and the extremities were cold, but he rallied under treatment. His temperature was 98·4° in the morning and 100° in the evening. On the 24th he had a number of hæmorrhages from the bowel and became again collapsed, but rallied under treatment by opium and champagne. His temperature was 97° in the morning and 96·4° in the evening. On the 25th he passed a large number of small "tarry" motions involuntarily; the pulse became imperceptible and the respirations shallow and sighing, and he died quietly about 10 A.M. His temperature that morning was 96°.

---

[1] Transactions of the Royal Medical and Chirurgical
p. 77.

Necropsy.—The right lung weighed 16 ounces; its substance was very anæmic. It was adherent at the base to the chest wall and diaphragm. A small portion of the base was consolidated, dark-red in colour, and leathery in consistence. The left lung weighed nine ounces and was very anæmic; it was slightly adherent at the base. The heart weighed 10 ounces; the walls of the right ventricle were thin, pale, and extensively infiltrated with fat. The liver was much enlarged, especially the left lobe, and weighed 84 ounces. It contained five abscesses, three in the right lobe and two in the left. Two of the abscesses were as large as turkey's eggs; the others were smaller. One of the abscess cavities contained bile, the others contained thin yellow pus. The liver was adherent to the diaphragm. The spleen weighed eight ounces. The kidneys were very anæmic. The stomach and small intestine showed no abnormal appearances. Close to the ileo-cæcal valve and on it were a number of irregularly shaped ulcers, some of which were two-thirds of an inch long and others smaller. The mucous membrane of the two feet of the large intestine next the valve was congested and contained numerous ulcers, the largest being nearest the valve. Beyond a distance of six inches from the valve the ulcers were small, circular, and punched out in appearance. The mucous membrane of the remainder of the large intestine and rectum was quite healthy. There was no thickening of the walls of the bowel at any point. The mesenteric glands were swollen and soft.

The spleen was incised with a sterile knife and three tubes of Parietti's broth were inoculated from it. In all three tubes there grew a bacillus and a coccus, the bacteriological examination of which gave the following results. (*a*) The bacillus in Parietti broth produced a slight turbidity in 48 hours and a marked turbidity in 72 hours (at 90° F.). In broth it produced turbidity in 24 hours; after a week's incubation at 90° F. a pellicle formed. In gelatin-stab cultures there was a growth visible in 48 hours; there was a greyish-white slow growth on the surface and a beaded growth in the substance of the gelatin. In gelatin-streak cultures there was growth visible in 48 hours—slow growth, bluish white, irregular edges; there was no liquefaction. In glucose-gelatin shake culture there was turbidity in 24 hours, with slight gas formation in from three to eight days. Sterilised milk did not coagulate in 10 days. On potato there was moist transparent growth in 24 hours (at 90° F.); in a week the growth became thick and greyish. Agar streak culture gave a thick creamy-white growth. Gelatin plate culture gave a slow growth in 72 hours; the colonies were granular and dark in the centre; there was no liquefaction. The microscopic characters of the organism were as follows: a short, thick, sluggishly motile bacillus with rounded ends. Stained by dilute carbol-fuchsin some bacilli showed slightly stained central portions and deeply stained ends. Long thread-like forms were also seen. (*b*) The coccus appeared to be streptococcus pyogenes from its cultivation characters.

The clinical characters of the case were at first puzzling, but latterly they were quite consistent with a diagnosis of enteric fever. Neither the clinical history nor the post-mortem appearance supported a diagnosis of dysentery. I inspected the motions regularly and they never presented any dysenteric characters. The bacillus isolated from the spleen resembled bacillus coli in most of its characters, but it did not coagulate milk, it only produced gas after from three to eight days' growth in glucose-gelatin, and at first the growth on potato resembled that of bacillus typhosus.

TWO CASES OF PULSUS PARADOXUS.

BY JOHN HAY, M.B. VICT.,
ASSISTANT MEDICAL OFFICER, MILL-ROAD INFIRMARY, LIVERPOOL.

UNDER certain conditions the pulse becomes distinctly smaller during inspiration or completely disappears and this form of pulse is named the "pulsus paradoxus." It is not of common occurrence, though probably not so rare as is usually supposed, often being looked upon simply as an irregularity of the pulse whilst the rhythmical character of the irregularity is not perceived. This condition is usually bilateral but is occasionally not so, an interesting case of this nature being recorded by Dr. Thomas Harris of Manchester in THE LANCET of April 22nd, 1899, p. 1072.

As to the value of the sign, opinions differ greatly, but I think that we may take it that pulsus paradoxus is not *of itself* pathognomonic of any condition, though it cannot be denied that it does exist in perhaps its most marked form in certain cases of indurative anterior mediastino-pericarditis; but there are other conditions in which it is sometimes present, such as pericarditis with effusion uncomplicated by mediastinitis, also in pleuritic effusion and in patients suffering from great inspiratory dyspnœa.

The following two cases illustrate to some extent (1) these three conditions as causative agents; (2) the relief

rapid and uninterrupted, there being no repetition of the abnormal pulse condition.

Here I think the dyspnœa was the active cause, but so long as the arterial tension remained fairly good no paradoxical pulse showed itself; however, on the occasion of the tension dropping and the pulse becoming soft, then the dyspnœa was able to produce a definite effect, the result being the pulsus paradoxus

CASE 2.—A man, aged 40 years, was admitted into hospital on Feb. 8th, 1899, suffering from broncho-pneumonia complicated by pericarditis with effusion. He had been ill for four days previously to admission. His condition was critical and he had an irregular temperature ranging between 99° and 104° F. The pulse-rate was 130 and the respirations were from 40 to 60 per minute. Under treatment he improved considerably up to Feb. 21st. From that date he slowly began to lose ground, his most prominent symptoms being marked restlessness, a very troublesome cough, considerable dyspnœa, and inability to sleep in the recumbent posture; towards the end he became delirious. His temperature remained a little above normal, the dyspnœa increased, and he died suddenly on March 26th. The definite improvement in the general condition up to Feb. 21st was associated with the gradual clearing up in the lungs. Following this, however, the pericardial condition and the cardiac changes accompanying it became the main factors in the case and were the direct cause of death. On March 13th I made the following note: "The patient is still suffering greatly from dyspnœa, cannot lie down, and is occasionally attacked by great difficulty of breathing, the number of respirations increasing to 70 per minute. During these attacks he becomes almost frantic. They are not associated with marked cyanosis The præcordial dulness is increased in area, extending two inches to the right and five and three-quarter inches to the left of the middle line, together making a transverse dulness of seven and three-quarter inches. There is dulness in the first left interspace extending one and three-quarter inches from the middle line. No friction rub is to be felt on placing the hand over the præcordium, and only an indefinite cardiac pulsation. The apex beat cannot be seen or felt, and the heart sounds are practically inaudible. There is occasionally a short systolic murmur in the fourth and fifth spaces. There are râles to be heard in the chest, more particularly over the lower lobes, and a pleural friction rub over the right middle and lower lobes. There are definite signs of fluid at the right base, the dulness reaching as high as the ninth spine. The liver is eight and a quarter inches in nipple line and is enlarged and tender The spleen measures four inches in long diameter. The veins of the neck and arms are tense and engorged, but there is no definite cyanosis." The left pupil was dilated and larger than the right, a condition which I have noticed in several cases of acute pericarditis with effusion. His radial pulse was soft, frequent, and varied rhythmically with the respiration.

Tracings Nos. 4, 5, 6, and 8 in the diagram show well the "pulsus paradoxus." They were, with the exception of No 6, taken with the patient breathing quietly. During the time that No. 6 was taken the patient was asked to breath more deeply. The five tracings all show a condition of low arterial tension, Nos. 4, 5, and 6 being distinctly hyperdicrotic It is noticeable that where the paradoxical condition is most marked, as in No 6, there the pulse is most hyperdicrotic.

On March 15th 63 ounces of clear fluid were withdrawn from the right pleural cavity This was followed by considerable improvement in breathing and the patient passed a comfortable night. Pulse tracing No. 7 was taken on the evening of March 15th following the thoracentesis and shows a definite improvement. There is certainly a distinct respiratory curve but otherwise the tracing might pass for that of a normal pulse of low tension.

The above alteration in the pulse was undoubtedly brought about by the removal of the fluid from the chest and although the fluid did not re accumulate, so far as can be judged by physical signs, the paradoxical condition of the pulse returned as markedly as ever.

Tracing No 8 was taken on March 23rd, three days before the man's death, he was breathing quietly, though rapidly. The above tracings are all from the right radial artery; others were taken from the left radial artery presenting the same condition. It was impossible to obtain any tracings from the anterior tibial artery on account of the œdema about the ankles and feet. Unfortunately no necropsy was permitted.

I would like here to express my indebtedness to Dr. Nathan Raw, as it is through his kindness that I am able to publish these cases.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

HEMIATROPHY OF THE TONGUE.

By L. A. Parry, M.D., B.S. Lond., F.R.C.S. Eng.,
LATE HONORARY ANÆSTHETIST, NORTH-WEST LONDON HOSPITAL.

THE following case is of interest not so much because of the condition of the tongue as on account of the unusual cause to which it was due.

The patient, a man, aged about 50 years, complained that one side of his tongue was growing smaller. He had no other trouble whatever, but he could not quite understand why this should be, and so he had sought medical advice. The condition present was simply atrophy of one side of the tongue. The only point in his personal history bearing on the case was that some years previously he had had a serious injury to his head, resulting in fracture of the base of the skull. Now, the causes of an unilateral atrophy of the tongue are disease of the hypoglossal nucleus or disease of the same nerve. Supranuclear disease is not accompanied by wasting, or, at any rate, only to the slightest extent. Facial hemiatrophy is sometimes accompanied by hemiatrophy of the tongue, but here this need not be discussed, for there was no hemiatrophy of the face. Nuclear disease is almost always bilateral and is generally accompanied by disease of adjacent nuclei, giving rise to labial paralysis. But every now and then in chronic degenerations, such as locomotor ataxia or progressive paralysis, of the insane, this affection is unilateral. Here, too, other nuclei are generally affected and other symptoms characteristic of the disease (tabes or progressive paralysis) are present. If the lesion is below the nucleus it may be (1) within the medulla, and then there is paralysis of the leg and arm of the other side; or (2) outside the medulla, then the nerve may be damaged within the skull by meningitis or new growths, or outside the skull by wounds, cellulitis, tumours, neuritis, or caries of the highest cervical vertebræ. There are no symptoms in this case of tumours, meningitis, caries, and so on, and I think this hemiatrophy is due to injury of the nerve in its passage through the anterior condyloid foramen at the time of the fracture of the base of the skull.

Hove, Sussex.

OCULAR PHENOMENA ASSOCIATED WITH CHEYNE-STOKES RESPIRATION.

By G. Young Eales, M.R.C.S. Eng., L.R.C.P. and L.M. Edin.,
LATE ASSISTANT DEMONSTRATOR OF ANATOMY, ST. GEORGE'S HOSPITAL, S.W.

THE following case is, I think, worthy of record inasmuch as the ocular phenomena observed, so far as I have been able to ascertain, have not hitherto been placed on record.

A man, aged 61 years, short, dark, and thick-set, came under my observation two and a half years ago, when I found him to be suffering from a mitral systolic murmur, considerable hypertrophy of the left ventricle, and some amount of albuminuria. Dilatation of the ventricle gradually ensued and this was followed by pulmonary and hepatic congestion, increase of the albuminuria, and, finally, general anasarca, so that it may be said that the patient was more or less waterlogged for the last two years of his life. Eight weeks before his death uræmic convulsions set in and continued off and on down to ten days before the end, when he became suddenly hemiplegic, after which the convulsions ceased. The patient was now paralysed on the left side and had in addition loss of control over the sphincters. Three days before his death coma accompanied by marked Cheyne-Stokes respiration supervened, which continued till his decease. I noticed that each cycle of this type of breathing averaged about a minute in duration, the intervals varying from 12 to 15 seconds and the respirations being from 28 to 33 in number. On examining the eyes I noticed that during the interval both pupils remained stationary and somewhat contracted. After the onset of the first four or five respirations each pupil began to dilate, and as the respirations increased in volume and rapidity they each became more and more dilated until finally they became widely dilated and remained stationary during the height of the cycle. As the respirations subsided during the decline of the cycle each pupil gradually contracted more and more until eventually, just before the respirations ceased, they became contracted somewhat and remained stationary till the onset of the next cycle.

I do not know that these ocular phenomena can be said to be a sign of diagnostic value of the disease under consideration; nevertheless, I deem it worthy to be placed on record, partly because it is an interesting piece of clinical evidence and may afford others the opportunity of being on the look-out for similar rhythmical pupil changes in cases of Cheyne-Stokes respiration, and partly because the whole phenomena of Cheyne-Stokes breathing is involved in obscurity. Many theories have been advanced to account for it, but none of them are quite satisfactory. Therefore, any side-light brought to bear upon the subject may possibly be of interest to those scientists who are interested in this matter. Sir W. Gowers, in his work on "Diseases of the Nervous System," says that the pupils may contract during the interval in Cheyne-Stokes respiration, but he is silent concerning any rhythmical action of the iris coincident with the rhythmical respiratory act such as I have stated above. Gowers, too, in speaking of Cheyne-Stokes breathing says that the respirations in each cycle never exceed 30 in number. In the case quoted above I frequently counted as many as 33 respirations.

Torquay.

LARGE DOSES OF CARBOLIC ACID IN EQUINE TETANUS.

By FRANCIS EVELYN PLACE, B.Sc., M.R.C.V.S.

DR. J. MITFORD ATKINSON'S case of bubonic plague[1] is of much interest, and as during the last two years I have been treating tetanus in horses by means of hypodermic injections of carbolic acid I send a few notes which may form an appendix to that case. The mode of procedure is to inject in the neighbourhood of the neck and shoulders one drachm of carbolic acid (British Pharmacopœia) every two hours for the first 32 hours of treatment and less frequently as occasion may arise afterwards. The result is that within an hour there is a large swelling at the seat of injection which gradually subsides during convalescence, and there is no trace of it left after 14 days in the case of those injections made during the virulence of the disease. Sometimes, however, in the case of the injections made during the subsidence of the disease there is a loss of hair. This occasionally persists for weeks, but in no case have I found it to be permanent. The largest amount used in a single case has been 36 fluid drachms in 84 hours, the patient being an Arab horse, 14 years old, which recovered and resumed work on the twenty-second day after the attack. I have never administered less than 16 drachms in a successful case and as in two cases I have seen horses die after the administration by the mouth of half an ounce of diluted carbolic acid given for pneumonia I can only conclude that in tetanus there is a specific tolerance of the acid and, judging from Dr. Atkinson's case, that the same seems to be the case in plague. Details of some of the cases I have treated may be found in the Transactions of the Bombay Medical Society for 1898, having been reported by the courtesy of Colonel W. G. Henderson, R.A.M.C., who has successfully adopted the treatment in human practice in relatively large doses.

Bombay.

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Prooemium.

SHEFFIELD ROYAL INFIRMARY.

A CASE OF TRAUMATIC TETANUS WITH RECOVERY.

(Under the care of Dr. W. DYSON.)

THE following case is a very good instance of a somewh severe attack of tetanus ending in recovery. The lo incubation period of 12 days was in itself of fairly good prognosis, for the chance of recovery increases with the length of time that elapses before symptoms appear. No antitoxin was injected, so we must attribute the satisfactory result to the excision of the wound and the administration of the bromide and chloral. The symptoms were so characteristic that we need have little hesitation in admitting the accuracy of the diagnosis, even though no tetanus bacilli were found. For the notes of the case we are indebted to Dr. Noel D. Bardswell, house physician.

A girl, aged 15 years, was admitted into the Sheffield Royal Infirmary on July 26th. There was a history of a cut on the right hand 17 days before admission and of its contamination with garden mould. The tetanic symptoms commenced somewhat insidiously 12 days after the accident with severe pain in the back, stiffness of the muscles of the neck and throat (causing dysphagia), spasmodic contraction of the jaws on attempting to eat or speak, and stiffness of the fingers and hand of the injured limb. During the next few days these symptoms increased in severity and she was then sent to the infirmary.

On admission all the muscles of the neck were in a condition of tonic spasm, the head being slightly retracted. The face was anxious-looking, the angles of the mouth were drawn downwards and outwards, and the pupils were widely dilated. Spasmodic closure of the jaws occurred incessantly, frequently biting the tongue, which was furred and much excoriated at its edges by the teeth. There was a slight degree of opisthotonos; the abdomen was unaffected. The legs were extended and stiff to move and all the muscles of the right arm, forearm, and hand were in a condition of tonic spasm, the fingers being firmly clenched and the arm flexed. On the right thenar eminence was a nearly healed healthy-looking cicatrix about an inch long. The paroxysms of spasm, which the least irritant would excite, occurred several times a minute, except for brief intervals, during which the patient dosed. During the paroxysm the distortion of the face became more pronounced, presenting a typical risus sardonicus; the jaws were tightly closed; the back was arched; the legs became rigid and slightly over-extended with the heels drawn up; and the contracture of the right arm and hand became more intense. The paroxysms were accompanied by great pain in the affected muscles and by profuse sweating. Respiration was unaffected, but the pulse was quickened during the paroxysms. The temperature on admission was 99° F.

The patient was kept in a darkened room; the cicatrix was freely excised, the removed tissue being kept for examination, and 20 grains of bromide of potassium and 10 grains of chloral were given every four hours. Under the influence of chloroform the spasm completely disappeared and the paroxysms were less severe for some hours following the administration. During the first week after admission she remained in much the same condition. There was slight irregular pyrexia, varying from 99° to 100°; the opisthotonos became more marked and tonic in character, and the muscles of the abdominal wall and left arm were contracted during the paroxysms, in addition to the muscles already mentioned. The constant biting of the tongue was the most distressing symptom and she kept a large piece of lint between her teeth day and night, which, she said, saved her tongue during the spasms. Sleep was greatly interfered with, difficulty was experienced in passing urine, which was reduced in quantit and febrile in character, and there was very obstinate constipation which was overcome by repeated doses of compound mixture of senna. Swallowing became easier after admission and she took fluid nourishment well between the paroxysms. On the third day after admission there appeared a universally distributed scarlatiniform rash, which gradually faded in the course of a few days, by which time the patient was becoming very weak, and 10 grains of bromide of ammonium, 10 minims of compound spirit of ammonia, and 15 minims of spirit of chloroform were given every four hours in place of the first mixture. Ten days after admission the condition began slowly to improve. Sleep became less disturbed and the paroxysms gradually became less frequent and severe, the muscles affected last being the first to recover. Convalescence was slow but steady, and in three weeks it was complete except for some stiffness of the affected area following the prolonged contracture.

---

[1] THE LANCET, Dec. 9th, 1899, p. 1622.

Bacteriological examination.—A bacteriological examination of the tissue excised was made by Dr. J. Robertson. The examination was commenced within an hour of the operation. The tissue was excised with aseptic precautions and received into sterile test tubes. Two pieces of tissue were received for examination—(*a*) a piece of fascia and (*b*) a piece of skin. In both instances the tissue was scraped in sterile water and teased; the water was then kept at 80° C. for 15 minutes, as recommended by Kitasato and a portion was added to glucose-agar and plate cultivations were made. These were incubated at 20° C. in an atmosphere of hydrogen. Several other media were inoculated and incubated at from 30° C. to 37° C. in Buchner tubes. The organisms were carefully examined and in many instances were subcultured. No bacillus tetanus was found, most of the organisms being facultative anaerobes. One diplococcus was of interest on account of the very extreme variations in size of the different cocci, some being from four to six times the diameter of others. Unfortunately, there was no opportunity of making any animal experiment.

LEEDS GENERAL INFIRMARY.

A CASE OF RUPTURE OF THE FEMORAL ARTERY.

(Under the care of Mr. W. H. BROWN.)

WHEN the trunk of the common femoral artery gives way either as a result of injury or from disease, gangrene of the leg is almost certain to follow unless the torn ends of the vessel be ligatured; the gangrene occurs partly because of the interference with the entrance of blood into the limb and partly because of the pressure of the effused blood on the femoral vein interfering with the return of the blood from the limb. In operating the external iliac artery is difficult to control and there is no better method of preventing hæmorrhage than the making of a "boutonnière" as described by Mr. Brown, so that digital pressure may be exerted directly on to the vessel.

A man, aged 33 years, was kicked by a horse in the left groin on Nov. 7th, 1899, two hours before he was taken to the Leeds General Infirmary. On admission there was a large swelling of the size of a cocoanut completely filling Scarpa's triangle and extending upwards over Poupart's ligament for about an inch. The skin over the tumour was tense and of a dark purple colour and appeared to be on the point of giving way. There was no pulsation to be felt. The limb was cold. The posterior tibial artery could not be detected. The patient was suffering great agony. As it seemed likely that unless active measures were speedily adopted the tumour would give way the patient was put under ether within half an hour of his admission. As it was not possible to apply a tourniquet owing to the position of the swelling an incision was made parallel to Poupart's ligament and about two inches above and the tissues were divided down to the peritoneum.

On introducing the finger the external iliac artery could be felt as a solid cylinder. Having obtained control of possible bleeding in this way an incision five inches long was next made through the skin over the swelling, revealing a large quantity of extravasated blood. This was rapidly removed and the cavity was thoroughly washed out with hot boric lotion. The pressure on the iliac artery was then relaxed and at the bottom of the wound a circular clot appeared, rendering the position of the torn artery clearly visible. There was also hæmorrhage from the distal end; this was also a serviceable guide, as the vessel had been completely severed and the ends were separated by an interval of about one and a half inches. The opened ends were ligatured by silk and the wounds were closed and dressed in the ordinary way.

The subsequent history was uneventful save that a week after the operation there was an elevation of the temperature with pain in the left side and rusty sputum. There was dulness over the lower third of the left chest; this gradually cleared up. The man was now again at work. The pulsation re-appeared in the posterior tibial artery a month after the operation.

Remarks by Mr. BROWN.—The foregoing case is, I think, worth noting for these reasons: (1) the fact that it is possible to have complete rupture of the femoral artery from such an injury and the vein to escape; (2) the method adopted to control the hæmorrhage; and (3) the importance of the earliest possible interference in like cases. Had the swelling given way before the operation the patient would have been exposed to the almost certain infection of the wound, which would have greatly added to the risk of his life even if he had escaped death from hæmorrhage.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Discussion on the Forms and Significance of Proteids in the Urine.

A MEETING of this society was held on Feb. 20th, Mr. PEARCE GOULD, Acting President, being in the chair.

Professor W. D. HALLIBURTON opened a discussion on the Forms and Significance of the Proteids in the Urine. He commenced by expressing regret that one with more clinical experience had not been selected for the position. He saw, however, the advantage of debates of this kind in which pathologists of the laboratory could compare notes with those of the bedside; coöperation of this kind was most useful in combating the disadvantage of over-specialisation. He further regretted that he had nothing startling or even new to bring before the society, but he hoped that his remarks might lead to something valuable being brought out by others. Their knowledge concerning the proteids was still most imperfect, but every year saw some progress made. They were substances of great molecular weight, and the large size of the molecules doubtless explained why in normal circumstances they were not able to pierce the barriers of renal epithelium except in the minutest traces. The proteid matter, however, of normal urine was chiefly contained in the nubecula. Still, Mörner had shown that there was a trace of serum albumin even in normal urine. Serum albumin was also most abundant in the so-called physiological albuminuria, the causes of which were briefly alluded to. But in Bright's disease serum albumin was usually mixed with serum globulin, as Senator originally showed. The proportion in which these two proteids occurred still required to be more thoroughly worked out. But as a rule (to which there were occasional exceptions) the globulin was less abundant and the presence of much globulin was generally a serious condition. Some evidence was adduced to show that the molecules of globulin were larger than those of albumin, so the abundance of the latter could be accounted for on physical grounds. It was only after the renal epithelial cells were greatly damaged that globulin could make its way through them. Some exceptional conditions, such as Byrom Bramwell and Noël Paton's case of crystalline globulin in the urine, and cases of fibrinuria were mentioned. The fibrinogen molecule was probably still larger than that of serum globulin, hence its comparative rarity in the urine. A similar explanation would explain the fact why caseinogen of milk had never been found in cases where lactose was discoverable. Passing rapidly in review other and rarer urinary proteids Professor Halliburton dwelt next more especially on those with small molecules and distinguished between peptonuria and albumosuria. The former term should be restricted to those morbid conditions, usually of suppurative nature, in which bacterial digestion led to the formation of proteolytic products which were mainly cast out from the body by the kidneys. The substance most however, true peptone in Kühne's sense, but deutero proteose. The term "albumosuria" was usually restricted to those rare cases in which, owing to osteomalacia and certain other bone diseases, the form of albumose that passed into the urine was hetero albumose. Only a few such cases had been fully recorded hitherto, and though there were small differences between the various cases they on the whole agreed fairly well with the description originally given by Bence Jones.

Dr. T. R. **BRADSHAW** (Liverpool) read a paper on the Forms and Significance of the Proteids found in the Urine in Myelopathic Albumosuria, a condition of which 11 authentic instances had hitherto been recorded. One example of the disease had been under his observation. The patient was a man aged 70 years. The illness had apparently commenced about a year before he died. There was extensive disease of the bones; but the most notable feature of the case was the voiding of milky urine. This was due to the presence of a proteid substance which was frequently precipitated spontaneously so that the urine presented an opaque white colour when it was passed. The most characteristic reactions given by this urine were the formation of a precipitate below 60° C. and precipitation by nitric acid and hydrochloric acid in the cold, all the precipitates being more or less soluble on boiling. The heat precipitate was entirely dissolved, without apparently undergoing any change in its nature, by a solution of caustic soda (1 per 1000). Careful analyses seemed to show that the proteid present was all of one kind, at least that if any other was present it was only in traces. As regards its nature, its reaction with nitric acid showed that it was an albumose, but it was doubtful whether it could be identified with any of the albumoses known to physiological chemistry. The balance of evidence pointed to its being an albumose of a peculiar kind which had not been found in any other conditions. Clinical experience showed that its appearance in the urine was the earliest available indication of an affection of the bones of the trunk, which, as far as their experience went, always proved fatal. Dr. Bradshaw demonstrated the characters and reactions of the urine and exhibited micro- and macro-scopic specimens taken from the case.

Dr. **ROBERT HUTCHISON** described a Peculiar Proteid found in the Urine of a man who subsequently died from multiple myeloid sarcoma. The proteid differed from the body first described by Bence Jones in these cases in being an albumin and not an albumose. But it also differed from all other albumins in having a very low coagulation point (58° C.), in being very readily denaturalised, and only slowly precipitated by acetic acid and ferro-cyanide of potash. Otherwise it gave all the reactions common to albumins. It contained no phosphorus and was not precipitated by ammonia, and was therefore not a nucleo-proteid. No chemical examination of the tumours could be made, but the case was undoubtedly one of multiple myeloid sarcoma, as verified by the necropsy, the neoplasm consisting of a large round-celled sarcoma. The urine presented no visible deposit; it was clear, of low specific gravity, and slightly alkaline.

Dr. F. W. **PAVY** remarked that he did not think albumin in any form could be found in healthy urine and they could not properly speak of physiological albuminuria though functional albuminuria might occur. On the other hand, as regards sugar that was a very different matter. This was a much more diffusible substance and the molecule very much smaller. He believed that the action of the kidneys as regards proteids might be likened to filtrative or osmotic processes, the activity of these processes depended on the amount of pressure and the size of the molecules. If the normal pressure in the renal vessels were slightly increased then albumin passed into the urine. He thought that perfectly healthy urine was not devoid of a certain kind of proteid—viz., nucleo-albumin or mucin—but only in small quantity, not sufficient to be detected by ordinary tests. These were thrown out from the surface of the urinary tract. This nucleo-albumin was the great rock on which observers split. But as regards the other proteids they appeared in urine as the result of diffusion. In peptonuria and albumosuria the proteids consisted of larger molecules. These were synthesised, but peptone and albumose appeared in urine as a result of the laws of osmosis. In general terms albumin was not a grave sign, as might be judged from the fact that in the most lethal of the renal affections (granular kidney) albumin might be altogether absent. He thought the circumstance that serum albumin was larger in quantity than serum globulin was quite accounted for by the fact that the former was more diffusible. Dr. Pavy then referred to the observations he had made on a man named Weston who walked at the Agricultural Hall 100 miles in 24 hours. At the end of 24 hours his urine was loaded with albumin and with casts. The dependence of proteids in the urine on the vascular condition of the kidneys was well exemplified by cyclic albuminuria. In this condition in the morning there was no albumin; after breakfast and when going about the albumin appeared. It was absent usually at night. This condition of matters went on all the year round. Such subjects were of a very "mobile" nature. Their vessels were easily influenced. The renal vessels were subjected to additional pressure when a person assumed the vertical posture. Dr. Coupland had noticed that a patient of his had albuminuria whenever she got up—i.e., during the morning—but it disappeared when the patient went to bed in the afternoon. He (Dr. Pavy) submitted that this was due to the altered state of pressure in the vessels of the kidney. No one had shown that the proportion between the serum albumin or serum globulin was a matter of any clinical or pathological significance. Moreover, the total amount of albumin was of no very great importance. The important data consisted of the presence of casts and the amount of urine passed; these were the measure of the gravity of a case.

The discussion was adjourned to the first meeting in April.

HARVEIAN SOCIETY OF LONDON.

The Feeding of Infants with Modified Milk.

A MEETING of this society was held on Feb. 15th, Dr. W. H. **LAMB** being in the chair.

Dr. G. F. **BLACKER** communicated some remarks upon the Feeding of Premature or Delicate Infants with Modified Milk. The majority of delicate infants throve best if fed upon the breast, and where the child could not be put to the breast directly the milk should be drawn off and given in a bottle. In premature delivery the breast milk retained its colostral properties longer than normal, often disagreeing with premature children, and for the majority of such children cows' milk was a suitable substitute when diluted. Any of the cream mixtures in common use would do quite well. In cases where cows' milk caused marked gastric disturbance modified milk or the method of ordering a mixture of cows' milk of varying composition according to the individual needs of the particular child would seem to be a distinct advance in the scientific feeding of young infants. The chief difference in the composition of cows' milk or human milk was in the relative percentage of the proteids and the fats. The modification of the strength of cows' milk to any degree was an easy matter. The mixtures of cows' milk and water given to infants were markedly deficient in fat. Modified milk contained a cream of stable composition and the amount of fat could be accurately regulated. Modified milk had the advantage in that it was made up with milk sugar and not with cane sugar. Milk laboratories for the preparation of modified milk were quite recent institutions in this country. The milk, carefully selected, was filtered and cooled to 40° F. The whole milk was then treated in a centrifugal separator, by which not only all the cream but also any dirt or foreign particles were separated out. The percentages of proteids and sugar varied little in selected milk, but the percentage of fat varied from day to day When the percentage of fat had been estimated in each day's milk-supply the milk was ready to be combined in the modifying-room according to the prescription sent in. The materials used were cream with 16 per cent. of fat, separated milk, a 20 per cent. solution of milk sugar, and lime-water. The food was put up in tubes each containing the amount required for one feed with a plug of sterile cotton-wool The tubes were then heated to 167° F. and then cooled to 38° F. In writing a prescription for modified milk it was best to order a small percentage of proteid to begin with and gradually increase the amount. The advantages of modified milk were that the exact composition was known, that the milk only required warming before being given, that no cleansing of the bottles was required, and that there was not that daily variation noted which was observed in ordinary cows' milk. The disadvantages of modified milk were that it entailed an increase of trouble to the medical attendant. Pasteurised or sterilised milk administered for long periods of time was apt to lead to the production of low forms of malnutrition, while the milk was only applicable to a certain class owing to the cost. Dr. Blacker concluded by stating that he considered that modified milk was under certain conditions undoubtedly of great service in the feeding of delicate infants, and he now ordered it in cases where it was not possible to get a suitable milk-and-cream mixture made at home, and where otherwise condensed milk or asses' milk would have to be used, or a wet nurse obtained.

Dr. R. BOXALL remarked on the difficulty and expense obtaining modified milk except in large centres. If their milk supply were regulated as, for instance, he had observed in the Eifel district of Germany, where a well-ordered public milk establishment was to be found in every village and hamlet, even among the poorest, modified milk could be readily obtained anywhere.

Dr. A. P. LUFF stated that in his opinion the method of preparing the milk described by Dr. Blacker was not without its possible drawbacks, in that the important anti-scorbutic elements of the milk might possibly be altered by the treatment employed. Although it was extremely desirable that the milk should be free from tubercle bacilli yet there were many beneficent bacteria which it was necessary for the health of the child should remain intact in the milk.

Dr. E. CAUTLEY and Dr. G. A. SUTHERLAND also discussed the paper.

Mr. FRANCIS JAFFREY read a paper on a case of Suppression of Urine of 60 hours' duration treated by operation which we hope to publish in an early issue.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

Exhibition of Cases, &c.

THE fifth meeting of this society for the present session was held in the Royal Infirmary, Newcastle-on-Tyne, on Feb. 8th, Mr. A. E MORISON, the Vice-President, being in the chair.

Mr. RUTHERFORD MORISON brought forward three patients operated upon for Abscess in connexion with the Appendix, illustrating points which he wished to raise. The first of the patients, a boy, was seen on the ninth day of his illness, without temperature but with a tender swelling in the right iliac fossa On operation an abscess was found containing an ounce of pus on the inner side of the cæcum. The appendix was perforated and a loose stercorolith was lying in the abscess cavity. The presence of pus, Mr. Morison said, was an undoubted indication for operation, but in certain cases it was difficult to diagnose. If after the fourth day there was a tender mass the patient was the subject of appendicular abscess and therefore operation should not be delayed. The second patient, a boy, had had four previous attacks and on the fifth occasion he was seen to be seriously ill with doubtful diffuse septic peritonitis. In this case the abscess was simply incised and six months later the development of a similar illness occurred with a localised abscess which this time burst into the cæcum. On the seventh attack operation was undertaken before rupture with removal of the appendix. Mr. Morison strongly advocated removal of the appendix in suppurative cases. He had operated in six cases lately in which after simple incision attacks had recurred In the case of the third patient, a girl, a hole was found upon operation communicating with the cæcum. Bursting of the abscess, then, was a not uncommon occurrence and might terminate in recovery without operation, but operation, by determining the direction of the evacuation of the pus, undoubtedly gave the best chance. Mr. Morison laid stress upon the following points (1) the diagnosis of pus was largely determined by the presence of a tender mass; (2) even in the presence of an abscess the appendix should be removed, otherwise attacks might occur; and (3) such abscesses by bursting into the cæcum might terminate in cure—which was a result, however, neither to be waited for nor relied upon. Mr. Morison then showed a series of diagrams illustrating the various positions in which appendicular abscess might occur, and the anatomical positions taken by the vermiform appendix —Dr. J CLAY, Dr. BEATTIE, and Dr JAMES DRUMMOND took part in the subsequent discussion

Dr. ALBERT M MARTIN showed a child, aged 11 weeks, who was born after a somewhat severe and tedious labour and at birth did not recover for 15 minutes Since birth the present condition had developed. The arms were rotated in at the shoulders, the forearms were markedly supinated, rigidity being very evident, and the legs showed slight rigidity with exaltation of reflexes. There was no muscular wasting and no facial palsy. Dr. Martin took the view that the lesion was a hæmorrhage into the motor cortex and that this had probably resulted from asphyxia at birth. The treatment of the case was discussed and also its prognosis. Dr. Martin mentioned that these cases improved up to a certain point as the patient grew older, the legs, as in this case, showing earlier and more complete improvement than the arms.

Dr. MARTIN also brought forward a child, aged six months, who had had a Circumscribed Fluctuating Mass in the Right Side of the Neck since birth. It was no doubt a dermoid in connexion with the second bronchial cleft.

Dr. G. H. HUME showed a woman, 51 years of age, who three years ago developed stomach symptoms, with a Moveable Nodular Growth in the Situation of the Pylorus. Eighteen months after pylorectomy with removal of the glands a small nodule of doubtful character was noticed in the skin cicatrix. This did not quickly increase in size, and one year later at a second operation a hard malignant nodule in the margin of the liver to the left of the gall-bladder was removed after the application of an elastic ligature, the stump being treated extra-peritoneally. The patient made a good recovery, the wound having almost healed.

Dr. HUME also showed two men who had had symptoms of Dilatation of the Stomach for many years and after pyloroplasty had rapidly improved in their general condition, increase in weight being a prominent feature. Dr. Hume advocated the exploration of doubtful stomach cases, and emphasised the expediency in these cases of early operation.

Dr. T. OLIVER showed a man, aged 49 years, who had had a severe attack of Influenza five years ago which prevented him from working for six months. He had never been well since, and two years ago his present symptoms developed and had subsequently increased. He now displayed marked weakness and atrophy of the deltoids and of the muscles of the upper arms and chest and weakness of the legs with extensive fibrillation, together with increased reflexes. Along with this condition there was paralysis and atrophy of the tongue and of the orbicularis oris.

Dr. OLIVER also showed a drawing and specimen of a Pedunculated Tumour of the Labium which had been successfully removed.

Mr. WATSON showed a photograph of an unusual example of Hare Lip with Cleft extending into the Nose from the non-development of the fronto-nasal process.

LIVERPOOL MEDICAL INSTITUTION.

PATHOLOGICAL AND MICROSCOPICAL SECTION.

Spinal Descending Degeneration.—Ascending Tracts in the Spinal Cord —Parasite of Cancer.—Exhibition of Specimens.

A MEETING of the above section was held on Feb. 15th, Dr. J. HILL ABRAM being in the chair.

Professor SHERRINGTON and Dr. LASLETT exhibited specimens from the Spinal Descending Degeneration produced in a dog by a semi-transverse section through the spinal cord performed at the region of the fourth lumbar nerve. The degeneration was practically confined to the half of the spinal cord on which the lesion had been made. The specimens had been prepared by the "Marchi" method. There were numbers of descending degenerate fibres in the ventral as well as in the lateral column of the cord.

Dr. WARRINGTON read a note describing an investigation carried out conjointly with Dr. Laslett on Ascending Tracts in the Spinal Cord of the Human Being. Two separate tracts were demonstrated and their course traced to the cerebellum.

Mr. KEITH MONSARRAT read a paper on the Parasite of Cancer. He had isolated an organism from carcinoma and had grown it upon various media, obtaining cultures from which inoculations had been made into the peritoneal cavity of guinea-pigs with the result that they developed new growths on the peritoneum and secondary growths in the internal organs. In these growths the parasitic organism was found in abundance and a further series of cultures were made. He stated that although the parasitic origin of cancer was far from proved, it was nevertheless a good working hypothesis. The explanation of the uniformity of primary and secondary growths he considered was to be found in the intra-cellular migration of the parasite, so that the cancer cells carried within them to the new nidus the stimulus to their own multiplication and the cell type in this way remained the same. A description was then given of the parasites as observed in carcinomata, the considerable diversity of form being shown by micro-photographs, and a selective method of staining was described which had demonstrated several new points in their morphology. A comparison of the isolated organism and the "cancer-bodies" showed that morphologically they appeared to be identical, accounting for varieties of form in each. The investigation had been assisted by a grant from the British Medical Association. The paper was profusely illustrated by means of microscopic specimens, photo-micrographic transparencies, and coloured lantern slides.—Mr. F. T. PAUL, whilst admitting the presence of the bodies described, maintained that proof was still entirely wanting that they were the cause of cancer.—Professor BOYCE, Professor SHERRINGTON, Sir WILLIAM M. BANKS, and others also took part in the discussion.

The following specimens were shown:—

Mr. F. T. PAUL: Malignant Tumours of the Parotid Gland.

Mr. RUSHTON PARKER: (1) Stomach after Gastrostomy; (2) Pelvic Contents from a case of Obstruction of the Rectum; and (3) Odontoid Process of the Second Vertebra Detached and Bare from periostitis and caries.

Mr. KEITH MONSARRAT: Urethro-vesical Calculus.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.—The January meeting of this society, Dr. C. E. Beevor being in the chair, was devoted to a discussion on Syphilis.—Mr. Albert Ehrmann showed a typical case of Primary Syphilis in a young man. The sore was on the prepuce. A macular eruption was just visible on the skin of the abdomen eight to nine weeks from the date of infection. Commenting upon the case Mr. Ehrmann said that in the treatment of syphilis by inunction as carried out at Aix-la-Chapelle the skin was usually considered to be in a fit condition for the absorption of mercury on the third or fourth day after the arrival of the patient. The dose used at first was from two grammes to three grammes daily, and this might be increased to four grammes or five grammes if the process was well borne. The latter dose was only increased in exceptional circumstances. The parts of the body where the mercurial ointment must be rubbed in from day to day were five in number. The two legs were treated on the first day, the two thighs on the second day, the chest and the abdomen on the third day, the back on the fourth day, and both arms on the fifth day. The nipples, the navel, and very hairy parts of the body were to be carefully avoided, for in these acne and eczema were easily induced by the rubbings. A great deal was said to depend upon the mode of rubbing. The rubbers were trained in making the inunctions with both hands with the proper force and for the proper length of time. The inunctions were made for the most part with the unguentum hydrargyri cinereum. The morning was considered the most favourable time for anointing, but not immediately after the bath, since the skin was then moist and the pores were filled with water and were not adapted for absorption. It was not advisable to perform inunction at bedtime, for perspiration was increased in bed and many patients became restless and could not sleep after the inunctions. Every day the patient took a half hour's bath at a temperature of 96·5° F., in which he removed the remaining portions of mercurial ointment, and every morning he drank from two to five glasses of thermal water. In many cases, about from the fifteenth to the twentieth inunction, a period arrived at which there was a diminution in the powers of absorption of the skin. After the twentieth day of treatment a steam bath of from 10 to 15 minutes' duration was taken on alternate days or on every third day. After the steam bath an ordinary bath was taken for 10 minutes, followed by a cold douche to prevent chilling. With regard to the manner in which the mercury entered the system Wings thought that there was a direct transit of mercurial vapour, while Fürbringer said that there was a chemical change in the metal deposited in the skin by combination with the secretions of the skin. Wings found that the quantity of mercury volatilised in the skin and penetrating through that tissue in 24 hours was equivalent to the usual dose of perchloride of mercury used in intramuscular injections. The real effect of the thermal sulphurous waters in aiding specific remedies in syphilis was due partly to the beneficial effect of the spa treatment on general nutrition and in part to their direct action on the skin. Neisser said that during the inunction treatment the baths washed away some of the mercury which would otherwise be absorbed and the sulphurous baths converted some of the mercury into the inactive sulphide. He suggested that sulphurous waters might help to ward off mercurial enteritis and that even common salt waters might be of use by their action of favouring metabolic processes generally, and also those undergone by the mercury in its "passage through the system." In the treatment of the later stages of syphilis, while the value of iodide of potassium was recognised the leading rôle was still given to mercury. This drug had apparently the real curative effect, while the former, by causing the rapid disappearance of symptoms, might induce a feeling of false security in many cases.—Dr. A. Whitfield, in discussing the treatment of syphilis in the earlier periods, referred to the question as to when mercurial treatment should be first instituted. He said that he should be inclined to give mercury directly he was certain of his diagnosis, and he gave as the points upon which he would rely the cartilaginous consistency of the sore, thickening and induration of the dorsal lymphatics of the penis, elastic and painless swelling of the glands in the groins, and, if all these were not pronounced, general adenitis. In those cases in which such a chain of symptoms was not well marked he would prefer to wait for the early rash before committing his patient to a long course of mercury. He believed that the question at issue between those who liked to wait for the development of rash before instituting treatment and those who began treatment at once was not of serious importance. In Germany and Austria the waiting plan was almost universal, and the results did not seem to be inferior to those in this country. As regards the preparation of mercury which he preferred, he might say that he was in the habit of always using grey powder in small doses (one grain) two or three times a day. It was a good plan also to prescribe a gargle of chlorate of potash for use as a mouth-wash in every case. This acted more or less as a prophylactic against stomatitis. In some cases he gave iodide of potassium quite early in the disease, usually merely to relieve symptoms, such as severe headache, osteocopic pains or joint pains, or if the throat condition was severe and appeared aggravated by mercury. In such cases it was as well to cut off the mercury and to use iodide and local gargles until the throat was well, when the mercury should be recommenced. In late syphilis of the skin he relied to a greater extent on local remedies, but he always gave mercury internally, whether with iodide or not, as he believed that relapses were less common with such treatment. He called attention to a form of treatment for cachectic and malignant cases which was seldom used in this country—viz., Zittmann's decoction. The method was extremely full of detail as to diet, temperature of room, &c., but the results were such as to justify the trouble taken. The medicinal treatment consisted mostly of a mixture of alum, senna, and sarsaparilla with minute quantities of calomel. Dr. Whitfield showed two cases illustrative of late syphilis and irritation. Case 1 was that of a woman with a history of syphilis five years before who was now suffering from two patches of grouped papules below the left patella, the more marked of the two being situated just where kneeling would irritate the skin. It was pointed out how like this form of eruption was to lupus, but the superior hardness and the more rapid formation of the syphilide cleared up the diagnosis. Case 2 was that of a man with a subcutaneous gumma which had formed just where a strap which he wore on his arm chafed him. His original attack dated apparently from more than three years before but he was not clear as to his history.—Dr. W. H. Day, who advised circumcision for Mr. Ehrmann's patient, Dr. G. F. Blacker, Mr. H. S. Elworthy, and Mr. Mower White also took part in the discussion.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.—The first ordinary meeting of this society was held on Feb. 5th, at Chandos-street, Cavendish-square, Sir William Dalby, the President, being in the chair. After lamenting the death of Dr. Charles Delstanche of Brussels the

President gave an inaugural address, which was published in THE LANCET of Feb. 10th.—Dr. Urban Pritchard then read a paper on Antiseptic Purification of the Meatus and Adjacent Parts, both for Operation and as a Treatment of Chronic Middle-Ear Suppuration. It was pointed out that antiseptics could be applied to the meatus and intact membrane in the same way as in other parts of the body with similar results, and also that an initial thorough purification of the middle ear and meatus followed by careful packing with double cyanide gauze was an excellent method of treating certain cases of chronic middle-ear suppuration.—A discussion followed in which the President, Mr. A. E. Cumberbatch, Dr. A. Bronner, Dr. Milligan, Dr. Macnaughton Jones, and Mr. Arthur Cheatle took part.—Dr. Milligan read the notes of a case of Cerebellar Abscess which he had recently operated upon. The intracranial lesion followed an attack of acute middle-ear suppuration of only a few weeks' duration. During the first operation sudden paralysis of the respiratory centre intervened necessitating the evacuation of the abscess being performed while artificial respiration was kept up. A month later it was found necessary again to explore the cerebellum when another abscess was found and drained, but although the patient rallied from the operation death occurred. At the post-mortem examination no macroscopical connexion between the ear and cerebellar lesion could be found.—Mr. Ballance, in discussing the case, suggested that the abscess had no connexion with the middle-ear trouble and cited some cases of the late Dr. Bristow in which abscesses in various parts of the brain were attributed to influenza. He had operated on three cases of cerebellar abscess during artificial respiration. He found that the best organ for exploring the brain was the finger and drew attention to a thin oyster shaped abscess which was occasionally present immediately underneath the tentorium and of which he had seen three instances.—Dr. Urban Pritchard showed a patient from whom a large Cholesteatomatous Mass had been removed through the Meatus. The disease had completely hollowed out the antrum and mastoid process and by eroding the posterior meatal wall had laid these cavities open into the meatus.—Dr. Dundas Grant showed a case of Thrombo-phlebitis of the Lateral Sinus treated by operation without ligature of the internal jugular vein, with recovery. When the sinus was laid open it was found that the septic contents were bounded above and below by healthy-looking clot.—Dr. Herbert Tilley showed: 1. A large mass of Cholesteatoma removed from a boy, aged 14 years. The middle-ear, antrum, attic, mastoid process, and meatus were converted into one cavity by the disease. 2. A mass of Cholesteatoma which was removed through the meatus, the removal practically curing a distressing cough from which the patient had been suffering.—Mr. L A. Lawrence showed an elderly woman with a Papillomatous Growth growing from the Meatal Wall. The microscopical section was shown.—Mr. Arthur Cheatle showed (1) a woman, aged 28 years, in whom he had removed a large part of the Auricle and the whole of the Meatus for an Adeno-carcinomatous Growth, which started in the posterior cartilaginous meatal wall. The operation had been performed one year and three months previously and there had not been any recurrence since; as the meatus could not be kept open, and as chronic middle-ear suppuration existed, the complete post aural operation had also been performed, and a permanent opening behind the remains of the auricle established. The specimen and microscopical section were also shown. 2. A boy, aged 14 years, who had recovered from septic thrombosis of the lateral sinus without ligature of the internal jugular vein. The septic contents were limited above and below by healthy clot.—Dr. Ernest Waggett showed a case of Sequestration of the Cochlea in a case of cured Cerebellar Abscess. Since the description of the case at the last meeting of the British Medical Association a portion of the cochlea had come away. The specimen was also shown.—The discussion on the cases shown by Dr. Dundas Grant, Dr. Waggett, and Mr. Arthur Cheatle was adjourned until the next meeting on March 5th.

WEST PENWITH (CORNWALL) MEDICAL SOCIETY.—A meeting of this society was held at Penzance on Feb. 14th, Mr. W. S. Bennett, the Vice-President, being in the chair. Two new members were elected.—Dr. F. Chown read a paper on Some Points in the Prevention and Treatment of Diphtheria. Dr Chown advocated the determination of quarantine in each case by bacteriological tests, facilities for which should be supplied by sanitary authorities. For treatment thorough local antisepsis was demanded. Antitoxin he had not found of much value. In paralytic cases strychnine (subcutaneously if necessary, especially where cardiac dilatation supervened) and naso-pharyngeal or rectal feeding were most useful. In laryngeal cases the old ipecacuanha treatment with steam tent was generally good. Small doses of chloral were called for if much spasm of the glottis existed. A consensus of opinion declared in favour of the power of antitoxin in loosening the membrane. Epigastric retraction, which might, however, be exaggerated in rickety children, and cyanosis, which was a symptom of unmistakeable significance, were indications of the need of operative interference. Tracheotomy was preferred to intubation, as it was more easily performed, as the tube was more constantly retained, and as greater facility was given for the mechanical detachment of membrane. A useful point of technique for the inexperienced operator was the tearing of the parts with two pairs of spring dressing forceps after the skin and fat had been cut through.—Dr. H. M. Montgomerie showed a young Albino Girl and contributed notes on three cases of Cerebral Embolism: (1) a female, aged 59 years; (2) a female, aged 29 years; and (3) a male, aged 36 years. In the first case there was profound coma, gradually disappearing; in the second case there was semi coma passing off in a few days; and in the third case no mental disturbance was perceptible. In all three cases there was complete right hemiplegia for a time. In Case 1 there were complete anæsthesia and total aphasia. On the fifteenth day slight power recurred in the right foot; this power and sensation gradually increased. Eighteen days later "yes" and "no" could be indistinctly uttered. Motor aphasia with word-blindness and word-deafness, for a time complete, were very slowly recovered from. There was also for a time complete loss of bladder control. The patient was a subject of chronic bronchitis with mitral heart. In Case 2 the patient was hemiplegic. He had epileptic attacks at long intervals for some years and eight years before the hemiplegic attack had acute rheumatism, leaving aortic stenosis. Anæsthesia was partial and aphasia was considerable; there was marked word-deafness with word-blindness. Bladder control was unimpaired. In Case 3, though the hemiplegia was at first complete, slight movement in the right foot returned within 24 hours and slight movement in the right arm on the following day. On the fifth day the thumb and index finger could be for the first time a little moved. Sensation was very little dulled and there was for the first day or two a slightly perceptible slurring of speech. There was never the least sign of want of control over the bladder. In this case there was a history of pulmonary catarrh with slight hæmoptysis. Case 1 occurred eight months ago, Case 2 11 days ago, and Case 3 in November, 1895. All the patients were still alive.—After a short discussion on the papers the members of the society present dined together.

IPSWICH CLINICAL SOCIETY.—The annual meeting of this society was held on Feb. 8th at the East Suffolk and Ipswich Hospital Mr. Hoyland, being in the chair.—Mr. C. K. Moseley was elected President for the ensuing year and Mr. Walter Sinclair was re-elected honorary secretary. The following were elected members of the Council: Mr. R. W. Brogden, Dr. H. H. Brown, Mr. J. F. C. Hossack, Mr. S. S. Hoyland, Mr. J. R. Staddon, and Dr. F. Warner.—Mr. Walter Sinclair showed (1) a case of Interstitial Keratitis, and (2) a case of Lamellar Cataract, with remarks on the cause and the treatment of these conditions.—Mr. R. W. Brogden showed a man with Peculiar Nervous Symptoms. The patient walked with his feet wide apart and dragged each leg slightly. When asked to stand with his feet together and his eyes closed, he staggered backwards with a succession of short steps on his heels. On attempting to carry a glass of water to his mouth his hand trembled markedly, and at times, when standing, his legs trembled so violently that the whole ward was shaken. The knee-jerks seemed somewhat exaggerated, but varied. There were no clonus, no pupil symptoms, and no ophthalmoscopic abnormality. The patient referred his condition to an injury to the spine. Most of those present agreed with Mr. Brogden's opinion that the patient was probably a malingerer.—Mr. Wynne Davies showed a well-marked case of Ichthyosis in a child. No history could be be obtained. The skin disease was recovering rapidly under salicylate ointment, and thyroid extract given internally.—Mr. C. K. Moseley referred to the frequency with which a history of "maternal impression" was given in these cases.—Dr. H. H. Brown showed a Tumour weighing five pounds which was removed by Mr. Dean. It was a myoma taking its origin from the cervix and growing between the layers of the broad ligament. It caused almost no symptoms and the patient was doing well.—Dr. Brown also showed an Apparatus which he had devised for treating Dislocation of the Acromial End of the Clavicle. Such dislocations were easy to reduce, but it was notoriously difficult to keep the bones in position. His apparatus had given an excellent result in the case for which it was devised.

Glasgow Pathological and Clinical Society.—The fifth meeting of this society was held on Feb. 12th, Dr. Thomas Barr, the President, being in the chair.—Dr. T. K. Dalziel showed:—1. A series of seven cases of Gall-stones removed from the Bile Ducts. 2. Two patients, mother and daughter, on whom he had operated several times for Sarcoma with Recurrence. The mother had a sarcoma of the left lacrymal gland removed in 1892. At intervals of 12 months the following parts became affected and were successively removed: (*a*) the floor of the orbit, the eyeball, and the lower lid; (*b*) the cheek down to near the margin of the upper lip; (*c*) nodule at the angle of the jaw; and (*d*) a mass over and involving the mastoid process. Seven months later the superior maxilla was excised, followed in eight months by the pterygoid process, the soft palate, and the lateral wall of the pharynx. The daughter had the right lower jaw excised with a mass of lymphatic glands, and six months later an enlarged gland was removed from the region of the cicatrix. All of these tumours presented the characters of round-celled sarcoma. 3. A Calculus from a Male Bladder with Nucleus formed of a piece of Indiarubber Tube of an Infant's Feeding-Bottle.—Professor Muir exhibited the Kidneys from a case of Diabetes. The organs showed extensive infection by staphylococci—Dr. D. N. Knox showed a Piece of the Jejunum Obstructed by a Large Gall-stone.—Dr. Ebenezer Duncan showed (1) a Calcification of the Pericardium; (2) a specimen of Mitral Stenosis; and (3) a Carcinomatous Tumour at the Root of the Left Lung pressing on the Bronchus and on the Œsophagus.

Manchester Medical Society.—A meeting of this society was held on Feb. 7th, Dr. T. C. Railton, the President, being in the chair.—The President delivered his presidential address on Infant Mortality and dealt with the increasing mortality among young children in large towns from diarrhœa and dietetic diseases. The necessity for the centralisation of the milk-supplies in large establishments, where pasteurising and humanising milk could be carried out under scientific supervision before distribution to the retail milk dealers, was urged and the growing employment of proprietary foods was condemned. He advocated a much wider intervention on the part of the profession in public affairs, especially in institutions having an influence upon child life, and suggested the more frequent delivery of popular lectures for the education of the public as to the proper methods of bringing up children.—Dr. W. E. Fothergill communicated a paper on the Results of the Administration of Salol and of Petroleum in Infantile Diarrhœa. The cases were observed by Dr. John Penny and himself at the Chorlton Dispensary during the summer of 1899. In 35 cases salol was used. Two children died, six did not recover until other drugs were used, while the remaining 27 cases recovered rapidly and completely under the influence of salol alone. An emulsion containing 33 3 per cent. of petroleum was given in 32 cases. One child died, two recovered slowly after the exhibition of other drugs, and the remaining 29 cases ended quickly and favourably after treatment by petroleum alone.

Oxford Medical Society.—The fourth meeting of the session was held on Feb. 9th, in the Anatomical Theatre, when Dr. Ramsden read a paper on the Clinical Value of Blood Examinations, illustrated by diagrams and microscopic specimens. After urging the importance of this subject he proceeded to describe what seemed to him to be the best methods and gave a number of instances where such examinations had proved practically useful. The significance of the various leucocytes, normal and abnormal, and of the alterations in their quantitative relations were discussed, and it was maintained that, whether for diagnosis or prognosis, the blood often gave indications of considerable value. For blood-films Jenner's method of staining was strongly recommended as the simplest and most satisfactory yet devised and as quite sufficient for all clinical purposes. Dr. George Oliver's hæmoglobinometer was the most accurate, but Sir William Gowers's instrument was sufficiently so if precautions were taken to employ a correct standard, and if the true reading was taken as the mean of the dilution which was just insufficient and of that which was just too much. Estimations of fibrin were of little practical value, as the methods used were open to serious objection. Nucleated red blood corpuscles were specially apt to appear in the general circulation in Bright's disease. Their absence together with the absence of eosinophilous cells in cases of severe anæmia was a bad sign.

Æsculapian Society of London.—A meeting of this society was held on Feb. 16th, the Vice-President, Dr. B. G. Morison, being in the chair.—Mr. E. C. Hearne showed a young woman who in November, 1891, had Hyalitis, so that only the upper part of the fundus oculi was visible, and the patient's sight in the affected eye was reduced to perception of a hand at 50 centimetres. The defect had been increasing for a year and was thought to have been induced by a fall on the nose, after which an internal squint soon developed in the affected eye. In seven months the condition had not improved. In April, 1898, the vision of the affected eye was $\frac{6}{6}$ Jaeger 1.—Mr. E. C. Hearne also read notes of a case of Ptosis with Paresis of the External Rectus and a Dilated Sluggish Pupil in a fat man who had had syphilis three years previously. Under the administration of iodide of potassium (0·6 gramme three times a day) the ptosis and glycosuria, previously very marked, completely disappeared, but still left some external rectus paresis, though less.—Dr. C. G. Mack read notes of a case of a man, aged 41 years, who suffered from increasing intestinal colic with constipation. A median laparotomy was performed by Mr. A. H. Tabby who found the sigmoid flexure encircled by a malignant growth. Accordingly a lateral colotomy was carried out. The result was successful.

Southport Medical Society.—The usual monthly meeting of this society was held on Feb. 14th.—Dr. Robert Harris was elected to the office of President, the post being vacant through the death of Dr. H. H. Vernon. A vote of condolence with the wife and family of the late Dr. Vernon was unanimously passed.—Dr. J. C. Russel made a communication on the Spasmodic Structure of the Œsophagus, and he showed an Air Dilator which he had invented for the treatment of this condition and had found to prove very successful.—Mr. J. Forrester Wood showed a case of Compound Depressed Fracture of the Skull with trephining.—Dr. Stopford Taylor gave an interesting lantern lecture on various Skin Affections, with practical comments. About 60 lantern slides were shown and the demonstration was much appreciated by the members.

Pathological Society of Manchester.—A meeting of this society was held at Owens College on Feb. 4th, Mr. Thorburn, the President, being in the chair.—Dr. Nathan Raw opened a discussion on the Pathology of Pneumonia, with Special Reference to its Bacteriology. He reviewed at length the various theories which had been put forward and the supposed influence of chill in the causation of the disease. He said that the evidence was all in favour of pneumonia, being a specific disease due to a micro-organism, the diplococcus of Fränkel, and that the treatment of the future would be antitoxic.—A number of members took part in the prolonged and interesting discussion which followed and Dr. Raw exhibited a large number of specimens.—Other preparations were shown as card specimens.

Wigan Medical Society.—The annual general meeting of this society was held on Feb. 15th, when the following office-bearers for the ensuing year were unanimously elected:—President: Mr. R. H. Cowan. Committee: Mr. R. H. Cowan (President), Mr. Luther Cooke (ex-President), Mr. C. M. Brady, Mr. W. Mitchell Roocroft, Dr. J. Blair, Dr. M. Benson, Dr. R. P. White, and Mr. C. R. Graham. Honorary treasurer: Mr. E. H. Monks. Honorary secretary: Mr. W. Berry. The annual dinner followed.

Reviews and Notices of Books.

A Text book of Diseases of the Nose and Throat. By D. BRADEN KYLE, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College, &c. London: Rebman, Limited. Philadelphia, U.S.A.: W. B. Saunders. 1899. Pp. 646.

THIS is a well-bound and comprehensive book of over 600 pages. 340 pages are devoted to diseases of the nose and naso pharynx. This part of the subject is very full and elaborate and the classification adopted by the author is original. The book opens with a short chapter on the Anatomy and Physiology of the Nose, and we are glad to find that the author is brief on this part of the subject, which can be studied so abundantly elsewhere. The examination of cases of nasal disease is excellently described and Fig. 14 shows more accurately than is usual in works of this kind the appearances seen in the rhinoscopic mirror on posterior rhinoscopy. The author speaks highly of posterior illumination in diseases of the nose and figures several novel "atomizers" which he has found useful in his practice. He discusses the subject of nasal bacteria, but concludes that they play quite a secondary part in producing disease. This opinion is well expressed and is of some value. The classification of the varieties of rhinitis seems unduly elaborate and we venture to think that a clinical observer would have some difficulty in being able to differentiate the various affections of the mucous membrane of the nose pathologically described. So far as we can judge, this part of the book is free from speculative methods of treatment. In the treatment of atrophic rhinitis and ozæna the author dwells upon the methods and importance of methodical cleansing of the nasal cavities and does not advocate the use of the curette or operations upon the turbinals. Throughout the book an attempt is made to base diagnosis and treatment upon pathological alterations. In some places the descriptions are hardly clear and perhaps might not meet with general acceptance. On pages 51 and 52 we read as follows:—

> "Where the floor of the nose or superior maxillary bone is thin from deficient breathing in early childhood or other cause, the terminal nerve filaments going to the root of the tooth course superficially along the floor of the nose, and in cases of deflected septum, where the deflection is close to the floor of the nose, with redundant tissue, the inflammatory process injures the nerve roots and causes devitalised teeth, or may ulcerate and produce a sinus, discharging around the tooth, simulating *pyorrhœa alveolaris. I have observed a* number of such cases."

The classification of tumours and growths of the nose is founded on general principles. In our opinion the author hardly lays stress enough on the practical difficulties met with in cases of inveterate nasal polypi and especially the co-existence of necrosis and sinus suppuration. He opposes the after-treatment of removal of polypi by the galvanic cautery and caustics, in which he would not receive universal support. Many authorities in this country look upon the persevering use of the cautery or such applications as chromic acid as very essential in the permanent eradication of polypoid growths.

The diseases of the naso pharynx are well given. We think that the various modes of operating for adenoids might with advantage have been more fully given and the all important subject of the administration of anæsthetics in this and similar operations is, we consider, too shortly dismissed. A good account of the difficult subject of sinus suppurations is to be found in this book. Opening the sphenoidal cells by a sharp instrument guided by the rhinoscope must be a surgical proceeding to be performed by the very few. On the diagnosis of frontal sinus suppuration the author does not dwell upon catheterisation through the infundibulum as being of much value and trans illumination is at best a very poor guide. A short but useful chapter is introduced on Related Conditions of the Eye and Nose in Disease.

The section on Diseases of the Larynx is full and accurate. Separate chapters are devoted to Intubation and Tracheotomy. Professor Keen contributes a short article on Laryngeal Operations by External Incision and advocates the Trendelenburg position. The work concludes with a copious index. Throughout we find many suggestions for treatment, therapeutical and otherwise. Some of them are novel, and the book bears the stamp of originality and experience.

The volume is illustrated profusely by 175 illustrations, 23 of which are coloured. Most of these are new and some are exceedingly good. As instances we may mention "Adhesions of the Soft Palate to the Pharynx" (Fig. 121), and "Enlarged Tonsils" (Fig. 126). The coloured plates of sections of adenoids are beautifully executed. The book is well printed and got up and the misprints are very few. It is a useful and complete treatise and will doubtless be read by those practising in this class of medical and surgical diseases.

Insects. By D. SHARP, F.R.S. Being Vol. V. (in part) and Vol. VI. of "The Cambridge Natural History." Edited by S. F. HARMER, F.R.S., and A. E. SHIPLEY, M.A. London: Macmillan and Co. 1895 and 1899. Price 17s. net. each vol.

THIS bulky work is the most comprehensive *modern* treatise upon insects in the English language with which we are acquainted. Its bulk is due to the industry and extremely wide knowledge of its author, and not to that unwholesome substance known as padding. Dr. Sharp is eminently qualified to write upon this subject, being one of our best known entomologists; and he has proved that an entomologist whose main repute is derived from contributions to a single group does not always go through the world, as the late Professor Chandler of Oxford once said in our hearing, "seeing only beetles." Although Dr. Sharp occupies to the full, even increasing their dimensions here and there by the use of small type, more than 1100 pages it cannot be said that either he or his editors have been without a due sense of perspective. As the author tells us in his very first sentence, "Insects form by far the larger part of the land animals of the world, they outnumber in *species* all the other terrestrial animals together, while compared with the vertebrates their numbers are simply enormous." In a more striking phrase Dr. Sharp observes that "the larger part of the animal matter existing on the lands of the globe is in all probability locked up in the forms of insects." With such an immense mass of matter before him it is pleasing, but not unexpected from what we know of the author, to find that he abhors all the twaddling tales which have collected round the natural history of insects more than round any other group of animals. It must not be imagined from this that the author disdains what is called "natural history" by the reading but non expert populace and "biologie" by the Germans. There is much of interest told about habits and ways of life, particularly among those astounding "*intellectuels*" wasps, ants, and bees. We can commend his account of ants as one of the best and most comprehensive of the sections dealt with in the two volumes. Dr. Sharp seems to have omitted nothing upon which we have sought information by the help of an apparently very detailed index. Recently the myth of the ancients concerning the propagation of bees has been dealt with by a well known student of insects, Baron Osten Sacken. Most of our readers will recollect in the Fourth Georgic the account of the generation of bees from the well "tunded" carcass of a young bull whose horns have just begun to sprout. "When the meadows are enamelled with their earliest flowers" worms appear in the carcass from which bees are born. Now it appears from the highly reasonable explanations of the entomologist whose name has just been cited that what the ancients mistook for bees were certain flies belonging to the genus eristalis, which are singularly like bees, and of which one species, the drone fly, must be familiar to most persons. This opens up an interesting question which baffled Kirby and Spence, though some of our more modern theorists appear to find no difficulties at all in the explanation. This and some other flies have the most accurate likeness to bees and to wasps in various non-essentials. No naturalist could, of course, confuse them, but their general aspect is un-fly-like and very bee- or wasp like. One genus (volucella) has the daring habit of entering the hives of bees and the nests of wasps and there depositing its eggs. It needs no theory at all to emphasise the remarkable immunity which both the flies and their offspring secure at the hands, or perhaps rather jaws, of the hymenoptera. It has been suggested—indeed, there has been a tendency positively to assert—that the likeness of the flies to bees allows them to evade the attentions of their involuntary hosts. This is an example, only too frequent in the views of those who deal with the singular phenomena commonly called "mimicry," of rash generalisation without an adequate basis of fact. "There are no facts," observes Dr. Sharp, "to support any theory on the subject." The flies get there—that is all we know. That bees and wasps would be perfectly capable of ejecting, and willing to eject, them seems obvious when we reflect upon the accurate senses which enable these hymenoptera to distinguish the inmates of another nest, but they do not. Dr. Sharp thinks that the fly larvæ in question play the useful part of scavengers in the nest.

From flies to fleas is not, according to Dr. Sharp, a great jump. The latter were at one time made into a separate group called aptera. This name is at present reserved for two curious groups of insects—the collembola and thysanura—which are regarded as representing more nearly than any living forms the ancestral types of insect life. The fleas are simply flies degraded through perpetual parasitism. 100 species exist, so that parasitism is here, as in so many other cases, e.g., the tapeworms, productive of much variability of animals. The common flea of man, pulex irritans, is found all over the world. Indeed we have reason to believe that the only animals which are true cosmopolites are man and his parasites. It is a curious fact that monkeys possess no fleas save in exceptional cases of weakness or illness. This immunity seems to be due to the habit that these creatures have of perpetually searching for supposed residents on their skin.

Readers who are less interested in anatomical and embryological details than in gossipy tit-bits will find much to allure them in this book. Every summer, the last for instance, there is much correspondence in the newspapers concerning "mosquitos." "Although there are few insects," writes the author, "more often referred to in general literature than mosquitos yet the ideas in vogue about them are of the vaguest character." The main idea in the mind of the public appears to be that the mosquito is a poisonous exotic insect which occasionally ravages this country. As a matter of fact there are ten indigenous species in this country of which culex pipiens is *the* mosquito *par excellence.* It is a common species in central and southern England, Dr. Sharp tells us. It also exists abroad and is "one of the most troublesome mosquitos of East India" There are many interesting facts and not a few theories about this widely spread pest. Those who have been in the extreme north of Europe should know and dread it well; there it abounds on account of the abundance of water which is essential to its well-being as the eggs are laid in water and the larva lives there. Millions of these flies exist who can have had no opportunity of tasting human blood; yet with unerring instinct they will fasten upon the first man who breaks into their solitude and literally "tap his claret" with precision. Mr. Hudson has pointed out this singular case of instinct which is the less intelligible as they appear normally to feed upon the juices of plants. Another puzzling fact is that the female, who alone bites, injects a poison into the wound; this seems to be a purposeless form of irritation. It is, however, suggested that the irritant fluid is for the purpose of preventing the coagulation of the "plant juices during the process of suction." To the physician this group of flies is becoming of especial importance because of their influence on dissemination of disease.

Probably the majority of those persons who are interested in insects have a special leaning towards the butterflies and moths. They will find all reasonable curiosity concerning the ways of life of these creatures satisfied in the volume before us. Dr. Sharp adheres to the now rather old-fashioned division of the lepidoptera into butterflies and moths. There are not, however, two such opposed groups, though it is true that "all lepidoptera that are not butterflies are heterocera (i e., moths)."

To the inexpert mind anything that flies by night and is dully coloured is a moth, while day-flying habits and brilliant colouration are supposed to denote a butterfly. This, of course, will never do. Many moths rival the most gorgeous of butterflies in their hues, while some of the danaidæ (we think) are often found in the early morning glued to lamp-posts like "strayed revellers" of another species. Some of the more senescent and obsolescent theories upon animal colours have been based upon these insects. Dr. Sharp says of the puss moth and the views about its larva that it realises the dictum of D. O'Phace, Esq.:—

> "Some flossifers think that a fakulty's granted
> The minnit it's proved to be thoroughly wanted."

This caterpillar has a pair of "tails" from which can be protruded flagella which whip about in a threatening manner. It is believed by some that the object of these is to lash off prowling ichneumons. But it is an expensive method, if it be so, of producing an apparently negative result; for these larvæ are quite as much "ichneumoned" as others. Then it has a terrifying attitude; but we have yet to learn that little birds are frightened, like little boys, by having faces pulled at them. Dr. Sharp treats these matters with a good-humoured note or two, which form, as is right, but a minute fraction of the book. It will have been gathered, we hope, that this is a book abounding in facts well and clearly put, which should be in the hands of everyone devoted at all to insects. Its handiness for the student of this group is further increased by a very large number of illustrations in the text, a large proportion of which are quite new and specially designed for this work.

The Story of Life's Mechanism: A Review of the Conclusions of Modern Biology in Regard to the Mechanism which Controls the Phenomena of Living Activity. By H. W. Conn. London: George Newnes, Limited. 1899. Pp. 219. 50 Illustrations. Price 1s.

The "Library of Useful Stories' continues to grow, the subject of this review being one of its latest additions. As its sub-title indicates, this little book considers some of the problems presented by modern biology.

The work is divided into an introduction and two parts. The introduction is mainly historical, dealing with various discoveries which have had an important influence upon modern lines of thought. Part 1 is divided into two chapters, the first of which defines a machine, and then enters into a comparison between such a mechanical contrivance and an organised body. It then passes on to the consideration of the chief vital functions and other matters. Chapter II. deals with the cell and protoplasm, including a description of the phenomena attending karyokinesis, fertilisation, &c. Part 2 contains but one chapter which, among other matters, discusses evolution, reproduction, heredity, and variation.

On the whole the book is distinctly good; there are a few points, however, which might be improved. We refer more especially to the illustrations. Firstly, some are, in our copy at least, somewhat indistinct. Then, again, a botanist would hardly consider Fig. 10 to represent a typical longitudinal section of a root apex. The impression gained from Fig. 12, illustrating "plant cells with thick walls," is that the cells have thin walls and the protoplasm has shrunk, thus giving the appearance of clear spaces between the cell walls and contents. A wrong impression is so easily obtained by the general reader that too much care cannot be bestowed on a popular book of science, especially as regards the illustrations, and this being so it would have been as well to have stated what particular animal or plant each figure illustrates; this has been done in some cases, but not in all.

On page 91 it may be read that "Schultze experimented with this material by all means at his command, and finding that the cell substance in all animals and plants obeys the same tests reached the conclusion that the cell substance in animals and plants is always identical." Surely it was Cohn who, in 1850, first enunciated the fact that the sarcode of the zoologists was identical with the *protoplasm* of Von Mohl.

The book is very clearly written and will give those who desire it an excellent conception of some of the problems which are engaging the attention of biologists at the present time.

JOURNALS.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. XXV., No. 3. London: C. J. Clay and Sons. Feb. 2nd, 1900. Pp. 54. Price 4s.—The articles contained in this part are seven in number. The first is by W. H. Thompson, M.D., and is a continuation of his researches on the Influence of Peptone and Albuminoses on the Urinary Secretion. He concludes from his experiments that at least 60 per cent. of peptone or proteose introduced directly into the circulation is retained in the body; that a larger proportion of deutero-proteose, of purified amphopeptone, and of antipeptone appears to be retained than of the primary proteoses, and that it is probable that the proteoses are held in combination with one of the globulins of the blood plasma as proteose globulinates. 2. R. E. Lloyd, B.Sc.: On Chromatolysis in Deiters' Nucleus after Hemisection of the Cord. The investigation tends to show that after a unilateral lesion of the cord involving the antero lateral descending tract most of the cells of Deiters' nucleus undergo chromatolysis. The inference drawn by Mr. Lloyd is that the fibres of this tract take origin in Deiters' nucleus and not in the cerebellum. 3. H. H. Dale, B.A.: On Some Numerical Comparisons of the Centripetal and Centrifugal Medullated Nerve Fibres arising in the Spinal Ganglia of the Mammal. Mr. Dale's observations were chiefly made on the cat. He finds that there are a few more medullated fibres in the trunk than in the nerve roots, the excess consisting probably of fibres which pass the trunk by way of the grey portion of the ramus communicans and end in connexion with the vessels or other tissue of the ganglion. The appearances presented by the nerves as seen in section are illustrated in a plate which accompanies the article. 4. David Fraser Harris, M.D. Glasg.: On the Pressure-filtration of Proteids. The experiments show that the commonly occurring proteids pass through the pores of a Chamberland filter in the interior of which the pressure is considerably below that of the atmosphere. Caseinogen in milk, however, and Grübler's caseinogen dissolved in lime-water do not yield pressure filtrates. 5. D. Noël Paton, M.D. Edin., J. Craufurd Dunlop, M.D. Edin., and R. S. Aitchison, M.D. Edin.: Contributions to the Study of the Metabolism of Phosphorus in the Animal Body. One of the conclusions arrived at by the authors of this article is that in the normal condition, with the animal (dog and goat) in phosphorus equilibrium, the absorption and excretion of the phosphorus by the intestine are equal. 6. John Haldane, M.D. Edin., F.R.S.: The Supposed Oxidation of Carbonic Oxide in the Living Body. 7. John Haldane, M.D. Edin., F.R.S.: On Cyanmethæmoglobin and Photomethæmoglobin. These are shown to be identical.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., aided by ADAM SEDGWICK, F.R.S., and W. F. R. WELDON, F.R.S., with Lithographic Plates and Engravings on wood. London: J. & A. Churchill. New Series. No. 169. Vol. XLIII. Part I. February, 1900. Pp. 193. Price 10s.—The contents of this number are—1. James P. Hill, F.L.S.: Contributions to the Embryology of the Marsupialia, parts 2 and 3, with two plates. The fœtus here described is that of the Perameles or Bandicoot, the early stages of the embryology of which are given in some detail. 2. H. M. Bernard, M.A. Cantab.: Studies in the Retina; Rods and Cones in the Frog and in some other Amphibia. In the frog Mr. Bernard finds that there are two kinds of simple cones—"the one is short without a basal vacuole, and the other about one-third longer and with a basal vacuole" which may be very much distended. Minute measurements are given of these structures and of the rods and he has satisfied himself that the cones in the amphibia are merely stages in the development of the rods, a view which, if corroborated by further research, must have important bearings upon the physiology of the retina. Some excellent drawings accompany this memoir. 3. G. S. West, B.A.: On the Sensory Pit of the Crotalinæ. This pit is situated near a line drawn from the eye to the nostril and is divided into two chambers by a thin partition, of each of which a precise description is given. The walls of the cavities are freely supplied by branches of the fifth pair of nerves and are highly vascular. No suggestion is made as to the probable use of the organ. The article is illustrated by a plate with many drawings. 4. J. W. Jenkinson, M.A. Oxon.: A Re-investigation of the Early Stages of Development of the Mouth. This is a polemic dealing with recent views on the earliest stages of the development of mammals and he remarks that the phenomena which we observe in the early ontogeny of the mammalia are, in his opinion, absolutely *sui generis*. 5. W. Blaxland Benham, D.Sc.: On the Structure of the Rostellum in Two New Species of Tapeworm from Apteryx. 6. The remaining article is on the Habits and Early Development of Cerebratulus Lacteus (Verrill), by Charles B. Wilson. The cerebratulus is a Nemertean found along the entire Atlantic coast from Florida to Massachusetts Bay at, and just above, low-water mark. They are active at high tide and are carnivorous. The memoir is accompanied by three plates with numerous drawings.

VICTORIA HOSPITAL, SWINDON.—The annual meeting of this institution was held on Feb 10th under the presidency of Captain F. Goddard. The report showed that 225 patients had been admitted during 1899 and that there remained a favourable balance of £146. The chairman announced that he had given the land, which was said to be worth £300, for the enlargement of the hospital grounds. Captain Goddard had previously also given the site upon which the hospital stands.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 24, 1900.

GREAT BRITAIN certainly has her hands full at the present moment, but we very much mistake if she will not find means of extending help to India, where a large portion of the population is affected by the famine. The calls of the war are great and will be greater. Even if fighting comes to an end sooner than we expect it to do there will be an addition to our expenditure for some time to come which will necessitate a material curtailment of our luxuries. Disabled men, fatherless children, and widows will appeal to us, as they have never done before, and we must meet the appeal more generously. But the famine in India is our concern too. The scale of it is unprecedented and it is still widening. The latest telegram from the Viceroy reports, "Famine distress still steadily on the increase," and we must listen to such a message.

It is difficult for us in England to realise the facts of these large Indian famines and the wide misery entailed. It is only three years since a famine in very much the same North-Western districts prevailed when, it is said, the hunger was so extreme that women ate their own children. (This is not an old wives' tale.) The area of the present famine is wider and the numbers affected are believed to be larger. The famine area in the former famine was three times that of the British Islands, now the area is said to be more than four times the size of these islands and the population affected to be more than 75 000,000. We may well be proud of the brightest jewel of our Imperial crown, but this feeling must be tempered with a strong admixture of responsibility. The poverty of the great mass of the Indian population, their existence on the very verge of starvation and at the mercy of the clouds of heaven, place us, their rulers, at all times *in loco parentis*. methods of help must always be ready if the people are not to be swept off the face of the earth by millions. We have long recognised this obligation to the races of India and it is not a little to the credit of our rule that the mortality from famine has been greatly reduced. The Viceroy in his last speech, pleading eloquently for the help of private generosity, calls attention to the grateful fact that actual mortality is now largely repressed. This is undoubtedly a great improvement, but short of actual mortality there is an evil that is nearly as sad for the people—viz, a physical depression that deprives life of all power and of all pleasure—that makes existence a burden and renders the half-alive subject an easy prey to disease. The British rule in India is one of the most beneficial recorded in history, but it has mightier work still to achieve in raising the physical and social condition of the people. We see from week to week the painful proofs of the persistence and growing prevalence of the plague in spite of all sanitary and medical measures, and it cannot be doubted that one chief reason of this is the inherent physical weakness of the population, due largely to poor powers of resistance, the result of inadequate nourishment. The appeal of the Viceroy must be answered generously and promptly. The real stay of the Indian Government and the real security of our hold on India is the sympathy of the people of the British Empire. The Indian peoples know of this sympathy and return it. Of all the gratifying things which qualified our grief during the opening scenes of the South African war none has been more significant than the loyalty of the Indian princes and of the Indian people. The princes have given their money and the people have given their prayers for our success. Admiration for the EMPRESS and gratitude for the beneficence of her rule have found the most practical expression. We must make it clear that these sentiments are appreciated, and that our ordinary sense of responsibility for the welfare of the teeming races of our fellow-subjects in India is much accentuated by their splendid liberality and loyalty in connexion with the war in South Africa.

There is one other fact which may well stimulate us as a Christian nation. It was pointed out by English missionaries in the Indian famine of 1897 that the Hindus were most generous in their charity towards the Famine Fund, though not 10 per cent. of those relieved were of their faith. We cannot do less than show them that our religion, too, bids us "give our bread to the hungry." Very little money goes a long way in the purchase of food in India. It is said that a penny will give a meal to a man and that half-a crown will supply a child's food for a month, though in times of scarcity prices rise. We have not to do with a pampered population. But one word of caution seems called for here. The amount of food, or its equivalent in money, absolutely necessary to support life must not be calculated too nicely. In the famine of 1897 some of the zemindars and farmers complained that the wage given on the relief works was more than could possibly be earned in agricultural labour, and that it would tempt the people away from the country districts to the relief works. The men's daily wage was thereupon reduced from about 2*d.* to 1½*d*, and the women's from 1¾*d.* to 1¼*d.* The result was that thousands of these unfortunate workers went home to die, being unable, at the famine price of grain, to keep body and soul together, much less to work. Here was failure to save life, but more is expected of England than the mere prevention of death from starvation. The Government of India is committed to that measure of relief, but help is needed to reinstate the destitute and to give them a fresh start with a brighter hope for the future. Therefore a very large sum of money is wanted, and in spite of all the urgent calls upon our resources that money must be found.

◆

IN the social history of the nineteenth century there are few more conspicuous changes than that which is marked by the rise of the medical profession as a whole. Great physicians and surgeons there have always been who for their prominent skill and knowledge if not for their qualities as men of the world or of the court, have risen to be the trusted friends and advisers of the leaders of the country, but until recent times these have been the brilliant exceptions, the lustre of whose position served only to show by contrast the dull position in which their professional brothers worked Those who practised medicine, as distinguished from surgery, were no doubt from mediæval times onwards, in a better position, but even the physicians were thought to be entitled to small consideration Gradually—and contemporaneously with the growth of knowledge and of respect for men working at other professions than those of the Church, the Army, and the Navy—the medical profession has attained to a certain position in the public eye, and this has been accomplished by constantly raising the standard of education required of its members thus fitting them for the increased trust that should be earned by their increased responsibilities A hundred years ago who would have dreamed of a surgeon holding the position now held with universal acclamation by Lord LISTER' The dreamer could have as little imagined the surgical successes that owing to Lord LISTER'S discoveries, have become common occurrences of our everyday work

With this general advance in the status of the medical profession there has come, partly as cause and partly as effect, a widespread desire among its members for a share in those interests and activities which used to be found only amongst our leading medical men This is proved by glancing at the number and condition of medical societies as they were and as they are At the beginning of the century here and there a few enthusiasts, their energies concentrated perhaps around some great physician or surgeon banded themselves together to meet at stated intervals for the discussion of professional matters Thus arose under the auspices of JOHN HUNTER and FORDYCE the Society for the Promotion of Medical and Surgical Knowledge, dissolved in 1818 only when it was more than adequately replaced by the Royal Medical and Chirurgical Society founded in 1805, and by the Medical Society founded in 1773 At that time such societies were to be found only in the great cities—rarely even there—and were by the difficulties of locomotion greatly limited to the quarter of the city within which the few members lived How complete is the difference between such a state of affairs and that which obtains to day In London it would tax the memory of the medical resident to reckon up the medical and surgical societies that are flourishing around him, while every large town in the kingdom has its two or three such associations and no suburb or provincial district is without at least one rallying point for local practitioners of medicine

The value of such institutions is scarcely to be overrated, particularly their value to the general practitioner Everyone in the course of his practice comes sooner or later upon cases which leave him in doubt even after the most careful observation and deliberate reflection If the patient is wealthy it is easy enough for his medical attendant to recognise that two heads are better than one and to call in the opinion of some one who from greater experience or more special attention to just the class of case in question is likely to throw light upon the matter Suppose, however, the patient cannot afford the expense of a further opinion, and yet is not suitable or does not wish for hospital treatment To bring such cases before the local medical society is a ready help to the medical man and a useful course for his patient Not only is the medical man in charge almost certain to profit by the new points of view from which his fellows will see the case, but also the mere fact that he has to present the case to them in a clear, comprehensive and comprehensible manner causes him to think over signs and symptoms afresh from the beginning, when he will definitely formulate his opinions in the matter in a way which he may not have been led to do before. But for medical societies to be of the fullest use there is one condition to be observed, the meetings must be those of equals with equals If a man is overshadowed by the presence of many whose knowledge and opportunities are greater than his own, he will fear to expose his comparative weakness, he will get into the way of going only to listen, and he will never reap the benefits that medical societies should afford to all their members For perhaps their greatest benefit of all is the practice that medical societies afford to their members in the art of public speaking, an art which no medical man should be without, though one in which he has little chance of improving himself except at these meetings It is not sufficient to know, a medical man to be truly useful to his fellows should be able to impart his knowledge Again, it is a great thing to feel the value of good advice, but good advice cannot be obtained unless the points of difficulty are succinctly stated We regard the activity that is now displayed in the provinces in the founding of medical societies of excellent omen for the medical profession Properly treated these societies should form not only exchanges of professional knowledge but centres of professional *esprit de corps*

◆

UP to noon on Wednesday last we had received answers from 6299 English practitioners in answer to our three questions (1) Are you in favour of legislation for the regulation of the practice of midwives? (2) Are you in favour of the Bill now before the House of Commons? (3) Are you indifferent in the matter? This figure represents of course not quite one third of the constituency to which we appealed and we may fairly expect to receive many more replies At the same time enough answers have been sent to us to show clearly what is the view of the medical profession, for we may take it for granted that the one third or so who have replied are fairly representative of the whole number in their views 1617 English medical men then, consider that no legislation is required for the regulation of the practice of midwives, and of these 1500 add that they are opposed also to the Bill now brought before the House of Commons by Mr TATTON EGERTON 121 medical men are opposed to Mr TATTON EGERTON'S Bill but do not state whether they are opposed to legislation generally 1323 are opposed to the Bill, while they desire to see legislation for putting down many of the practices now in vogue among unqualified persons as a consequence of the somewhat ineffective operation of the existing Medical Acts. These medical men desire legislation, but legislation of an opposite sort to that offered to them by the Midwives Bill. 433 medical men are in favour of legislation for the regulation of the practice of midwives but not in favour of the Bill now before the House of Commons. 1311 medical men are in favour both of legislation for the regulation of the practice of midwives and of the specific Bill. 698 medical men did not content themselves with simply saying "Yes" or "No" to the questions, but wrote letters explaining their views. We have submitted their replies to a somewhat rough analysis. 445 were opposed either totally or in detail to Mr. TATTON EGERTON'S Bill, while 143 were more or less in favour of it, and the remainder could not be classified. 596 medical men frankly expressed themselves as indifferent to the whole matter. By our poll of the profession, as far as it has gone, we have accumulated great knowledge of what English medical men really think on the question in general, but at the present time the particular Bill before the House is all that we are concerned with. It will be seen that of 6299 medical men who have expressed their views to us 1311 only are in favour of the Bill. These figures cannot be without their influence in the House of Commons, but before the Bill is read a second time we hope that we shall be able to place before the legislature the opinion of a larger proportion of the medical profession in the country. We repeat our request for replies to our circular letter, which should reach us absolutely not later than Monday next, Feb. 26th.

Annotations.

"Ne quid nimis."

THE STATUTES OF THE RECONSTITUTED UNIVERSITY OF LONDON.

THE statutes recommended by the Commissioners under the University of London Act, 1898, have been laid before both Houses of Parliament and will remain there for 40 days previously to their becoming legal enactments. Opposition will be no longer offered to the formation of a great metropolitan university in London, although this desirable idea has been so persistently dogged by narrow and sectarian opposition in former years. We still hesitate as to the practicability of two schemes running side by side for internal or collegiate students on the one hand and for non-collegiate students on the other; but at any rate the two classes are to be placed under different jurisdictions The authoritative power in the new University will be the Senate of 56 persons (all told), but the really influencing body will be the Academic Council of 20. Their function is advisory only, but we cannot fail to see that this council must materially influence every decision of the Senate, at least so far as the education and examination of internal students are concerned. The external students in arts, science, and laws will be educated anyhow and anywhere, but will pass examinations on lines mainly laid down by the 16 members of the Senate appointed by Convocation. The statutes say that the Senate, while prescribing courses of study for internal students, will ensure in each case an academic training of adequate breadth and duration, and will endeavour to allow the students a wide option in the choice of study. We are anxious to see how the Senate will reconcile this assurance with the expressed intention that degrees conferred upon internal and external classes of students shall represent as far as possible the same standard of knowledge. Fortunately there are no stringent provisions as to the education or examination of the medical students, and powers are granted to the Senate to make arrangements with the Royal College of Physicians of London and the Royal College of Surgeons of England, or either of them, to conduct jointly with the Senate examinations in such portions of the subjects included in the course of study for a medical degree as may be agreed upon between the Senate and those Colleges. The Senate can make similar arrangements with other corporations and institutions holding professional examinations in subjects included in other courses of study, and we hope to hear less in the future of unnecessary examinations and re-examinations.

THE LAW OF THE COMPOUNDED DRUG.

A RECENT appeal in a case under the Sale of Food and Drugs Act of 1875 is of interest, not only because the purity of drugs sold is a matter of public importance but also on account of the manner in which the difficulty arose. This difficulty, it may be said at once, was one for which the legislature is primarily responsible. It must in the case now referred to and in others have caused avoidable expense, and it might have been removed many years ago. A person had been prosecuted under the 6th section of the Act for selling as camphorated oil that which contained a less proportion of camphor than is prescribed by the British Pharmacopœia. The 6th section of the Act runs as follows:—"§ 6. No person shall sell to the prejudice of the purchaser any article of food or any drug which is not of the nature, substance, and quality of the article demanded by such purchaser, under a penalty not exceeding twenty pounds. Provided that an offence shall not be deemed to be committed under this section in the following cases; that is to say ...... (3) where the food or drug is compounded as in this Act mentioned." The seller of the camphorated oil had succeeded in convincing the magistrate that he came within the exception quoted and that the summons against him should have been not under the 6th section but under the 7th section of the Act, the only other section in which mention is made of compounded drugs. This section runs as follows: "§ 7. No person shall sell any compound article of food or compounded drug which is not composed of ingredients in accordance with the demand of the purchaser under a penalty not exceeding twenty pounds." It will at once strike anyone reading this section that it must have been intended to refer to cases where the prescriptions of medical men are presented to be made up, and this view is, no doubt, the correct one. In the case under consideration the Divisional Court decided that the prosecution had been properly instituted, as whatever meaning section 6 sub-section (3) might bear with relation to section 7, the offence before them was equally within section 6. The judges seem, at all events, to have found a way out of a difficulty with some ingenuity. The true meaning of sub section (3), quoted above, was suggested to their lordships, but they pointed out that although it seemed pretty clear from the obvious construction of the sections that something had been omitted they could not take cognisance of extraneous information with regard to this. As a matter of fact, when the original Bill left the House of Commons it contained a section which ordered that all compounded drugs sold should be combined is the preparation prescribed in the British Pharmacopœia. The House of Lords struck out this section but omitted to strike out the sub-section (3) which referred to it, and so it alone, so that sub-section (3) was consequently left without meaning until a strained one was sought to be found for it by bringing it into relation with section 7. When we add that the case of White v. Bywater[1] in 1887 decided that a customer who had asked for tincture of opium was entitled under the Foods and Drugs Act to have it sold to him of the standard provided by the Pharmacopœia it will be seen that the interference of the House of Lords with the Act was, in this detail at all events, not attended with happy results. It is also a matter for regret that the legislative machinery still is so cumbrous as not to be able to rectify quickly and easily mistakes made in its output. That draftsmen should occasionally make slips is not to be wondered at, particularly when we consider the unwieldy, complicated, and often unintelligible system that has grown up of legislating by means of cross references to other Acts already in existence. This system once had as a result a somewhat quaint mistake. In the Destructive Insects Act of 1877, framed chiefly to protect the agriculturist against the ravages of the Colorado beetle, there are sections which for the purposes of certain matters of procedure incorporate the Contagious Diseases (Animals) Act, 1869, by name. As is usual the numerical description of the Act is given in the margin. It should have been 32 & 33 Vict. cap. 70, but there were two Contagious Diseases Acts passed in 1869, one of which related to the lower animals while the other did not, and the draftsman by mistake took the wrong one. Consequently if anyone turns to an original copy of the Destructive Insects Act he will find marginal reference to 32 & 33 Vict. cap. 96, the presumable effect of which, if it were literally carried out, would be to subject the Colorado beetle to periodical medical examination by a visiting surgeon, with the possibility of detention in a certified hospital. We believe that in later editions of the Act this slip was summarily corrected. The alteration of the Food and Drugs Act would presumably require an Act of Parliament.

APPLIED SCIENCE IN MODERN WAR.

ONE of the notable circumstances connected with the present war in South Africa has been the wide and varied application of the results of modern science in regard to it. Setting aside altogether those of a purely military character, such as arms of precision and rifled and quick-firing guns, the use of which has demonstrated the enormous advantages they are capable of conferring in defensive warfare, there are many other directions in which the influence of applied science may be recognised. We perform nowadays much of our scouting by balloons and transmit the result of observations obtained from an altitude and supplemented by the aid of field-glasses to troops advancing or operating on the field of battle. The best telescopes and an abundance of field-glasses are always in requisition; the latter may be said to form an essential in the list of personal field equipment. By means of wireless telegraphy and with the aid of kites communication has been successfully established between various stations occupied by British troops in the theatre of war in Africa. As regards our sanitary and medical services, a stricter application of the rules of practical hygiene has been attended with a remarkably progressive improvement in the health of our soldiers in the field in the successive expeditions which have taken place since the time of the Crimean war. Infective wound diseases, which used in past times to prove a veritable scourge among our wounded in military hospitals, have been practically banished from them by universal and scrupulous attention to cleanliness, by the rigid use of antiseptic dressings in wounds and injuries, and by the performance of all operations upon patients under anæsthesia; while the use of the Röntgen rays has enabled us to detect the presence and exact site of any missile or foreign body. The various ingenious probes for the detection of bullets embedded in the tissues are no longer seen in military surgery but have been relegated to the surgical museum among other relics of past art. And these are only a few of the innovations for which applied science is responsible.

THE FERTILITY AND STERILITY OF NATIONS.

THE relative fertility of different nations and races is a problem which, despite its absorbing interest, has hardly received at the hands of science the attention it deserves, for although the passing away of nations and of races is a matter of history, but little inquiry has, as far as we are aware, been directed towards determining the causes which in one or another instance have been instrumental in bringing about the decay of reproduction. As with families so with nations, fecundity is in the long run the factor which determines their more or less indefinite survival. In the cases in which aborigines have been brought into contact with highly civilised nations a diminished fertility has apparently accounted for the disappearance of the natives, and the now vanished Tasmanians and the rapidly falling Australian aborigines may be quoted as instances in point. So, too, with the Maoris of New Zealand there would appear to be indications that in contact with a European people they cannot flourish. Amongst, however, civilised nations limitations to their increase would seem to be brought about by the indirect effects of social and economical forces resulting in postponement of marriage until a relatively later period, by an unwillingness to undertake the responsibilities of parentage, and by other complications in the social system of a nation all making towards national sterility. An article by Dr. Drouineau in the current number of the *Revue d'Hygiène et de Police Sanitaire* based upon the recent report of M. Fontaine, the director of the French Office of Works, is full of interesting information on the fecundity of France. During 1898 the birth-rate of France was 22·1 per 1000, as against a rate of 22·4 for 1897, while the death-rate for 1898 was 21·2 per 1000, in place of 19·6 for the preceding year. There is, in fact, as Dr. Drouineau points out, a marked tendency at the present time in France for the curve representing the birth-rate to meet the curve representing the death-rate, the former falling, the latter rising, and although during 1898 there was an actual excess of 33,860 births over deaths the author of this paper views the future with no little disquietude. When, too, the figures for the several departments are gone into it transpires that during 1898 there was an excess of deaths over births in no less than 43 departments and an excess of births in only 30 departments, the departments presenting this excess of deaths remaining the same year after year. In 1898 there were nine departments in which the birth-rates exceeded those of the previous year while in 10 the rates remained stationary. Amongst those departments which yielded the highest birth-rates during 1897 there was a marked falling off in 1898, a phenomenon, as the author points out, of particular gravity. If, he says, the fecundity of these departments becomes feebler year by year the results will be disastrous, more particularly if, as is the case, the mortality remains relatively high. The birth-rate exceeded 23 per 1000 in 22 departments and was below that figure in 21 departments, and, as regards these latter 21, we note that the rates ranged between 18·9 to 14·5 per 1000. In 13 departments the death-rate was above 23 per 1000, the highest being 25·4, while among those departments of small mortality the rates ranged from 18·9 to 15·8 per 1000. The influence which immigration may exert in maintaining the population of France has not as yet been fully determined, but it is clear that Dr. Drouineau suspects that this immigration may be a by no means unimportant factor in maintaining the balances still existing. An examination of the figures for the decennial period 1889–1898 leads much to the same conclusions as those for 1898 alone, and a map which accompanies Dr. Drouineau's paper illustrates graphically the departments in which this decay of population has set in, and shows also that in Brittany something of the pristine vigour still obtains. Farthermore when the statistics of the years 1879–1888 are compared with those for 1889–1898 the same story of diminishing increase has to be told, and in the truly eloquent words of Dr. Drouineau: "De période en période cet excédent diminue, les départements à excédent mortuaire augmentent, ce sombre voile de deuil et de ruine s'étend sur le territoire, en même temps qu'il devient plus opaque, plus épais." Are the people of France, he asks, to regard the situation as normal? Has the disease been discovered without the remedy? Or is it necessary to await the experience of yet another decade before the forces at work are inquired into and the causes, if possible, remedied? The French are reminded that the State quite recently voted large sums to place France in a position to resist plague, and the question is asked whether this slow and progressive ruin is less worthy of attention than plague or cholera. This question of the fecundity of races is touched upon by a Dutch writer in the February number of the *Revue des Deux Mondes*. Referring to the remarkable fecundity of the Boer women he urges that even if the arms of England are eventually victorious and the South African Republics come beneath the English flag, the future belongs to the Boer. In less than a century, he tells his readers, the Boers, thanks to their marvellous fecundity, have increased from 60,000 to half a million. In the century which now dawns they will increase, he says in his peroration, to three, four, or five millions, and South Africa will be theirs.

---

[1] 19 Q. B. D. 582.

SUBDURAL HÆMORRHAGE FOLLOWED BY LOSS OF ABILITY TO NAME OBJECTS.

DR. GRAEME M. HAMMOND of New York records[1] the following interesting case bearing on the presence of a centre in the cerebral cortex where auditory memories of words are stored. A young man, aged 25 years, clerk, free from syphilis and of temperate habits, had suffered for some months from albuminuria with granular casts. During a street fight he was struck on the left temple with a loaded whip-handle. He was knocked down but did not lose consciousness and was able to get up and to walk home, though a few days later he was seized with an attack of general convulsions of a severe and prolonged character. When he regained consciousness it was observed that he had completely lost the ability to name objects and persons. There were no disorders of smell, taste, vision, or hearing during clinical examination. There was no motor paralysis or derangement of sensibility. There was neither word-blindness nor incapacity for uttering words. "He could talk and voluntarily say all words except the names of objects and persons. He could say his own name easily and did so whenever asked to. He readily recognised all objects he saw and indicated by appropriate gestures that he understood what they were and what they were used for, but he could not say the name of a single one even when he was told what the name was." When told to describe how he got hurt he said: "I was struck on the—yes, sir—here, sir (pointing to his head), by (after an attempt to remember the name of the person who struck him) an acquaintance. He hit me with a—(here a pantomime illustrating the size of the implement which he was struck with)." When told to write such words as "cat" and "horse," he wrote "crat" and "heort." He also made errors when told to say or write the alphabet. Ophthalmoscopic examination showed the disc to be slightly choked in the right eye. The diagnosis was subdural hæmorrhage over the posterior part of the left superior temporal convolution. An operation was performed by Dr. Seneca Powell two weeks after the injury. A linear fracture was found in the left temporal bone and a subdural blood-clot was present covering the entire superior temporal gyrus. In the posterior part there was a hole into which a probe could be passed one and a half inches into the gyrus, at the junction of the middle and posterior parts of the convolution. The cerebral tissue was lacerated here, probably by indirect violence, as this point was two and a half inches posterior to the site of the superficial injury produced by the blow. The patient made a good recovery after the operation and at the end of a week began to make successful attempts to pronounce names. "At first the sounds he uttered, while wrong, bore a decided resemblance to the word he desired to say. Later he acquired greater accuracy and now is able to recall the memory of the names of many objects and people." Dr. Hammond concludes by observing that while the conception of a word often depends upon the simultaneous combination of several perceptions any interference with one or more of these perceptions may prevent the conception of a name. Nevertheless there must be a distinct centre in the cerebral hemisphere which retains name memories. This centre forms the nucleus, as it were, of the larger auditory centre. Its topographical position probably varies in different brains.

SLEEPING OUT OF DOORS FOR PHTHISICAL PATIENTS.

IN a paper read before the Medical and Chirurgical Faculty of Maryland and published in the January number of the *Maryland Medical Journal* Dr. O. S. Millet of Brockton, Massachusetts, describes the effects of sleeping out of doors as observed in five cases of phthisis. At the outset he remarks that the New England climate has a national reputation for insalubrity, variability, and bleak east winds, and it was with patients living in this region within a few miles of the ocean on a flat, low-lying country that he had to deal. Nearly two years ago he was called to see a young man who was suffering from cough, wheezing, and dyspnœa, and had a temperature of 100·5° F. Throughout that winter he became worse until in the spring he had lost nearly 15 lb. and was so weak that he could not bring in a hod of coal without extreme shortness of breath. In May, 1898, incipient phthisis was diagnosed; the family history was also extremely phthisical. Dr. Millet then urged him to try sleeping out of doors. He began on the last day of June, 1898, and slept with no awning or roof over his head for five consecutive months, with the exception of only nine nights when rainy weather prevented. Within the first two weeks it could be seen that he was making progress in the right direction. At the end of a month his temperature was normal and his cough and wheezing had almost disappeared. In November, 1898, he weighed 144 lb., having gained 22 lb. in four months. The only medicine which he took was tincture of nux vomica. He has continued perfectly well ever since and now weighs 147 lb. His sleeping-place had a south-west exposure. A photograph of it shows that it was a platform supported by brackets and posts outside the first-floor windows of a small house and sheltered on two sides, being in the corner formed by a projecting part of the building. The man worked in a shoe factory nine hours a day without the loss of a day since his treatment began. While sleeping out of doors he wore a soft felt hat and cotton nightshirt and was covered with the ordinary bed clothes. He usually went to bed early, at 9 P.M., because the sun awakened him early in the morning. Four other photographs show similar sleeping places used by four other patients. One was a man, aged 64 years, who had slept upon the platform since July and had gained 11 lb. Another was a boy, aged 12 years, in whom the amount of lung tissue involved was too extensive to justify the expectation of permanent arrest, but he gained 19½ lb. during the summer. His mother slept at night on another cot beside him, and herself gained very decidedly in weight, strength, and colour. Another patient gained 10 lb. and the physical signs nearly all disappeared. As a matter of experiment Dr. Millet himself has slept and at the date of his paper (Nov. 18th, 1899) was sleeping on a roof garden, and he says, "Until you have tried it yourself you cannot know how much more refreshed one feels after a night's rest out of doors." No particular kinds of bed clothing were used provided that the sleepers were warm, and during the cooler months some of them, therefore, found it necessary to use woollen night gowns and sheets. Many times they found their bed coverings and night-clothes wet with dew, and once in a while a summer's rain disturbed their slumbers but with no harm beyond the necessity of drying the coverings before next bedtime.

---

[1] Journal of Nervous and Mental Disease, December, 1899.

A CASE OF ENTERIC FEVER IN A TUBERCULOUS SUBJECT: NEGATIVE SERO-DIAGNOSIS.

THE case of which the following is an abridgment will be found reported *in extenso* in the *Archives de Médecine et de Pharmacie Militaires* for January, 1900, by Dr. E. J. Debrie, Médecin Major de 1re Classe. An infantry soldier, whose military medical history included chorea, bronchitis, and on two occasions hæmoptysis, was admitted to hospital on Jan. 19th, 1899, on account of nocturnal incontinence of urine, an affection from which he was said to have suffered during boyhood. On admission a note was entered to the effect that the patient was emaciated and of poor physique, with abbreviation of the respiratory murmur in the apex of the right lung, while on the left side the cardiac sounds were unduly prolonged upwards. In order that the patient might be awakened every second hour he was placed in a bed adjoining that of an enteric fever patient, an artilleryman, whose condition was thought grave enough to necessitate constant watching. On March 3rd the gunner died and on the 13th of the same month the other patient began to show signs of gastro-enteric disturbance, his evening temperature being 102.2° F. He was immediately placed on low diet and ordered 30 grammes of sulphate of magnesia. On March 14th his evening temperature was still 102.2° and there were signs of pulmonary congestion, especially on the right side, but with regard to his heart and abdomen the symptoms were negative. Henceforward the notes ran as follows. March 19th.—Since the last report two grammes of antipyrin have been administered daily, but in spite of this the temperature is unchanged. The abdomen is now found to be slightly tense and gurgling can readily be made out in the right iliac fossa. He coughs frequently, and on auscultation moist râles are to be heard in the lower lobes of both lungs. The heart sounds are normal. March 23rd.—The temperature has risen to 104°, the abdomen is greatly swollen, and a profuse eruption of rose-coloured spots has made its appearance. These signs, together with the dry tongue and pulmonary congestion, seem to point to typhoid fever, but owing to the absence of diarrhœa and stupor and also to the fact that an epidemic of influenza is prevalent the diagnosis cannot be definitely settled. The cold bath system of treatment is nevertheless deemed expedient pending a report from the laboratory at Lyons where a specimen of the patient's blood has been sent for examination. March 26th.—*The sero-diagnostic test gave negative results.* In spite of the cold bathing, which has been strictly carried out, the patient's temperature has scarcely varied, remaining constantly at about 104°. The typhoid fever signs have also become accentuated, diarrhœa and stupor have both set in, and the pulmonary congestion now manifests itself by sibilant râles over both lungs. April 2nd.—Owing to the severity of the pulmonary complication, and in view of the negative report from Lyons, the cold baths were stopped. The patient is to be given four grammes of antipyrin daily instead of two. April 3rd.—At the patient's earnest request the administration of the cold baths is resumed. The symptoms of typhoid fever have become plainer. A fresh crop of rose-coloured spots has appeared, the abdomen is more tense than at first, the spleen is enlarged, and the diarrhœa has become profuse. Specimens of blood and sputum were sent to Lyons. April 5th.—The general condition has changed greatly for the worse, the emaciation being extreme, while in spite of everything that can be done the temperature remains at or about 104°. At night the patient is delirious and in the daytime he trembles continually. The pulse is 130, but the heart sounds are well defined. April 7th.—The patient died at about half an hour from midnight, the symptoms towards the end being those of asphyxia, with delirium and nervous excitement. Two days afterwards the second report from Lyons (sent on April 3rd) was received. It was to the following effect: "The bacilli of Koch were present in very large numbers in the sputum. *Sero-reaction negative.*" A necropsy was performed 30 hours after death, when numerous ulcerations absolutely characteristic of typhoid fever were found in the ileum. The large intestine likewise contained ulcers, but here the exact nature of the lesions was doubtful. Dysentery could at once be eliminated, but the writer is unable to say positively whether he had to do with typhoid ulcerations or with a tuberculous condition. In order to decide the point he wished to invoke the aid of the microscope and to that end portions of intestine were sent to the laboratory for investigation. Unfortunately, however, putrefaction had set in and no reliable conclusions could be drawn. In the case of the artillery soldier beside whose bed the unfortunate patient was placed the nature of the disease (which at first was unrecognised) was announced by the serum test while the patient was *in extremis*, and the diagnosis was fully confirmed by the post-mortem examination.

THE PUBLIC HEALTH OF NANTWICH.

THE small country town of Nantwich is fortunate enough to number among her sons Mr. Baldwin Latham, the well-known sanitary engineer, and as occasion has arisen he has always very good-naturedly placed his services at the disposal of the governing body of the town. Most towns of the size of Nantwich—its population is under 8000—would think themselves extremely fortunate to be able to command the gratuitous services of so eminent an adviser as Mr. Latham. The Nantwich District Council evidently think that he is to be congratulated upon being permitted to advise such an authority, for when his report was recently read upon schemes to provide for the proper disposal of the sewage of the town involving an outlay in one case of £10,000 and in the other of £15,000 it was treated with but scant courtesy, and when one member suggested that the report should at any rate be printed in order that its details might be thoroughly understood, another councillor objected because it would involve "considerable cost" and proposed that "abstracts only" should be printed. Eventually it was decided to hold a special meeting of the council to consider the report and the clerk was instructed to obtain estimates for printing 100 copies of the report. In the event of the council deciding to incur the "considerable cost" involved it would not be amiss to add as an appendix to the document a few statements culled from the last annual report of the medical officer of health of Cheshire, such as: "The river Weaver is still seriously polluted by the sewage of the town of Nantwich," "the death-rate at Nantwich in 1898 from all causes was 20 per 1000 and from zymotic diseases 2·2 per 1000, the mean death-rates for the previous six years being 19 6 and 2 4 respectively." The dissemination of such facts would absolve the Nantwich District Council from the charge of any extravagance in the matter of printing.

THE CHAIR OF PRACTICE OF PHYSIC IN THE UNIVERSITY OF EDINBURGH.

THE lamented death of Sir T. Grainger Stewart creates a vacancy in the Professorship of Practice of Physic and Clinical Medicine in the University of Edinburgh. It need not be said that this professorship is one of the most coveted academical positions in Great Britain; it confers good opportunities for teaching, the emolument is good, and it generally carries with it in Scotland great advantage and distinction in consulting practice. To fill the chair of Medicine at Edinburgh can never be other than an object of honourable rivalry with the best teachers. It would be premature at present to indicate any sense of preference for the candidates from whom the curators will have the great responsibility of choosing. Among the gentlemen spoken of as likely to be candidates are Dr. Byrom Bramwell, Dr. John Wyllie, Dr. George Alexander Gibson, Dr. Alexander James, and Dr. Robert Alexander Fleming. We believe also that Professor Osler would come from Baltimore if the chair were offered to him. His appointment would no doubt be an excellent one, for the erudition, eloquence, and practical knowledge of the learned Canadian, who is a Fellow of the Royal Society and the Royal College of Physicians of London and a Professor in an American University, are known to all.

AN UNUSUAL CASE OF LEAD-PARALYSIS.

DR. B. ONUF reported a case of the above at the New York Neurological Society on Jan. 2nd which has features of special interest. The case is that of a man, aged 37 years, and by occupation a painter. He had had one attack of lead colic some years ago. Both family and personal history were good. A short time ago he had a severe fall and for several days after this he appeared to be dazed and confused From March till August, 1899, he suffered severely from colic and had done no painting; then he had resumed his occupation and was at work with paints containing a large proportion of lead. At the end of August he had become quite ill and unfit for work and in three or four days he developed paraplegia and was put into bed in a helpless condition. His left arm also showed a considerable diminution of power. He was then removed to St. Catherine's Hospital in September. On admission to hospital there was found a complete flaccid paralysis of both the lower extremities. The knee-jerks were absent and there was marked tenderness of the nerve-trunks and muscles of the legs A paralysis of the flexor muscles of the left arm and of the extensors of the fingers was also noticed and a "blue line" was present in the gums. He was put under treatment and diaphoretic remedies were administered. The pain and tenderness in the limbs diminished, but a more serious symptom—viz., dyspnœa—now supervened. On Oct. 4th he had a severe attack of dyspnœa and on the following morning he had another and similar attack in the course of which he died. The necropsy revealed the following interesting conditions. The flexors and extensors of the right arm were found to be atrophied and wasted, as were also the peroneal muscles and the flexors of the thigh. The left lung was the seat of broncho-pneumonia. The spinal cord showed poliomyelitis of the anterior cornua. At the second and fifth lumbar segments there was an intense degree of infiltration of the walls of the blood-vessels with small round cells. The infiltration had been so extensive as partially to destroy and quite alter the appearance of the nerve-cells in the grey substance. The anterior spinal roots were markedly involved and showed evidences of degeneration, but the *posterior lumbar roots* appeared to be normal. The plantar nerve showed an increase of connective tissue and its vessels gave evidence of endarteritis obliterans. The liver was set aside and was subsequently examined by Dr. J. Bookman for lead, but none could be found. Dr. Onuf points out that as five weeks had elapsed since the patient had left off using paints the absence of lead in the liver was not to be wondered at.

THE COMMITTEES OF THE GENERAL MEDICAL COUNCIL.

VARIOUS committees of the General Medical Council have been summoned for next week. The Executive Committee is summoned for Monday, Feb. 26th; the Penal Cases Committee for Tuesday, the 27th; and the Medical Aid Associations Committee for Wednesday, the 28th. The Executive Committee will not be complete; Mr. Brudenell Carter being no longer a member of the Council, his place will be vacant. Clause 5 of Standing Order VII. runs as follows:—

> "Should there occur during the recess any vacancy in the Executive Committee, they [the committee] shall be empowered to fill up such vacancy except in cases where a summons has been issued for a meeting of the General Council, when the Council itself shall elect."

It remains to be seen whether the Executive Committee will think it necessary under this by-law to anticipate the annual election of their body, which takes place in May. The terms of the clause seem to contemplate such action, and it is the more necessary as there will be another meeting of the Executive Committee before the meeting of the General Medical Council.

THE TREATMENT OF EPILEPSY BY BROMIDES AND DIMINUTION IN THE INGESTION OF CHLORIDES.

DR. Ch. Richet and Dr. Ed. Toulouse have recently brought before the Académie des Sciences in Paris a very ingenious modification of the bromide treatment of epilepsy which has given good results. At the meeting of the Société Médicale des Hôpitaux on Jan. 12th Dr. Toulouse returned to the subject. The idea occurred to him that privation of chlorides would produce increased attraction of the cells for similar salts—bromides—and would therefore intensify their action. The results justified the hypothesis. About 14 grammes (210 grains) of chloride of sodium are consumed daily by normal persons under normal conditions, but this quantity is not necessary to the economy, and according to some observers it is even injurious as the kidneys are overworked in its elimination. Dr. Toulouse reduced the quantity of chloride of sodium consumed by his patients to two grammes (30 grains) a day by putting them on the following diet: milk, 1000 grammes (35 ounces);

beef, 300 grammes (10 ounces); potatoes, 300 grammes (10 ounces); flour, 200 grammes (seven ounces); sugar, 50 grammes (one and three quarter ounces); coffee, 10 grammes (154 grains); and butter, 40 grammes (one and a half ounces nearly). The food was given in the following form. At 7 A.M., nine ounces of milk; at 11 A.M., two pancakes made with eggs, flour, milk, and sugar, and coffee; at 3 P.M., pap made with flour and sugar diluted with milk; at 5 P.M., broth, boiled beef, and potatoes roasted with butter—all without salt. The remainder of the milk was drunk with water. The patients were inmates of an asylum and the subjects of frequent epileptic fits. Bromide of sodium in daily doses of about 50 grains was given to nine patients. On ordinary diet an average of 9·54 fits occurred in 10 days, but in the patients on the diet described the average fell to 1·10—a diminution of 87 per cent. The value of the treatment was confirmed by the fact that the attacks returned when ordinary diet was resumed although the bromide treatment was continued. Whether the prolonged use of this method produces any permanent effect on the disease was not determined. The regimen alone could not explain the effect, for when bromide was not given it produced no benefit. Dr. Toulouse thinks that possibly good results may be obtained in a simpler manner—by removing salt from the ordinary diet and taking into account the quantity contained in bread. This principle of modifying the nutrition of the organism so as to render it more susceptible to the action of a remedy, which Dr. Toulouse terms "*thérapeutique métatrophique*," presents a wide field of application and possibly of utility. For example, the action of iodides in syphilis might be increased by diminution of the chlorides in the system. It also presents a wide field for errors.

PRODROMAL RASHES IN MEASLES.

THE question of prodromal rashes in measles does not appear to be ever entertained in English works. An important article entitled "Sur quelques Erythèmes Prémorbilleux" has been published in *La France Médicale* of Dec. 22nd, 1899, by Dr. E. Deschamps. Professor Henoch appears to have first drawn attention to the subject. He states that "the skin in the prodromal stage usually shows no morbid phenomena; very small rose papules and exceptionally a fugitive erythema are rarely observed on the face." He relates the case of a child, aged two years, in which cough and pyrexia suddenly appeared with diffuse redness of the face and chest. On the next day the redness had disappeared and there were broncho-pneumonia and severe diarrhœa. In the night of the third day the eruption of measles appeared. Some years later Talamon published the case of a boy, aged 10 years, in which during the period of invasion urticarial erythema supervened.[1] In the following year Surmont saw a child, aged three and a half years, with an urticarial eruption which preceded by one and a half days the eruption of measles.[2] But the first systematic work on the subject is the thesis of Dr. G. Robet published in 1896. He observed six cases at the Hôpital des Enfants Malades, Paris. Out of the 10 cases to which he refers, in three the rash was scarlatiniform, in three urticarial, in one morbilliform, and in two it was red *miliaria*. Dr. Deschamps relates seven cases of which some were personal observations and others were reported to him. The following is an example of the former. A boy, aged 12 years, had a bad sore-throat; the pharynx and tonsils (which were very large) were red and ecchymotic. The face, hands, and wrists were very red and there was a scarlatiniform rash on the forearms and legs. The temperature was 98.3° F. in the morning and 101·5° in the evening. On the following day the fever had disappeared. The throat became paler and the rash disappeared in 48 hours. But the fever re-appeared on the third day when there was also diarrhœa. On the fourth day the child complained of his throat and sneezed and his eyes became red, and in the evening the eruption of measles appeared. The prodromal rash of measles usually appears four or five days before the true eruption—at the onset of the period of invasion. Prodromal rashes occur especially in measles and in rubella, more rarely in diphtheria, pneumonia, scarlet fever, varicella, and whooping-cough. The rash is a fugitive erythema; in some cases it lasts from 24 to 36 hours, rarely more than three days. In many cases it is scarlatiniform and in others it resembles measles, but the face is exempt and there is no conjunctivitis. The temperature is generally not affected by the rash, but the child is generally apathetic and without appetite. As to the pathology, Dr. Deschamps argues that it is due to streptococcic or other infection. For in a number of cases sore throat, digestive troubles and diarrhœa have been observed, and in the mucous secretions in measles streptococci and pneumococci have been found. Probably the infection of measles increases the virulence of the associated microbes. The prognosis does not appear to be affected by these prodromal rashes. On the contrary, certain cases observed by M. Hutinel in which erythemata supervened during the eruptive or convalescent periods of measles were usually fatal.[3]

GRANTS IN AID OF SCIENTIFIC RESEARCH IN DENTISTRY.

THE Odontological Society of Great Britain is to be heartily congratulated upon the step it has recently taken in instituting grants in aid of scientific research in connexion with dentistry. In recent years the value of scientific research in dentistry has steadily gained ground and there is little doubt that in the future progress will depend more upon the results of patient experimental research than upon mere clinical observation. In dentistry many fields for research are open to the investigator and there is ample room, not only for the histologist and pathologist, but also for the chemist and metallurgist. The society has sent us a list of the regulations in connexion with these grants. Briefly they are as follows: (1) the grants will be only given in aid of work in connexion with dentistry; (2) where the grants cover the whole expense of inquiry the result of the investigations becomes the property of the Odontological Society; and (3) that all apparatus purchased with the grant shall be the property of the society. The Council is open to receive applications for grants and full particulars can be obtained from the honorary secretary of the society at 40, Leicester-square, W.C.

THE LATE SIR W. D. GEDDES, PRINCIPAL OF ABERDEEN UNIVERSITY.

DISTINGUISHED as a classical scholar and not less as an academic administrator, Sir W. D. Geddes, by his sudden death, leaves Aberdeen, and the whole cause of professional education, "a man the poorer." In the literary sphere he will long be remembered for his prelections, academic and popular, for his masterly commentary on the "Phædo" of Plato, for his profoundly suggestive contributions to the Homeric controversy, and for his edition, in two volumes quarto, of the Latin poems of Arthur Johnston, physician to King Charles I., and known to the Europe of the seventeenth and eighteenth centuries as the "Medical Ovid." It is his work, however, in university extension that more particularly interests the profession—work begun in 1885 when he became principal of Aberdeen University—work, moreover, carried on in spite of difficulties often seemingly insuperable, till almost within sight of the goal. By his untimely death he bequeaths to others the consummation he had most at heart—to make the northern school complete in every department of academic, especially medical, culture and qualification. Even as it is the teaching of medicine is under deep obligations to his enlightened recognition of its requirements, preliminary, scientific, and clinical, and Aberdeen will owe it largely to him if she reinforces the profession with scholars and consultants equal in the coming generation to the Adamses and Kilgours of the past.

---

[1] Médecine Moderne, 1890.

[2] Société de Médecine du Nord, 1891.

[3] Archives Générales de Médecine, 1892.

THE CONGRESS OF INTERNAL MEDICINE.

THE eighteenth Congress of Internal Medicine will be held at Wiesbaden from April 18th to 21st under the presidency of Professor von Jaksch of Prague. On the opening day a discussion on the Treatment of Pneumonia will be introduced by Dr. von Korányi of Budapest and Dr. Pel of Amsterdam. On April 20th Dr. Litten of Berlin will introduce a discussion on Endocarditis and its Relations to other Diseases. The titles of several papers to be read are already announced. Any medical man may become a member. The price of a member's ticket is 15 marks, which entitles the holder to receive a copy of the Transactions. In connexion with the Congress there will be an exhibition of recent medical appliances. The permanent secretary is Dr. Emil Pfeiffer, 13, Parkstrasse, Wiesbaden.

PARALYSIS OF THE FACIAL AND HYPOGLOSSAL NERVES.

Two recent and interesting contributions referring to the above forms of paralysis have been published by Oppenheim[1] and Hoffmann.[2] In the case recorded by Oppenheim the patient was during early childhood the subject of fits which produced unconsciousness lasting several days, and on recovering consciousness there developed a paralysis of the face on the left side and a paralysis of the corresponding side of the tongue. The paralysis was partially recovered from afterwards, though some local atrophy of the affected muscles remained as a persistent condition. The patient came again under observation 18 years later when the muscular paralysis and atrophy mentioned above were still present. Fibrillary tremors were also met with and the electrical excitability of the left facial region was quantitatively diminished. The knee-jerk on the right side was exaggerated, and from a consideration of the clinical facts and history of the case it was believed to be an instance of encephalitis of the pons—a disease which has received but little attention, although there can be no doubt that such an affection, comparable to the spinal and bulbar forms of infantile paralysis, does exist. Of the facial muscles affected in the first instance, some—e.g., the orbicularis palpebrarum and orbicularis oris—had recovered their power. The platysma myoides showed a paralysis of its lateral portion, while the fibres of the median portion still seemed active. From the fact that muscles near the median line—viz , the mentalis, quadratus menti, orbicularis oris, and corrugator supercilii—were readily stimulated by, and responded to, the electric current applied to the sound side, Oppenheim draws the practical conclusion that these muscles were innervated from the facial nerve of the opposite side. The case related by Hoffmann is that of a girl, 17 years of age, who during childhood had suffered from chronic otitis media. This was subsequently followed by cellulitis of the neck, itself probably the sequel to a sore-throat. The local lymphatic glands in the side of the neck were inflamed and swollen and it is probable that the inflammatory process spread into and involved the trunk of the hypoglossal nerve. There were no bulbar or spinal symptoms, and this fact, coupled with the absence of general pain and of fever, negatived the idea of poliomyelitis or of an acute condition such as hæmorrhage. The patient did not perceive anything wrong with her tongue for a considerable time and meanwhile hemiatrophy of the tongue had made some progress. Fibrillary tremors were present during examination on both sides of the tongue and the application of the electric current to the neck was efficient in provoking appropriate movements of deglutition in which the muscles on both sides of the pharynx participated. Hoffman also points out that in the process of protrusion of the tongue the paralysed half lagged behind and thus caused a curvature of the body of the tongue with the concavity towards the paralysed side, while in retraction of the tongue from the condition of extreme protrusion these appearances were reversed. He is of opinion that in this case the hypoglossal nerve was not entirely affected, but that some of its fibres must have escaped destruction. The two cases mentioned above illustrate two different kinds of lesion which may affect a peripheral organ like the tongue, and produce somewhat similar clinical symptoms, though the cases were very different in causation and in gravity of prognosis.

THE GOVERNMENT AND THE REPORT OF THE ROYAL COMMISSION ON THE LICENSING LAWS.

THE Government gave, through the Home Secretary, the following answer to a question asked by Sir J. Leng as to the intentions of the Government with regard to this report: "Of course, I have given my best consideration to the report of this Commission, but I am *obliged* to say that in view of the difficulties of the question and in the present circumstances the Government do not see their way to make any promises of legislation during the present session." It must be allowed that "in the present circumstances" the Government may well ask to be excused from considering this important report. But they will make a great mistake if they think that anything in the difficult nature of the subject will free *them from* the responsibility of dealing with it and *that* soon. The vice of drinking is more costly to the nation even than war.

"THE DIAGNOSIS AND TREATMENT OF HEPATIC ABSCESS."

DR. H. MALBOT, a retired surgeon-major of the French army who gained his experience in Algeria where he saw 22 cases of hepatic suppuration, has recently concluded a series of articles on the above subject in a Parisian medical journal.[1] According to this observer we should see many more cases of abscess of the liver recorded if the diagnosis of the affection were less difficult and its semeiology less uncertain. Pain he regards as the most important of the symptoms. It presents itself in two chief forms: 1. A feeling as though some structure were being torn, resembling in some respects an electric shock, situated in the hepatic region and always occurring after a sudden movement or an attempted muscular effort. 2. Pain *brought on* by succussion lancinating or pungent, extending towards the right shoulder, the pit of the stomach, the lower part of the abdomen, or the right iliac fossa, according to the situation of the abscess. This painful succussion according to Dr. Malbot, is well-nigh pathognomonic of hepatic suppuration. Externally an abscess manifests itself by the "coving" and deformity of the gland rather than by its hypertrophy. As for the attendant *fever*,

---

[1] Berliner Klinische Wochenschrift, No. 16, 1899.

[2] Neurologisches Centralblatt, No. 18, 1899.

[1] Archives Générales de Médecine, August, September, and October, 1899.

It has no special characteristics and may assume any type. Sometimes even it is altogether absent. Dr. Malbot has never observed the peritoneal friction mentioned by certain writers and he also ignores their pulsation of the liver. Neither has he ever met with a case that was complicated by jaundice. After all, he says, the only absolutely certain indication of hepatic abscess is the presence of pus, as shown by an exploratory puncture. These punctures are quite harmless and if unsuccessful at the first attempt should be repeated several times in different directions. With regard to the pathology of hepatic suppuration Dr. Malbot differs from Kelsch, Kiener, and the other authorities who seek to incriminate dysentery as the sole source of the disorder. In his opinion abscess of the liver, as seen at all events in Algeria, may owe its origin to a multiplicity of causes. Any factor which tends to lower the tone of the system and impair its powers of resistance, such as heat, damp, improper food, malaria, and intestinal ulceration of any kind (even typhoid and tuberculous), may lead to hepatic suppuration. In treating abscess of the liver prompt surgical intervention is essential. As soon as possible the accumulation of pus should be removed by means of a free incision. Adhesions being rare Dr. Malbot directs an assistant to immobilise and at the same time compress the organ with both hands before he himself uses the knife. When the pus has been evacuated the cavity is washed out preparatory to the insertion of four, five, or six large red rubber drainage-tubes which are so arranged that the wound is completely plugged, thus rendering the escape of pus into the peritoneal sac an impossibility. This procedure Dr. Malbot calls "nailing the liver to the parietes." Its success at his hands has been considerable, the average duration before perfect cicatrisation of seven cases having been 14 days.

THE CEYLON BACTERIOLOGICAL INSTITUTE.

It is a well-known fact, and one upon which the British nation has received somewhat carping criticism from many foreigners, that scientific research in the British Empire receives scarcely any aid at the hands of the State. But the converse view shows a prospect of which we may well be proud, and that is the generosity and readiness of British subjects to forward with their best endeavours efforts for the advancement of science In London we have the great hospitals, and the laboratories of the Royal Institution built and endowed by Mond. In India the great feudatory princes and munificent commoners among the Parsees have given freely of their wealth for the founding of research laboratories and other scientific work; and now from the island of Ceylon comes the news that a bacteriological institute has been given by the generosity of a well-known family in the island—namely, the de Soysas. Some eight years ago Mr. J. W. Charles de Soysa offered the Government a sum of 10,000 rupees for the erection of a Pasteur institute, but the authorities did not see their way to accept the gift. In 1897, however, Mr. de Soysa renewed his offer for the purpose of building a bacteriological institute and, further, when it was found that the proposed building would cost far more than the sum originally offered he undertook to find funds for the erection of a building on a plan approved by the Government. In this work he was ably assisted by Dr. Marcus Fernando, who spared no time or trouble in arranging the details of the building and in personally superintending its construction after the best European models. On Jan. 31st the institute was formally opened by the Governor, when Mr. A. Perry, principal colonial medical officer, read a statement concerning the founding of the institute. His Excellency then declared the buildings open, with a few words of warm thanks to Mr. de Soysa for his munificence. The director of the institute will be Dr. Marcus Fernando. The building is equipped with the latest appliances for bacteriological research and a number of specimens were on view at the time of opening. A marble slab on the main wall bears the following inscription: "The de Soysa Bacteriological Institute. Presented to the Government of Ceylon by J. W. Chas. de Soysa, Esq., J.P., in commemoration of the Diamond Jubilee of Her Most Gracious Majesty the Queen. Opened by H.E. Sir Joseph West Ridgeway, K.C.B., K.C.S.I., Governor, January 31st, 1900."

The following resolution was unanimously passed at a meeting of the Bradford and West Riding Medical Union held on Feb. 15th:—"The members of the Bradford and West Riding Medical Union beg to offer their hearty congratulations to Professor Victor Horsley, F.R.S., one of the Direct Representatives of the medical profession on the General Medical Council, on the success with which he has struggled to defend the interests of medical practitioners against the continual neglect shown by the representatives of corporations on the General Medical Council, and hope that the medical profession may long continue to have the advantage of being represented on the Council by a gentleman so distinguished alike by scientific attainments and by remarkable energy and skill in pushing the work of reform which is so much needed."

At the monthly board meeting of St. John's Hospital for Diseases of the Skin on Feb. 13th the Earl of Chesterfield was presented with a silver inkstand by the medical staff and governors of the institution as a mark of their esteem on the occasion of his marriage. Mr. G. A. Berkeley, the treasurer, thanked Lord Chesterfield for the time which he had devoted to the hospital and the tact with which he had steered it on several critical occasions into its present smooth and peaceable waters.

Mr. A. H. Spurrier, medical superintendent of the Government Leper Asylum at Zanzibar, reports that he has found in three places on the outskirts of Zanzibar city the breeding places of the true fever-bearing mosquito. From them he has succeeded in hatching the anopheles. We learn that he has also found a larva which preys upon the mosquito larva to a formidable extent—a discovery which may have considerable significance.

On Feb. 16th the Queen, who was accompanied by Princess Henry of Battenberg and Princess Victoria of Schleswig-Holstein, the Duchess of Roxburghe, Mrs. Mallet, Miss Minnie Cochrane, and Sir John MacNeill being in attendance, visited the Royal Isle of Wight Infirmary. She was received by the Rev. W. Welby and Dr. A. G. Davey and was wheeled in a chair to the Children's Wing, which she had opened last year in commemoration of her Diamond Jubilee.

We are forced to delay dealing with the report published this week by the London County Council on the bacterial treatment of crude sewage. The report, which is a supplementary one, is of considerable interest, for in it Dr. Clowes and Dr. Houston give some particulars of the physical, chemical, and bacteriological character of the deposit which accumulates on the coke beds at Barking and Crossness.

At the meeting of the Medical Society of London on Monday next the discussion on the Pathology and Treatment of Appendicitis will be resumed. The following points are suggested for discussion: (1) non-operative treatment; (2) indications for operative treatment; (3) nature of operation and any special details; and (4) after-treatment.

Dr. Dudley Buxton will open the adjourned discussion on the After-effects of Ether Inhalation at the next meeting

THE WAR IN SOUTH AFRICA.

SINCE we last wrote the complexion of affairs in South Africa has altered for the better. Our forces have now been concentrated and they are engaged in a course of action which has so far proved successful. Kimberley has been relieved by a brilliant march; the Boer strongholds at Magersfontein and Spytfontein have been evacuated and occupied by British troops, and the main body of General Cronje's army are fighting a rearguard action while endeavouring to escape towards Bloemfontein, the result of which is not known yet. There is active and energetic movement on all sides; the noise of battle is heard in the western, the eastern, and the southern regions of the conflict, and news of grave import and of a decisive nature may arrive at any moment. The Boers never have met, and never will meet if they can help it, British troops in the open. From the time of Sir Harry Smith to the present their tactics have been the same, but on this occasion they may be compelled to change them. General Buller's troops, too, have been active in the direction of Mount Hlangwane and the east of Colenso, pressing the Boers hard and very successfully on the eastern flank of their investing line. If any portion of the forces of the Federal Republics around Ladysmith have been diverted elsewhere for the protection of the Free State, into which Lord Roberts is now actively carrying war, we may confidently hope that the renewed attempt to relieve Ladysmith on the eastern flank will prove successful. The war is by no means over however; there probably remains a good deal of hard and arduous campaigning work and fighting to be yet undertaken, but there can be little doubt that we are on the right track. The pressure put upon the Government to keep on pouring forces into South Africa has done no harm. The nation is prepared to incur any cost and to make any sacrifice to win. To the more thoughtful among us, however, it has been a satisfaction to recognise that Lord Salisbury has kept his equanimity under circumstances where a cool head was eminently needed. He has all along evidently known his own mind, and has maintained the opinion that he did not think that all those embarrassing foreign contingencies which were hinted at "were at hand or likely to be at hand."

The "entanglement" of Ladysmith has hitherto been the great military obstacle to the success of our arms. Sir Redvers Buller has taken upon himself by far the hardest task of the war and it was one which, as he is understood to have foreseen and realised all the difficulties of it, called for some chivalrous courage on his part. He is stated to have been officially opposed to the selection of Ladysmith as a suitable station for the accumulation of military stores on sanitary as well as strategical grounds, and there is no doubt that as regards the former it has an unsatisfactory medical history. Enteric and other forms of fever and dysentery were of frequent occurrence there and its occupation by the present garrison has proved an unfortunate one in these respects. It is reported to have been the depôt of a large collection of stores and valuables and this, we may suppose, together with political reasons, led to its being held. As General Buller probably had no sufficient land transport to undertake at once a march into the Free State, leaving Ladysmith to take care of itself in the meantime, he had no option but to do the best he could and to undertake the relief of Sir George White. However, as he has now taken a position of strategical importance and entrenched his force at Mount Hlangwane and swept the enemy's trenches at Colenso we may expect to hear that he has succeeded in relieving Ladysmith.

It may be interesting to our readers to know that an emergency ration is served out to soldiers to be carried on the person. It consists of one tin of pemmican and one of chocolate. This is only to be used on emergency, of course. The feeding of the British soldier in South Africa is varied and abundant when he can get it.

The special correspondent of the *Standard* of Feb. 16th had some interesting observations regarding the Royal Army Medical Corps in South Africa:—

> Sir William Mac Cormac has just returned from an inspection tour of the various hospitals. It would be difficult to bestow too great praise on the excellent medical arrangements which have been made. No war has ever been fought in which the wounded soldier has been [illegible] with so much care and consideration. Reforms in many directions will have to be introduced into our army, and it is devoutly to be hoped that our system of medical attendance in peace should be again assimilated to that which obtains in war—i.e., that every important unit may have a medical officer attached to it. One thing is quite certain, the Royal Army Medical Corps must be increased in numbers, for it is quite inadequate even for peace, and the practice of suddenly enlarging it by taking men, when war breaks out, who have had no previous connexion with the service is not one to be commended.

We quite think that the corps must be greatly increased. Its officers in South Africa have done admirable service and deserve every consideration. Their opportunities for leave and professional study will have to be enlarged and the pressure of foreign service on them, which is unduly severe, will have to be decreased. We do not see that there is any insurmountable objection to the attachment of a medical officer to a regimental unit as is now done on active service. It could be made to work in with the system of a Royal Army Medical Corps and, but for the expense which it was said to entail, this would have been done many years ago. An additional number of medical officers on the strength of the corps would have the effect of giving more leave to the remainder. Moreover, the number of medical reserve officers in the country might be increased to meet the exigencies of war when it occurred and in order to enable them to obtain some army training and knowledge of military methods of procedure during times of peace so as to fit them for their work when they were called upon to act in time of war. But there will soon come a time when a complete change must take place in our whole army system, and the change will take the shape of a welding together of the different and various forces of which it is composed.

The present war has not only taught this country, but every other country, a good deal, and has been fruitful of suggestion in many ways. It has given an impetus to the physical training of the youth and young manhood of this country with enormous advantage to manliness and health, physical and moral alike. It has shown the possibility of immensely increasing the strength of defensive warfare. We agree with Lord George Hamilton in thinking that the successful invasion of a country would become a most difficult, if not impossible, undertaking if the adult male population were able to use with intelligence the rifles and modern weapons of warfare, and had undergone some elementary military training, which would also have an excellent influence in the way of personal hygiene. The war has taught us, too, the use, hitherto unsuspected, that might be made of the mountain frontier of India against a hostile and invading army. We have all read of the courage, discipline, and physical attributes of our officers and soldiers in South Africa with admiration. We have yet to prove how far these attributes are capable of being brought out and cultivated by physical training in the open air, and by the development of a similar spirit of obedience and self-reliance among other people than soldiers.

THE PRINCESS CHRISTIAN HOSPITAL.

The steamship which is to convey this hospital to South Africa for the treatment of our troops will sail from Southampton early next week. It has been presented to the Government by Mr. Alfred Mosely of West Lodge, Hadley Wood, Middlesex, who has entirely equipped it, and will support it and accompany it to the Cape. Mr. Mosely's knowledge of the country and climate, gained during 25 years' connexion with South Africa, will prove of considerable value to the efficient working of the hospital. No trouble or expense has been spared to make the hospital in every way worthy of its work. Major H. B. Mathias, D.S.O., R.A.M.C., who is a brother of the gallant Colonel H. H. Mathias, V.C., of Dargai fame, goes out as Government representative with the hospital. The civil staff will consist of the following:—Chief surgeon: Mr. J. Paul Bush, surgeon to the Bristol Royal Infirmary, lecturer on operative surgery in University College, Bristol, and chief surgeon to the Bristol Constabulary. Medical officers: Dr. G. V. Worthington, late senior house surgeon to St. Bartholomew's Hospital, London; Dr. E. A. Nathan, late house surgeon and house physician to St. Mary's Hospital, London; and Mr. A. L. Flemming, late resident surgical officer to the Bristol Royal Infirmary. Dressers: Mr. A. B. Cridland, house surgeon to the Bristol Eye Hospital and late casualty officer, Bristol Royal Infirmary; and Mr. E. M. Pearse, casualty officer, Bristol Royal Infirmary. Nursing staff:

Sister E. C. [illegible] of Guy's Hospital, who will be the sister in charge, and Sisters M. [illegible] F. Atkins, F. M. Fisher, D. A. Snell, and F. Baker. There will also be six non-commissioned officers and 20 hospital orderlies.

The building will consist of four pavilions, each 120 feet in length and containing 25 beds (100 beds in all), with surgery, operation room, nurses' room, tiled bath rooms, washing room for the men, and lavatories attached. The structure itself will be of corrugated iron, lined inside with greenish tinted canvas. The wards will be comfortably furnished with bedsteads fitted with spring mattresses of the newest design, folding washstands, invalid tables and chairs, and every little detail likely to make them more comfortable and home-like. The surgeries and operation room will be fitted with all the latest improvements, including a very complete Röntgen ray apparatus with all the latest inventions for localising foreign bodies. The accessories include the new mercurial interrupter for making and breaking the current, driven by a special motor of its own. This interrupter gives a particularly steady and distinct image with the fluorescent screen, and it also has the advantage of diminishing the length of time of exposure. An expert in this department is included in the list of medical officers. In addition to the main buildings there will be three stores for warehousing the supplies of provisions, invalid specialities, stimulants, drugs, &c.; there will also be a separate building for the storage of the linen, a laundry, and a very complete kitchen of considerable size. A professed cook and assistants will be in charge of the culinary department. Another large structure will contain a central mess room and sleeping accommodation for the medical officers, nurses, and other members of the staff, which will number in all about 50 persons. The plans and specifications of the hospital were prepared by Mr. [illegible] W. Marks, A.R.I.B.A., and the work has been admirably carried out under his superintendence by Messrs. Humphreys, Limited, of Knightsbridge.

(NOTES FROM SIR WILLIAM MACCORMAC.)

(Continued from p. 4[illegible]3.)

We left Cape Town at 9 P.M. on Jan. 16th by ordinary passenger train and arrived at the small town of Matjesfontein in time for breakfast. This little place is considered to be peculiarly suitable for persons suffering from lung complaints. There is a pleasant looking hotel, with spacious verandahs, situated quite close to the station. This building has been offered by the owner (Mr. Logan) to the military authorities as a hospital and to be maintained at his own expense. Unfortunately it is considered to be too near Cape Town for the purpose and too far away from De Aar (where there is a large stationary hospital) as nothing would be gained by unloading the hospital trains here instead of continuing the journey to Wynberg.

We presently continued our journey, passing through a desolate country. The temperature in the carriage reached 90° F. in the afternoon. The veldt on either side of the railway line, extending as far as the eye can reach (until the view is cut off by volcanic hills rising up from the plain), is almost entirely devoid of cultivation and, indeed, vegetation. It is dotted with clumps of scrub, with here and there a mimosa tree. The innumerable kopjes of arid earth covered by boulders must greatly increase the difficulty of locating one's position in the open by their similarity to each other. The Table Mountain at Cape Town is repeated by similar flat topped hills of smaller size all along the line. We arrived at De Aar Junction about midnight and did not reach Naauwpoort Junction until 5 A.M. on the 18th. I here met Colonel Gubbins, R.A.M.C. (the principal medical officer of this division), and visited General Kelly Kenny at his head quarters, which were situated in a little half finished brick cottage. I visited the field hospital here, under the command of Major Hamilton, R.A.M.C., and also the bearer company, commanded by Major J. Fallon, R.A.M.C. This field hospital is of the usual variety of 100 beds and at present contains but very few sick and wounded and no cases of any peculiar interest. Its managers were hourly expecting orders to proceed to Rensberg. Naauwpoort is now occupied only as a station *en route* for the front, the troops there stationed being only a comparatively few "details." The camp is very healthy.

We left Naauwpoort about 2.30 P.M. for Rensberg for the purpose of visiting General French's command. Lieutenant-Colonel D[illegible], R.A.M.C. (the principal medical officer), met me and we were accommodated with tents which were pitched in the garden of a deserted farmhouse which General French has made into his headquarters. The journey from Naauwpoort occupies two hours, the distance being 20 miles, and soon after our arrival I was asked by the principal medical officer to see a case in the field hospital under Major Tate, R.A.M.C., located here. This was the case of a man whose left femur had been smashed by a bullet through the great trochanter. Secondary hæmorrhage had set in 58 hours after the injury and amputation had been performed at the hip-joint. Copious unhealthy suppuration took place and Lieutenant Porter, R.A.M.C., who was in charge of the case, was just about to make a counter opening for its freer escape and I assisted at this operation. I saw this man again two days later when he was much improved. The septic condition had abated, the temperature was lower, and the suppuration was more healthy. At my last visit to this patient, on Jan. 23rd, his condition, both local and general, was much better and there seemed great hope of his early and complete recovery. Amputations during this campaign have been few in number and there may possibly not be another case of disarticulation at the hip-joint with subsequent recovery. The operation was performed in an ordinary bell tent, which served the purpose as well as can be expected on the field. The dust is a great source of discomfort and trouble in operating and dressing wounds, the soil here being very dry and sandy. The wind is high as a rule and the dust penetrates every cranny. Water is very scarce, the entire supply for the troops having to be brought from Naauwpoort, a formidable item for the transport officers. The flies, which are of the ordinary household variety, are very numerous and it becomes necessary to provide mosquito curtains for all serious cases.

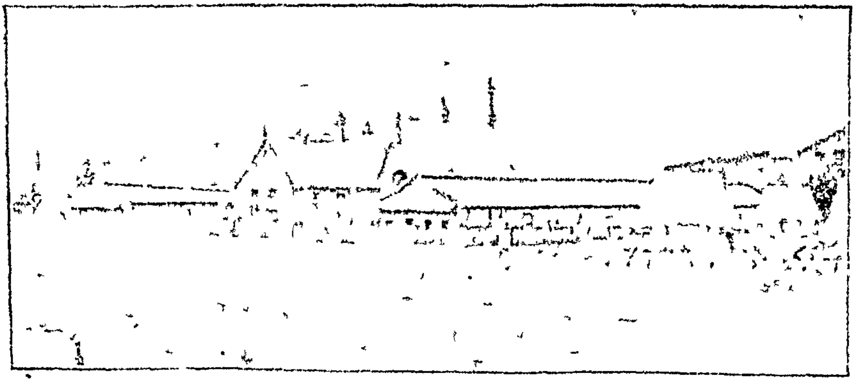
The medical arrangements with this little force are as follows. The troops are practically divided up into two portions, one on each flank, about six or seven miles from Rensberg station. Each regiment has its regimental medical officer constantly with it. Half a field hospital (50 beds) is situated at a farm house at each of these two flank positions and one bearer company is with each half hospital. A complete field hospital (100 beds) is situated here as a fixture, which will be fed by the half hospitals at the front—these latter being, of course, mobile and compelled to evacuate sometimes at an hour's notice. The transport of the wounded and sick is carried on by means of the usual ambulance waggons of the bearer companies. Those cases which are unlikely to recover at the stationary field hospitals are conveyed as they accumulate by train to De Aar Junction, where the large hospital on the line of communication is situated. The hospital trains in an emergency come all the way to Rensberg and thence to a small siding running into the stationary field hospital, but for ordinary cases in times of inactivity at the front a local hospital train of three trucks fitted with stretchers (Zaverdeski's method) is found to be quite sufficient and to answer the purpose admirably, leaving the two regular hospital trains free for the use of the larger force at Modder river.

The following are notes of an interesting case:—

Corporal Thomas (of the Worcester Regiment) Mounted Infantry was wounded at Arundel on Nov. 23rd, 1899, whilst with a party reconnoitring the hills at Arundel. He was leading his pony up a hill when a Boer about 400 yards distant fired at him and hit him four times. All the bullets came from the same rifle; he saw the Boer standing up to fire at him. The first bullet struck the fifth metacarpo-phalangeal joint of the right hand on the extensor surface, smashing the ends of the bones composing the joint, passing along the palmar surface of the metacarpal bones obliquely to its exit between the first and second metacarpal bone and making an irregular oval shaped wound the largest diameter of which was three inches. The exit wound was on the extensor surface of the hand. The irregular ragged appearance of the wound of exit was caused by smashed bones. The second bullet had its entrance in a small, round, punched-out wound, typical of the Mauser bullet, at the base of the palmar surface of the left thumb and passed obliquely upwards and outwards. Its exit was at the extensor surface of the lower extremity of the radius, the exit being irregular. The third bullet entered at the inferior angle of the left scapula, passing directly from behind forwards. (He had turned

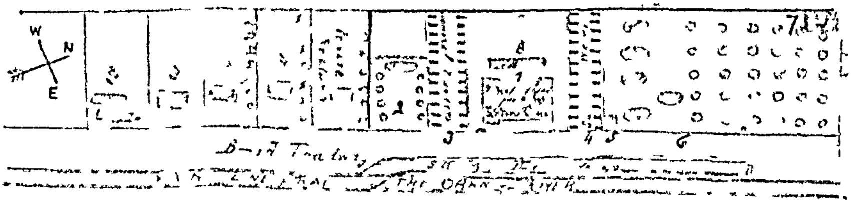
cases (principally medical and chronic) in view of the cot accommodation that may possibly be needed when a general advance is decided upon and the next great battle takes place. I regret to say that enteric fever is prevalent there and, worse to relate, seems on the increase, and as the war goes on a considerable accession in the number of victims to this terrible military scourge may very naturally be expected despite every possible sanitary precaution being taken to prevent its occurrence. As the list of enteric cases mounts up it will, if it has not already, become a serious question with our medical authorities at our hospitals on the line of communication where and how to locate these fever cases so that one and all may receive the necessary and continuous care and watching which they require. With the merely wounded it is a very different matter, for after primary and careful dressing both officers and men can be easily and safely removed by the admirably served hospital trains from the front to the base; but with enteric fever cases there are obviously reasons why this shifting process with safety to the patient or without risk to others cannot well be carried out. On the other hand, with a view to possible contingencies, no medical officer would like to have his accommodation for wounded lessened by a large number of enteric fever cases being thrown on his hands. It has been suggested that marquees should be used for their reception, but enteric fever cases could not safely be so located in a climate like this, where the daily heat is so great, the nights so cold, and where violent dust storms and other drawbacks are daily in evidence. This question, then, of what to do with our daily increasing cases of enteric and other forms of fever must inevitably, sooner or later, force itself to the front, and will no doubt be dealt with by the medical officers successfully, for they have already foreseen and recognised the extreme gravity of the situation in this war and made judicious arrangements to grapple with emergencies as soon as they arise.

FIG. 1.



View of Military Hospital at De Aar. The illustration gives a general view of the appearance of the military hospital at De Aar. The buildings [illegible] from the left of the [illegible] are as follows:—1, Surgeons' tents. 2, Wooden huts. 3, Formerly De Aar schoolhouse, now used as an enteric fever ward and for administrative offices. 4, Wooden huts. 5, Hospital orderlies' marquees.

FIG. 2.



Plan of Military Hospital at De Aar. This side of the rail all the land is used as a camping ground by the various regiments located at De Aar. 1, Administrative offices and enteric wards. 2, Officers' marquees and tents. 3, Wards with position of cots shown. 4, Wards with position of cots shown. 5, Principal medical officer's office. 6, Patients' marquees and tents. 7, Latrines. 8, Lavatories.

Let me say something about De Aar, a most important military camp about five hours' journey from the Free State border and 501 miles from Cape Town. It is a large camp, in which may be found regiments representing every branch of our military service, together with an extensive remount depot at which thousands of mules and horses are detained for supply elsewhere. The amount of work—traffic, goods, and telegraph—got through at this station is enormous, and the manner in which details are worked out reflects credit on all concerned. One has only to visit the station by day or night to comprehend the character and amount of labour necessary to avoid confusion or delay in the traffic, and it is only as this campaign proceeds, with thousands of troops passing up to the Modder or elsewhere and hundreds returning torn, wounded, and mangled from the fields of battle, that an observer realises to the full the extent which detail enters into such an undertaking as a great war. De Aar is both a receiving and a halting place and must always take a prominent position amongst the stations to be occupied by our military during the present war. A few months ago it was not of much importance, being kept up by a little farming interest located in the district and containing two general stores, one church, an hotel, and a sprinkling of small cottage tenements tenanted by the railway officials. But owing to the fact that it is a junction where several important lines meet from

Modder river, the Free State, and Port Elizabeth, while it is situated in a plain between parallel kopjes easy of defence, it has been selected and fortified as a most important strategical centre on our line of communication and bids fair to increase in size and importance, as the war proceeds. The railway station, a commodious building of brick, stands 4180 feet above sea level. The air is very dry. During the day at times the heat is oppressive, the thermometer standing in the shade as high as 104° F. Indeed, on Thursday last it broke the record by three degrees during a terrible dust-storm, which enveloped the camp for hours. As evening approaches and night comes on the temperature rapidly decreases some 40 or 50 degrees, and when darkness deepens the unclouded canopy of heaven scintillates with myriads of stars, while the cool, invigorating breezes wafted from every point of the compass make amends for the tortures of the heated day that has gone. The grape and the peach grow well, but however large or ripe they may be they do not possess the flavour of our English fruit. The water here is peculiar; it is very hard, contains a large quantity of mineral matter, and nitrates in abundance, but no nitrites. It gives all new-comers severe griping and purging, complaints which pass off in two or three days. Dilute sulphuric acid and catechu are the general remedies employed. I myself have been a sufferer for the last few days and can speak feelingly as to the distress produced. For our enteric fever cases milk is in much demand, but only a small amount of it can now be procured owing to the continued drought (over four months) which has prevailed at De Aar. Meat is lean and somewhat tough, and insipid from that cause. Bread even at the hotel table is sometimes sour. These are, after all, minor complaints, but there are others of more importance—especially the continuous winds which bring most disagreeable dust-storms to cover the tents, destroy the food, and stop our watches. Flies keep man and beast in a perpetual state of worry and discomfort. Out-of-doors we are nearly blinded with the columns of dust, and if we retire within the tent or walls eyes, ears, lips, and mouth are attacked by a very host of biting winged insects. For the species of discomforts which I have emunerated I do not think De Aar can well be beaten.

The camps of the various regiments are located on the eastern side of the railway and are exposed to the full force of these dust-storms. The men are, however, fairly healthy, one regiment which has been some weeks here having only six sick in hospital so far.

The Military Hospital (*vide* sketch and plan) is situated about half a mile N N E. of the railway station. It is composed of a large brick-built edifice together with six marquees and 36 double-walled bell tents. It is under the charge of Major Marsh, R A.M.C, who took over the main building with 92 cases on Nov. 29th last, since which time 46 officers, 1004 British troops, and 72 men of the auxiliaries have been treated at these sick quarters. The cases at present under treatment number 230 and the number of deaths up to date amount to only six, five of which were due to enteric fever, the remaining one succumbing to a gunshot perforating wound of the intestine. No officers are treated here but at the old railway hospital which is situated at the other end of the township. The military hospital can easily accommodate 300 or more cases, but two more rows of wooden huts are in course of erection, the materials having been discharged already at De Aar railway station. I regret to say that enteric fever is leaving its mark here as well as at Modder river. Captain Mackenzie of the Army Service Corps died last week from enteric fever contracted at Modder river and since then two other patients have succumbed, one of these being an officer. When the men have done their fighting and all war stimuli are removed by cessation of hostilities then enteric fever always makes its appearance to swell the casualty lists and to rob many a homestead of its bread-winner. Major Marsh, the principal medical officer here, permitted my going over and inspecting the wards and patients The sick all looked as if their wants, professionally and domestically, had been well looked after. Indeed, every man among the sick and wounded to whom I spoke expressed complete satisfaction with the kind, humane, and judicious treatment which had been received under Major Marsh and his several colleagues. The huts on the northern side are kept for the surgical cases and those on the southern side for the medical and general cases, while in the two large schoolrooms in the centre brick building enteric fever cases are treated. The various small rooms under this roof are used for dispensary, linen, and stores purposes. The earth closet system prevails, and the men's latrines are placed in the N.N.W. angle of the camp ground.

The civil practitioners deserve any amount of credit for the manner in which they have backed up the officers of the Royal Army Medical Corps, but a great deal of the detail and clerical work has had to be done by the latter in consequence of the former being perfectly fresh to the requirements of military organisation. I should like to mention that the French Society for Affording Aid to the Wounded, having its offices in Paris, have sent out to Africa no less than 45 handsome cases containing instruments, bandages, medicaments, books, writing paper, office furniture, and a host of very useful articles, for the use of our hospitals at the front. These cases each contain different articles, but one and all are of the newest and most appropriate design and are quite up to, if not ahead of, the times. Surely some public recognition should be made to our across-Channel neighbours for their very handsome and timely gifts.

There has been only one major operation at this hospital, the serious cases having been sent down to the stationary hospitals at the base. At De Aar there is an excellent operating-room, larger and better ventilated than anything which I have as yet inspected, and an x-ray room also. The burial-ground seems very well kept and looked after. I noticed six newly made graves in a row; each had a wooden tablet at the head of the grave, and at the base the names of P. J. Houden, 1st Essex; J. Langford, R F.A.; R. C. Henly, Coldstream Guards; P. E. Rees, Welsh Fusiliers; P. J. Shaw, Grenadier Guards; and Ward, R A.M.C, respectively.

Notes on Board a Volunteer Transport.

(From our own Correspondent.)

You asked me to send you a full account of the feeding of the troops on board the *Montfort*, with possible hints as to improvements for the future. I am glad that I have not to give any hints as to improvements but everything is most excellent. Instead of provisioning the ship for the troops and having the rations cooked and served by the purser's department, as is usually done, the authorities have on this occasion—perhaps because all the troops on board are, or were a short time ago, Volunteers—given the shipping company a fair sum per man per day (I believe the sum is 1*s.* 6*d.*), and owing to the generosity of the owners even this sum has been exceeded, as you can well believe after seeing the enclosed bill of fare for a Sunday and a Friday taken at random.

Sunday.—Breakfast, 8 A.M.: Irish stew, bread-and-butter, marmalade, tea and coffee, and biscuits. Dinner, 1 P.M.: Vegetable soup, roast beef and boiled mutton, cabbage, boiled potatoes, and plum pudding and sauce. Tea, 6 P M.: Cold roast beef, cold boiled ham, bread-and-butter, pickles, and jam.

Friday.—Breakfast: Labrador herrings, bread-and-butter, marmalade, and tea and coffee. Dinner: Pea soup, fish (ling) and sauce, roast beef and salt pork, haricot beans, and boiled potatoes. Tea: Smoked herrings, cold meat, bread-and-butter, biscuits, and jam.

Instead of the usual arrangement of fresh bread twice a week the men have fresh bread *always*. The owners (Messrs. Elder, Dempster, and Co.) have also given an excellent writing-case to each man and a pack of cards to each mess of 14 men, and they will shortly give them a pound of tobacco each. The men may therefore, indeed, consider themselves lucky. The troops on board consist of the battery of the Honourable Artillery Company, now known as the City Imperial Volunteer Artillery, with seven officers (including a medical officer and a veterinary surgeon), 125 men, and 114 horses; the Oxfordshire Company of the Imperial Yeomanry with three officers and 116 men, 60 horses, and one dog (a fox-hound which is the pet of the ship); and Lord Iveagh's Irish Hospital with eight officers and dressers, 51 men, and 80 mules. We are thus very well off for medical men, of whom the following is a complete list:—Dr. George Stoker, Dr. Friel, Dr. Pounden, and Captain Mould, R A M C., of the Irish Hospital; Captain Atwood Thorne, of the City of London Imperial Volunteers; and Dr. Prentice, the surgeon attached to the ship.

There has been very little illness on board. A few men have been slightly injured by the horses and mules, and as the weather has been rough there has been a certain amount of sea-sickness, but from the medical point of view there has been nothing of real interest. Some 60 men of the battery have been vaccinated, but so far only one anti-typhoid inoculation has been performed. Nearly all the men will be inoculated after we leave Las Palmas. The ship is provided with excellent refrigerators, which are worked by the Linde system, and with 30 days' fresh provisions, including fresh milk for all on board.

S.S. [illegible], Transport [illegible], nearing Las Palmas, Feb. 9th.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

(Concluded from p. [illegible])

IN previous articles[1] on Lord Llandaff's report on the metropolitan water-supply we have given a summary of the recommendations at which the Commissioners arrived and we have considered in some detail the questions of control and those having reference to the difficulties of severance of the various metropolitan water companies' undertakings, as well as the opinions on the question of purchase which have been given by the outside authorities. A very large part of the report, however, has not been touched upon. It refers to financial questions and to the reasons which have led the Commissioners to recommend that the undertakings shall be bought and administered by a new Board of Control. On the question of finance the divisions under which the Commissioners considered their report were the present financial position of the water companies, the possible terms of arbitration with special reference to the contentions of the London County Council, and the results which would probably obtain in the case of purchase. The cases in which provincial water undertakings have been bought by local authorities are briefly considered and some pages of the report are devoted to a consideration of the present and prospective requirements of London with regard to water-supply; and a scheme is given with regard to the composition of the new body which the Commissioners propose should be created to carry out their recommendations. With reference to the financial position of the metropolitan water companies the Commissioners say that they have prepared a separate volume giving maps which show the area supplied by the companies and also their intakes, works, and principal mains. The volume containing these maps, plans, and diagrams has not yet been published, but the Commissioners give a good account of the financial condition, and this we think our readers should study that they may realise a little the value of the undertakings.

The ordinary stock of the water companies in 1897 had a nominal value of £10,228,548. The capital of the New River Company represented £2,019,958, and consisted of King's shares and Adventurers' shares, which are real estate, and £500,000 of new shares which were issued in the year 1866. There is no limit to the dividend which can be paid by the New River Company on either of these classes of shares. Seven other companies have £686,700 stock on which the dividend is limited to 7½ per cent.; £400,000 stock with a dividend limited to 7 per cent.[2]; and £7,121,890 stock limited to a dividend of 10 per cent. All the water stocks which are limited as to the amount of dividend paid are entitled to back dividends—that is to say, a dividend larger than the limited dividend may be declared in order to make up the deficiency of any previous dividend which has fallen short of the statutory limit. The Stock Exchange value of the £10,228,548 of ordinary stock was £32,645,169 at the end of the year 1897. In addition to the ordinary stock, in June, 1898, there was preference stock to the amount of £801,676 which was entitled to interest at the rate of 5 per cent. and 4½ per cent. There was also irredeemable debenture stock to the amount of £4,250,110, with an annual charge of 5 per cent., 4½ per cent., and 4 per cent. There was also debenture stock amounting to £1,109,950 redeemable at par at various dates between 1919 and 1922, and on this the interest payable was 3 per cent. and 2½ per cent.; and the Kent Company had a mortgage of £43,000 at 3½ per cent. The total amount of preference debenture and mortgage issues was £6,203,736. The share and loan capital together amounted to £16,432,284 and the Stock Exchange valuation was £41,705,443 in 1897. The net profits—that is to say, the profits after deducting interest on debenture and preference stocks and mortgage—amounted to £1,032,728, and the dividends on shares were £973,741. The West Middlesex Company paid their maximum statutory dividend many years ago and by the year 1897 all the back dividends were paid off. In 1867 the price of the water supplied to consumers was reduced by 5 per cent., in 1870 by 7½ per cent., and in 1891 by 10 per cent. The Chelsea Company and the Kent Company have commenced to pay off their back dividends. The Grand Junction Company paid their maximum dividend in 1880 and have done so every year since that date except in the year 1895. The Lambeth Company have paid the maximum on their 7½ per cent. every year since 1882 except in the year 1895, and they reached their maximum on their 10 per cent. stock in 1897. The East London Company and the Southwark and Vauxhall Company cannot pay their maximum dividends. The dividend paid by the New River Company was nearly 13 per cent. in the year 1897. The total amounts of the seven companies on which the maximum dividend has been reached is £4,013,230; the amount of capital on which the maximum has not been reached is £3,535,360. The back dividends claimable in March, 1897, going back to the date at which the limit of dividend was first imposed on each company, were as follows: Chelsea, £778,414; East London, £2,006,157; Grand Junction, £617,677; Kent, £189,738; Lambeth, £920,670; Southwark and Vauxhall, £1,219,932; making a total of £5,732,856. The back dividends of these six companies amount to 81 per cent. of the share capital which is £7,053,524. The companies are authorised to issue in preference and debenture stocks a further amount of £3,124,500. The Southwark and Vauxhall Company (July 25th, 1898) were authorised to issue £500,000 3 per cent. redeemable debenture stock to be spent in making reservoirs and extending mains. The West Middlesex, Grand Junction, and New River Companies were authorised by the Staines Reservoir Act of 1896 to raise £1,000,000 in debenture stock and in 1898 they were allowed to borrow a further sum of £250,000. These three authorised increases in capital account amount to £5,024,500, of which the only part yet issued is some of the Staines committee's debentures.

The Commissioners point out that there was great difficulty in obtaining an accurate account of the population supplied by the companies. According to the returns made for the year 1898 the number was estimated to be 5,819,563, of which 4,478,396 were within the county of London and 1,341,167 outside it. The area supplied in London was 120 square miles and that outside London was 230 square miles. During the year 1898 the average daily quantity of water supplied was 204,053,955 gallons. Irredeemable debenture stock of the companies amounted in June, 1898, to £4,250,110 and the annual charge for interest was £175,557. In the case of purchase the Commissioners give it as their opinion that the only way for a purchaser to deal with this stock will be to take it over from the companies. The irredeemable debenture stock they consider could not fairly be converted into redeemable stock, even if it were secured upon rates, unless the change received the assent of the stockholders. The redeemable debenture stock and the mortgages should in case of purchase be taken over with the same power of redemption as that which the companies at present possess. Preference stocks existed in the case of two companies, the Chelsea and the Southwark and Vauxhall. The interest upon them, which is 4 per cent. and 4½ per cent. respectively, has always been paid, and they are trustee stocks because the two companies have paid 5 per cent. on their ordinary stock from 1879 to the present time. It would be reasonable, the Commissioners say, to value the stock as a trustee stock on the basis of 2.75 per cent. and at this valuation the nominal amount of £801,676 would be worth £1,478,036. The Commissioners report that they cannot foresee how Parliament would deal with the different classes of stocks in the case of purchase, but for the purposes of their inquiry they assume that the stocks would be taken over as they are and that the interest charged (which amounts to £249,472) must therefore be deducted from the gross profits which would be available for the purchaser.

---

[1] THE LANCET, Jan. 27th (p. 253), Feb. 3rd (p. 329), and Feb. 10th (p. 407).

[2] In the year 1897 this amount was increased by £30,000.

"THE DWELLING-HOUSE FROM THE DOCTOR'S POINT OF VIEW."

ON Feb. 8th Dr. G. VIVIAN POORE delivered a lecture at Carpenters' Hall, London-wall, on "The Dwelling-house from the Doctor's Point of View."

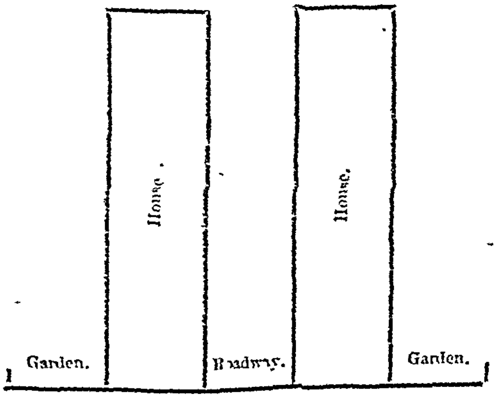
Of all the things which made for health or sickness Dr. Poore said probably the dwelling-house was the most important In answer to the question "Where will you have it, town or country?" he showed upon the screen some figures and graphic statistics which clearly proved that the country was the most desirable. From a diagram constructed from the supplement to the fifty-fifth report of the Registrar-General showing the survivals per 100,000 births in three different localities, (*a*) healthy districts of the United Kingdom, (*b*) England and Wales, (*c*) a crowded city (Manchester), it was seen that in the healthy districts out of 100,000 births 80,000 to 85,000 live to their fifth year, while in Manchester only 60,000 to 65,000 live. From life tables compiled by Dr. Tatham he showed that the expectation of life of a male child at birth in the healthy districts of England was 52 years, while in the Manchester township it was only a little over 28 years. The expectation of life was also greater at the age of five than in the first year, which showed the enormous amount of infant mortality. At all ages the expectation of life was greater in the healthy districts than in the Manchester township. At the age of 45, for instance, the expectation of life in the healthy districts was 29 years, while in Manchester it was only a little over 17 years. From mortality figures compiled by Mr. Shirley Murphy with regard to different sanitary areas of London, taking the mortality figure for London as a whole as 1000, the mortality of England and Wales was only 860, while among various districts of London the figure was 1592 in the Strand, in Hampstead 673 only, and in Lewisham 704. If, therefore, from the medical man's point of view we were able to make a choice of a residence it should be in the country and not in the town.

Another important matter was that of soil, which might be porous, as sand, gravel, or chalk, or impervious such as clay. What were the advantages and disadvantages of these different soils? The porous soils allowed the gases from the earth, one of which was carbonic acid, to rise through them. He was inclined to think that pure carbonic acid was not a very dangerous gas, and if the soil was pure the emanations from it would not be dangerous; but in a porous soil filled with impurities from cesspools or leaking sewers and putrid things buried in the soil the danger was very considerable. The house built upon a porous soil was liable to aspire the gas from the soil by reason of the heat of the fires, &c., in the house. It had, therefore, become the rule in most places to cover the foundations of a house with six inches of concrete; but the gases must have a vent somewhere, and when, as in a town, we had impermeable streets and pavements it became extra dangerous to have any vent-holes in houses because the gas, not being able to escape elsewhere, was drawn into the house. On sanitary grounds the earth round a house should be tilled. Clay soils were undesirable because they held moisture and were cold, while in bad weather it was difficult to get outdoor exercise. But the clay was impermeable and the gases which percolated through porous soil did not get through clay. As a medical man, however, he doubted *whether clay was a dangerous soil. Of course* it was to *people* susceptible to damp, but he was speaking of the average individual. The chief objection to clay was the difficulty of house-drainage. In travelling about the suburbs of London where building was going on he had seen the builders covering the foundations according to the by-laws with concrete, but the builder went into the back garden, took out the sand and the gravel, and put decomposing rubbish in their place, covering the rubbish with a few inches of soil. The object of the by-laws was thus defeated and it was another instance of the saying that although it was easy to drive a coach-and-four through an Act of Parliament it was still easier to drive a coach-and-six through by-laws.

From a medical man's point of view there was nothing more important than the aspect of a house. The best possible aspect was south-east, and if one angle only pointed north you got the sun in the house at all times of the day when it was shining. There was no doubt that sun was a very valuable thing from a health point of view. Not only did you burn less coals, but sunlight was a most important disinfectant and there was much truth in the Italian proverb, *Dove non va il sole va il medico*. Then, again, the position of the house with regard to the road was important. Here the lecturer showed on the screen several plans designed to secure the full benefit of the sun all the year round and a position with regard to the road which did not necessitate sewers being placed under the house. By having a south aspect for the front of the house the larder would be in the north, an important factor with regard to keeping food fresh.

The next point to be considered was the material of which the house should be constructed. Bricks soaked up an enormous amount of water and most kinds of stone were better, being much drier than brick. One of the warmest building materials was mud and it was the only local material in the chalk districts of England. The by-laws promulgated by the Local Government Board said that houses should be built of hard, dry, incombustible material bonded together, &c. That excluded wood. In a city like London wood was of course not to be thought of, but many urban councils had adopted these by-laws with the result that even in truly rural districts a wooden house could not be built. With regard to dryness he did not think there was a better *material than wood. Our friends in Manitoba and the back*woods lived entirely in wooden houses and to make the building of wooden houses illegal seemed to him a very strong measure indeed. There were signs that the Local Government Board was giving way on this point, and he thought it highly probable that they would eventually allow the building of wooden houses provided they were 50 feet from other buildings. He pointed out the importance of wood cottages as cheap dwellings for agricultural labourers in country districts where the building material was to hand, and suggested that the Worshipful Company of Carpenters should offer a prize for the best design for a wooden cottage.

Referring to internal arrangements he would not say that London houses could be much different from what they were, but from a medical man's point of view they were open to criticism, the most obvious being that the area of the house was too small for its cubic contents. He also criticised the trap gully, the disposition of the rooms, and the insanitary position of water-closets, as well as defective ventilation. The fact that in the early morning the smell of cooked bacon ascended from the kitchen to the bedroom was almost as important a test of improper ventilation as was the plumber's peppermint test with regard to leaky drains. Dr. Poore then dwelt on the evils of cellars and passed on to the evils wrought by the speculative builder, who took the minimum allowances of curtilage laid down in the by-laws as his maximum. One effect of the by-laws was that in the country a house could be built 100 feet high with a back-yard of only 25 feet, the width of the road between the houses being 24 feet. The effect of this was strikingly shown in a diagram similar to the following:—



Dr. Poore said that he was an advocate of allowing people to have a garden. He himself would rather live under a couple of hurdles with a garden than in the best stucco house without a garden. But the way in which some councils dealt with building operations was a great hindrance to the lovers of gardens. Some people talked of taxing gardens at their site value; that he called sanitary perdition. In assessing rates for sanitary purposes the cubic capacity of a house should be considered, but the garden ought not to be considered, for a garden was a sanitary gain to the whole community.

REPORT OF THE INDIAN PLAGUE COMMISSION UPON HAFFKINE'S ANTI-PLAGUE INOCULATION.

WE have received from the Under Secretary of State for India a copy of the fourth chapter of the forthcoming Report of the Indian Plague Commission. This chapter has been issued in anticipation of the publication of the complete Report, in recognition of the practical importance of the subject with which it deals. The chapter in question, which covers some 87 pages of foolscap size, is devoted solely to a consideration of Mr. Haffkine's method of prophylactic inoculations, or, as they are termed in the report, "anti-plague inoculations."

It is impossible to sum up in a few words the very extensive ground which this chapter covers. It may be said, however, that it is mainly a close but lucid criticism of a large mass of material, statistical and otherwise, which was placed before the members of the Commission in many different parts of India; that this is supplemented by the results of certain special observations and experiments made by the members of the Commission themselves or undertaken by others at their request; and that it ends with a number of definite conclusions and recommendations to which the consideration of this material naturally leads. It is to the latter that most readers will probably look first, and by that very large body of persons in this country who have been awaiting a definite "yes" or "no" verdict as to the value of Mr. Haffkine's method the answer required will be found in the last paragraph of this chapter of the report. "We cannot," that paragraph runs, "bring to a conclusion this consideration of anti-plague inoculation by Mr. Haffkine's prophylactic fluid without expressing our sense of the importance of the method which Mr. Haffkine has devised and of the results which have been achieved by it. The credit due to Mr. Haffkine is the greater because the difficulties with which he had to contend in this matter could only have been overcome by great zeal and endurance. Mr. Haffkine's work on anti-plague inoculation, while not based on any new scientific principle, constitutes, it seems to us, a great practical achievement in the region of preventive medicine." From these remarks it will be seen that, in general terms, the value of the method of prophylaxis in question is fully endorsed by the Indian Plague Commission. Notwithstanding the severe and searching criticism to which the method and the results claimed for it are subjected, and in spite of certain obvious defects in both (which are pointed out in detail in this chapter), the Commissioners consider Mr. Haffkine to have performed a great life-saving work in the face of almost insuperable difficulties.

The principal conclusions of the Commission in regard to the prophylactic naturally group themselves into two divisions: firstly, those concerned with the protective effect of the inoculations upon individuals and communities; and, secondly, those concerned with the feasibility of adopting a general policy of inoculation as a practical measure against the ravages of plague. We quote in full the conclusions arrived at under each of these heads.

Firstly, in regard to the protective value of the prophylactic inoculations the Commission summarise their conclusions as follows:—

I. Inoculation sensibly diminishes the incidence of plague attacks on the inoculated population, but the protection which is afforded against attacks is not absolute. On the one hand, plague has attacked persons who have undergone inoculation as many as four times in the course of two years previous to their attack. On the other hand, as many as 8 per cent. of the inoculated population may suffer from plague, as was the case in Bulsar. Many varying influences have been at work in determining the rate of attack in different places, and it is impossible to give a numerical expression for the measure of protection against attack which inoculation confers.

II. Inoculation diminishes the death rate among the inoculated population. This is due not only to the fact that the rate of attack is diminished, but also to the fact that the fatality of attacks is diminished. Here, again, no numerical expression for the amount by which the death rate is diminished can be given.

III. Inoculation does not appear to confer any great degree of protection within the first few days after the inoculation has been performed. This fact, we may note in passing, has an important bearing on the question of the risks which would be incurred by recently inoculated persons if they were left isolated in surroundings where plague [illegible] for their [illegible] to the [illegible].

IV. Inoculation confers a protection which certainly lasts for some considerable number of weeks. It is possible that it may be found to last for a number of months. The maximum duration of protection remains to be determined by further observation.

V. The varying strength of the vaccine employed has apparently had a great effect upon the results which have been obtained from inoculation. There appears to be a definite quantum of vaccine material which gives the maximum amount of protection; and it is probable that this quantum can be injected in one dose, and provided also that the protection turns out to be a lasting one, an inoculation [illegible]. The best results of inoculation will only be obtained after an accurate method of standardisation has been devised.

Secondly, in regard to the feasibility of adopting inoculation as a general plague measure the Commission formulate the following conclusions:—

1. Experience gained at [illegible] has shown that it is very [illegible] a large proportion of the inhabitants of an infected place inoculated.

2. It has been possible, where the inducement of exemption from segregation and [illegible] has been offered, to get a large proportion of the inhabitants of an infected place inoculated rapidly.

3. It has been possible in one place, Mysore city, even where no inducement that touched the great mass of the people could be offered, to get a considerable proportion of the inhabitants of an infected place inoculated rapidly.

4. It has been possible also to get a large proportion of particular communities, such as the followers of [illegible] and [illegible], to be inoculated under the influence of their leaders.

The recommendations based upon these conclusions, and on the additional "consideration that it is advisable to make the operation as effective as possible, as little inconvenient as possible to the person inoculated, and as easily carried out as possible by the inoculator," are as follows:—

I. We have already insisted on the necessity for the adoption of a standardised method of [illegible], as being essential to the attainment of the best results, both as to the protection conferred and as to the duration of that protection. We have pointed out, further, that the introduction of an accurate system of standardisation may possibly obviate the necessity of applying successive inoculations.

II. With a view to dispelling the natural fears of the people, and avoiding all unnecessary risk to the inoculated, and further, with a view to [illegible] the inoculations to be carried out with the least possible amount of after [illegible], we would further urge the necessity that stringent precautions should be taken to ensure that all the vaccine used is quite free from contamination, and we would recommend that the volume of the necessary dose should be as small as possible.

III. With a view to removing any possible ground for [illegible] the conveyance of disease by inoculation from one person to another we would recommend that the syringe should be sterilised in the presence of the person about to be inoculated.

IV. We are of opinion that inoculations under the safeguards and conditions stated above should be encouraged wherever possible, and in particular it seems to us desirable to encourage inoculation among disinfecting gangs and the attendants of plague hospitals.

Although occupying the last pages of the section of the report now issued we have quoted these conclusions and recommendations near the commencement of this notice for the reasons already stated. For the present we leave them without comment and may proceed to discuss briefly the larger mass of subordinate and detailed conclusions arrived at in the body of the report, upon which the main conclusions and recommendations just quoted are based.

The section of the report now issued opens with a brief *résumé* of the history of preventive inoculation from the discovery of small-pox inoculation down through the discovery of vaccination, the work of Pasteur upon anthrax, that of Ferran upon cholera, and the more recent work of Haffkine himself upon the last-named disease before he took up the subject of plague prophylaxis. It is unnecessary here to dwell upon this preliminary review of what is familiar to most readers who have any acquaintance at all with the history of preventive medicine. Coming to the subject of inoculation against plague it is pointed out that the first experiments in this direction were those of Yersin, Calmette, and Borrel, who in 1895 made a number of comparatively successful experiments on the production of immunity against plague in rabbits and guinea-pigs by the hypodermic injection of dead cultures of plague bacilli. It was left to Mr. Haffkine to apply successfully a similar method on a large scale to the prevention of plague in human beings.

The method followed by him is conveniently discussed under the following different headings:—

I. The method of preparing mass cultures of the plague bacillus.

II. The method of controlling the purity of those cultures.

III. The method of killing the plague bacilli with the view of converting the culture into an immunising material.

IV. The method of decanting and bottling the prophylactic fluid.
V. The method of ascertaining that the vaccine is free from contaminating micro-organisms and the precautions which are adopted for preventing the growth of such organisms.
VI. The method of standardising the vaccine.
VII The composition of the vaccine.
VIII. The volume of the prescribed dose.

As to the mode of preparing the mass cultures, the report expresses full approval of the methods adopted to avoid the use of such animal products as might be offensive to the feelings of the natives of India, and at the same time to produce a growth in mass on a liquid substratum and to provide for the efficient aeration of the cultures. Approval is also, on the whole, expressed of the second point under consideration—the method of controlling the purity of the cultures—though at the same time it is pointed out that to rely solely upon "the specular appearance of the colonies of plague bacilli, seen from behind by the reflected light through the depth of the agar," which is the method hitherto adopted, is one which, in less experienced hands than those of Mr. Haffkine, could scarcely be regarded as a trustworthy index of the purity of the culture.

The method of killing the cultures of plague bacilli hitherto practised—by subjecting them to a temperature of 65° C. for one hour—is also fully approved as being the routine method adopted by every bacteriologist for a similar object. It is, however, pointed out that Mr. Haffkine has made no experiments upon the effect of this heat, or upon the effect of the addition of ½ per cent. of carbolic acid as practised by him, upon the immunising powers of the fluid. The German Plague Commission has, however, shown that as regards the bacterial sediment in the prophylactic fluid its immunising powers are in no way diminished by the heating process, and the authors of the present report themselves have proved by experiment that the same is true of the supernatant fluid. The curious fact is added that the experiments of the German Plague Commission showed that the addition of ½ per cent. carbolic acid had no effect upon the immunising powers of a *heated* plague culture, although it completely destroyed these powers in an *unheated* culture. No explanation of this curious fact is offered nor is any attempt made to determine its significance.

The methods of decanting and bottling the fluid and of securing its sterility are naturally discussed at considerable length. The mode hitherto adopted—of storing the fluid in ordinary medicine-bottles closed by corks and sealed with sealing-wax—is one which obviously presents very great difficulties in ensuring sterility, and in spite of various methods of sterilising the bottles, the corks, and the syphon, the process of syphoning off an organic fluid such as the plague prophylactic from flasks into bottles cannot, it is found, be accomplished without admitting, in a certain proportion of instances, outside contaminations. It will be recalled that Colonel Lawrie, I.M.S., of Hyderabad, went so far as to condemn, in most unmeasured language, the entire use of the prophylactic in consequence of the contamination of a certain proportion of bottles. The members of the Plague Commission are more moderate in their criticism. They discovered by a series of accurate experiments that in some 22 5 per cent. of bottles contaminations are present. These are, in their opinion, due partly (but not "almost entirely," as Mr. Haffkine urged) to imperfections in the sealing of the bottles and partly to the method of syphoning off the fluid from the flasks into the bottles. They, further, while urging the necessity for devising some method which shall ensure the absence of such contaminations, fully admit that, from a practical point of view, the presence of these contaminations has never been shown to have such harmful results as might be, and have been, urged against them on *a priori* grounds. "We have not," they say, "had any evidence laid before us which goes to show that any serious ill consequences have resulted from the defect in sterility which was spoken of above. We made careful inquiries into this question in the various centres where anti-plague vaccinations have been performed. In the overwhelming majority of cases no evidence was adduced to show that any injurious effects had supervened upon inoculation. In a few isolated cases, however, there was evidence that abscesses had occurred in the vaccinated at the seat of injection." It is added, however, that it is impossible to assert that such abscesses, or an occasional long-continued reaction at the seat of inoculation and continuance of fever, were in truth due to these contaminations and were not merely toxic effects.

The method of standardising the prophylactic hitherto in use has been of a very simple, not to say primitive, character. It has consisted in holding one finger behind the flask containing the fluid and judging by the degree of opacity present whether the fluid was of ordinary strength, and therefore to be administered in the standard doses of two and a half cubic centimetres or of such strength as to be administered in fractions or multiples of that dose. In other words, a rough estimate of the amount of sediment (or dead bacilli) present has been taken as an estimate of the immunising powers of the fluid. A second method of estimating its powers has been by observing its effects upon the first 10 or 20 patients inoculated, the strength aimed at being such as to produce an average temperature in the persons inoculated of 102° F. The difficulties and objections in the way of both these methods are very obvious, and it is not surprising that the Commission dwell on the imperfections of both methods. The difficulties in the way of standardising a fluid of the kind and of obtaining an accurate dose of the immunising material are indeed exceedingly great. No systematic method, it is pointed out, has been hitherto practised for ascertaining the virulence of the cultures originally employed for the production of the prophylactic. Further, it is shown that, while the sediment contains the great bulk, if not the entirety, of the immunising material, the supernatant fluid may in some instances contain a considerable amount of toxins. Where very large doses of a particular sample of the prophylactic are recommended there can be no certainty that a dangerous dose of these toxins may not be introduced. No attempt, it is also pointed out, has hitherto been made to ascertain the weight of the sediment, or dead bodies of bacilli, injected in a given dose; and in view of these considerations the members of the Commission are compelled to state that they "cannot but take a serious view of the fact that in a case like the present, where the estimation of the virulence was neglected, the weight of the bacterial sediment in a prescribed dose was in some samples of the vaccine seven times as large as in other samples."

It is obvious from these statements that much yet remains to be done before the practice of inoculation with a fluid of this nature shall fulfil all the conditions which sound scientific reasoning rightly demands of it. For the present—and this in itself is no small achievement—the method may justly claim to be a practical success and very nearly, if not quite, to attain to the high ideal of a certain and safe prophylaxis against one of the most deadly of all diseases. It is, moreover, founded upon a strict scientific basis, though it is clearly in many and important details open to the charge of imperfection and empiricism. Time will doubtless remedy these defects, and it is certainly regrettable that the members of the Commission have contented themselves with merely pointing out these imperfections and the necessity for overcoming them and have not, with some minor exceptions, made any definite suggestions or recommendations as to the manner in which they should be overcome.

The statistics of the inoculations in various centres undergo strict investigation. The principal observations upon the effect of the inoculations have been made in Bombay, Daman, Lanauli, Kirki, Undhera, Hubli, Dharwar, Gadag-Betigeri, Bangalore, Karachi, Bulsar, Belgaum, and some other towns and villages. For the present we must content ourselves with this enumeration of places and with the brief statement that, while the criticism of the evidence brought forward in each of these places is largely of the nature of an academic discussion of statistical material, it ends in almost every instance with a free admission that the inoculations did largely reduce the mortality in the given place. To these criticisms and to the objections urged against Mr. Haffkine's method of expressing numerically the reduction in mortality brought about by the inoculations we may, perhaps, refer on a future occasion.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6079 births and 5750 deaths were registered during the week ending Feb. 17th The annual rate of mortality in these towns, which had been 21·2 and 22 7 per 1000 in the two preceding weeks, further rose to 25·8 last week. In London the rate was 22·9 per 1000, while it averaged 27·8 in the 32 provincial towns. The lowest death rates in these towns were 14·3 in Brighton, 15·8 in Cardiff, 18·1 in Bristol, and 18·4 in Bradford; and the highest rates were 41·3 in Wolverhampton, 41·5 in Blackburn, 42·7 in Salford, and 54·8 in Preston. The 5750 deaths in these towns included 469 which were referred to the principal zymotic diseases, against 428 and 449 in the two preceding weeks; of these 138 resulted from whooping-cough, 132 from measles, 102 from diphtheria, 33 from "fever" (principally enteric), 31 from scarlet fever, 31 from diarrhœa, and two from small-pox. The greatest mortality from measles occurred in Wolverhampton, Leicester, Salford, Oldham, Preston, and Sunderland; from scarlet fever in Burnley; and from whooping-cough in West Ham, Birmingham, Norwich, and Salford. The mortality from "fever" showed no marked excess in any of the large towns. The 102 deaths from diphtheria included 35 in London, 10 in Leicester, nine in Sheffield, five in Leeds, and five in West Ham Two fatal cases of small-pox were registered last week in Hull, but not one in any other of the 33 large towns There were eight cases of small-pox under treatment in the Metropolitan Asylums Hospitals on Feb. 17th, against 24, 21, and 17 at the end of the three preceding weeks; no new case was admitted during the week. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2052, against numbers decreasing from 3578 to 2089 on the 13 preceding Saturdays; 159 new cases were admitted during the week, against 190, 174, and 157 in the three preceding weeks. Influenza was certified as the primary cause of 74 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had declined from 1221 to 423 in the six preceding weeks, rose again last week to 527, and were 50 above the corrected average. The causes of 102, or 3·7 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Nottingham, Newcastle, and in nine other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Manchester, and Sheffield

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had risen from 23·0 to 27·1 per 1000 in the five preceding weeks, further rose to 31·0 last week and exceeded by 5·2 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 17·2 in Greenock and 23·3 in Aberdeen to 35·4 in Dundee and 50·6 in Perth. The 958 deaths in these towns included 24 which were referred to measles, 20 to diarrhœa, 18 to whooping cough, 11 to scarlet fever, seven to diphtheria, and two to "fever." In all 82 deaths resulted from these principal zymotic diseases, against 81, 68, and 61 in the three preceding weeks These 82 deaths were equal to an annual rate of 2·7 per 1000, which was 0·6 above the mean rate last week from the same diseases in the 33 large English towns The fatal cases of measles, which had declined from 32 to 19 in the four preceding weeks, rose again to 24 last week, and included 17 in Glasgow and six in Paisley The deaths from diarrhœa, which had been eight and 16 in the two preceding weeks, further rose last week to 20, of which seven occurred in Glasgow and nine in Dundee The fatal cases of whooping-cough, which had been eight and 14 in the two preceding weeks, further rose to 18 last week, and included 10 in Glasgow, four in Aberdeen, and two in Paisley. The 11 deaths from scarlet fever showed an excess of eight over the number in the preceding week, and were all registered in Glasgow. The fatal cases of diphtheria, which had been nine and none in the two preceding weeks, rose again last week to seven, of which three were recorded in Glasgow and three in Edinburgh The deaths referred to diseases of the respiratory organs in these towns, which had been 212 and 242 in the two preceding weeks, further rose last week to 325, and exceeded by 40 the number in the corresponding period of last year. The causes of 47, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined from 50·3 to 29·7 per 1000 in the six preceding weeks, rose again to 42·4 during the week ending Feb. 17th. During the past four weeks the death-rate in the city has averaged 36·6 per 1000, the rate during the same period being 21·3 in London and 25·5 in Edinburgh. The 284 deaths registered in Dublin during the week under notice exceeded by 85 the number in the preceding week, and included 15 which were referred to the principal zymotic diseases, against 12 and 17 in the two preceding weeks; of these five resulted from whooping-cough, three from diphtheria, three from "fever," two from diarrhœa, one from measles, and one from scarlet fever. These 15 deaths were equal to an annual rate of 2·2 per 1000, the zymotic death-rate during the same period being 1·9 in London and 1·0 in Edinburgh. The deaths from whooping cough, which had increased from one to five in the six preceding weeks, were again five last week. The fatal cases of diphtheria, which had been three and five in the two preceding weeks, declined again to three last week. The deaths referred to "fever," which had been two and none in the two preceding weeks, rose last week to three. The two fatal cases of diarrhœa corresponded with the number in each of the two preceding weeks. The mortality both from measles and from scarlet fever showed a decline from that recorded in the preceding week. The 284 deaths in Dublin last week included 40 of infants under one year of age and 81 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons were in excess of the numbers recorded in the preceding week. Ten inquest cases and eight deaths from violence were registered, and 95, or one-third, of the deaths occurred in public institutions. The causes of 18, or more than 6 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING JANUARY, 1900.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality during January in each of the 43 sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 8·0 per 1000 of the population, estimated at 4,589,129 persons in the middle of this year. In the three preceding months the rates had been 14·4, 12·6, and 8·8 respectively. The rates were considerably below the average in St. George Hanover-square, Westminster, St. James, Westminster, Strand, City of London, St Olave, Southwark, and Woolwich sanitary areas; while they showed the largest excess in Bethnal Green, St. Saviour, Southwark, Bermondsey, Wandsworth, Lewisham, and Plumstead. 21 cases of small-pox were notified in London during January, of which 11 belonged to Hackney and two each to Fulham, Shoreditch, and Bethnal Green sanitary areas; 20 small-pox patients were admitted into the Metropolitan Asylums Hospitals during the month and 21 remained under treatment on Saturday, the 3rd inst. The prevalence of scarlet fever showed a further decline from that recorded in recent months; among the various sanitary areas this disease showed the highest proportional prevalence in Fulham, Bermondsey Wandsworth, Greenwich, Lewisham, and Plumstead The Metropolitan Asylums Hospitals contained 2126 scarlet fever patients at the end of January, against 3406, 3343, and 2797 at the end of the three preceding months; the weekly admissions averaged 180, against 426, 304, and 197 in the three preceding months The prevalence of diphtheria showed a further slight decrease from recently monthly numbers; the disease was proportionally most prevalent in Newington, Bermondsey, Wandsworth, Camberwell, Lewisham, and Plumstead sanitary areas. There were 1572 diphtheria patients in the Metropolitan Asylums Hospitals at the end of January, against 1687, 1718, and 1679 at the end of the three preceding months; the weekly admissions averaged 189, against 258, 227, and 184 in the three preceding months The prevalence of enteric fever in London showed a slight decline from that recorded in the preceding month; among the various sanitary areas this disease showed the highest proportional prevalence in Holborn, Bethnal Green, St. George-in-the-East, Poplar, Rotherhithe, and Lewisham The Metropolitan Asylums Hospitals contained 289 enteric fever patients at the end of January, against 341, 460, and 406 at the end of the three preceding months, the weekly admissions averaged 40, against 58, 76, and 52 in the three preceding months. Erysipelas was proportionally most prevalent in St. Giles, Clerkenwell, Bethnal Green, Mile End, Old

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1900.

(Specially compiled for THE LANCET.)

Sanitary Areas.	Estimated population in the middle of 1900.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,589,129	21	1167	1313	1	465	10	21	525	—	3526	8·0	—	231	35	225	181	—	86	—	57	815	1·9	12,027	27·3	143
West Districts.																										
Paddington	130,104	—	27	20	1	5	1	—	17	—	71	5·7	—	—	2	6	1	—	1	—	2	12	1·0	295	23·7	164
Kensington	173,603	—	37	38	—	12	2	2	16	—	107	6·4	—	10	1	3	2	—	5	—	2	23	1·4	390	23·4	144
Hammersmith	110,203	—	23	13	—	11	—	1	11	—	69	6·5	—	4	—	2	1	—	1	—	1	9	0·9	233	22·0	111
Fulham	136,383	2	53	30	—	13	—	1	12	—	116	8·9	—	31	2	10	7	—	5	—	6	61	4·7	362	27·7	168
Chelsea	96,715	—	23	14	—	4	—	—	9	—	50	5·4	—	12	1	1	—	—	1	—	—	15	1·6	271	29·2	123
St. George Hanover-square	81,133	1	15	12	—	5	—	—	3	—	36	4·6	—	2	—	4	3	—	—	—	3	12	1·5	195	25·1	145
Westminster	51,657	—	9	7	—	3	—	—	1	—	20	4·0	—	2	1	3	4	—	2	—	—	12	2·4	160	32·3	191
St. James Westminster	21,457	—	1	5	—	—	—	—	2	—	8	3·9	—	—	—	1	—	—	—	—	—	1	0·5	46	22·4	106
North Districts.																										
Marylebone	139,777	—	27	11	—	11	—	—	23	—	72	5·4	—	5	2	4	2	—	1	—	1	15	1·1	365	27·2	101
Hampstead	81,766	—	21	12	—	—	—	—	8	—	41	5·2	—	—	1	2	—	—	1	—	1	5	0·6	164	19·6	111
St. Pancras	245,651	—	48	53	—	32	—	—	32	—	165	7·0	—	11	1	7	15	—	11	—	8	53	2·3	696	29·5	131
Islington	351,541	—	77	70	—	25	3	—	30	—	205	6·1	—	35	5	10	8	—	9	—	2	69	2·0	848	25·2	142
Stoke Newington	35,718	—	10	5	—	1	—	1	5	—	22	6·4	—	—	1	—	—	—	2	—	1	4	1·2	73	21·3	114
Hackney	225,519	11	66	65	—	29	—	2	24	—	197	9·1	—	3	2	11	15	—	6	—	—	37	1·7	541	25·0	160
Central Districts.																										
St. Giles	36,870	—	4	3	—	5	—	—	10	—	22	6·2	—	1	—	1	—	—	—	—	—	2	0·6	74	20·9	96
St. Martin-in-the-Fields	11,855	—	1	6	—	—	—	—	1	—	8	7·0	—	—	—	1	—	—	—	—	—	1	1·0	44	38·7	153
Strand	22,748	—	2	1	—	—	—	—	—	—	3	1·4	—	—	—	—	—	—	—	—	—	—	—	78	35·8	107
Holborn	29,188	—	5	7	—	7	—	—	4	—	23	8·2	—	2	—	2	1	—	1	—	1	7	2·5	119	42·5	181
Clerkenwell	66,007	—	7	16	—	5	—	—	13	—	41	6·5	—	2	1	2	11	—	1	—	—	17	2·7	202	31·9	134
St. Luke	40,655	—	7	11	—	2	—	—	5	—	25	6·4	—	2	—	6	3	—	—	—	1	12	3·1	159	40·8	155
City of London	26,922	—	3	2	—	6	—	—	2	—	12	4·6	—	2	—	—	—	—	—	—	—	2	0·8	101	39·1	250
East Districts.																										
Shoreditch	120,641	2	31	34	—	12	—	—	17	—	96	8·3	—	1	3	7	6	—	1	—	1	19	1·6	346	29·9	142
Bethnal Green	128,831	2	36	40	—	28	1	2	30	—	149	12·1	—	2	—	8	15	—	3	—	3	31	2·5	417	33·8	146
Whitechapel	82,220	—	23	19	—	13	—	1	8	—	64	8·1	—	5	—	1	1	—	1	—	2	10	1·3	217	27·5	143
St. George-in-the-East	48,875	—	3	8	—	11	—	—	2	—	24	5·1	—	2	—	1	2	—	—	—	1	6	1·3	156	33·3	127
Limehouse	58,944	1	14	14	—	9	—	—	7	—	45	8·0	—	—	2	1	3	—	1	—	1	8	1·4	180	31·8	196
Mile End Old Town	113,781	—	18	29	—	11	—	1	26	—	85	7·8	—	2	1	4	6	—	4	—	1	18	1·6	312	28·6	154
Poplar	170,968	—	36	38	—	32	—	2	12	—	120	7·3	—	4	2	11	22	—	2	—	1	42	2·6	451	27·5	171
South Districts.																										
St. Saviour Southwark	23,854	—	7	14	—	4	—	1	1	—	27	11·8	—	—	—	1	—	—	2	—	—	3	1·3	80	35·0	125
St. George Southwark	60,697	—	10	34	—	3	—	—	10	—	57	9·8	—	2	1	6	3	—	—	—	1	13	2·2	247	42·5	209
Newington	125,138	—	29	62	—	15	—	2	15	—	123	10·3	—	11	—	15	4	—	—	—	4	34	2·8	367	30·6	151
St. Olave Southwark	10,909	—	2	—	—	1	—	—	—	—	3	2·9	—	1	—	—	1	—	—	—	—	2	1·9	28	26·8	111
Bermondsey	85,920	—	32	46	—	6	—	1	8	—	93	11·3	—	3	1	10	5	—	1	—	2	22	2·7	272	33·0	157
Rotherhithe	41,246	—	11	11	—	13	—	—	5	—	40	10·1	—	3	1	4	—	—	1	—	—	9	2·3	137	34·6	139
Lambeth	312,152	—	66	98	—	23	1	3	24	—	215	7·2	—	12	1	14	11	—	3	—	6	47	1·6	806	26·9	135
Battersea	178,100	—	38	43	—	31	1	—	22	—	135	7·9	—	23	—	4	5	—	3	—	1	36	2·1	476	27·9	165
Wandsworth	217,004	—	88	100	—	14	—	2	24	—	228	11·0	—	10	—	12	3	—	8	—	—	33	1·6	460	22·1	118
Camberwell	268,457	1	74	133	—	23	1	1	30	—	263	10·2	—	8	—	27	3	—	2	—	1	41	1·6	645	25·1	129
Greenwich	184,582	—	74	59	—	26	—	1	30	—	190	10·7	—	4	2	9	12	—	5	—	—	32	1·8	432	24·4	123
Lewisham (excluding Penge)	93,548	—	34	63	—	8	—	—	11	—	106	27·1	—	—	1	6	1	—	1	—	1	10	2·6	223	57·1	128
Woolwich	41,600	—	5	19	—	—	—	—	4	—	28	3·1	—	6	—	1	3	—	1	—	1	12	1·3	121	13·5	156
Lee	40,722	—	11	16	—	1	—	—	4	—	32	8·0	—	—	—	4	—	—	—	—	—	4	1·0	102	25·6	205
Plumstead	65,558	—	64	32	—	—	—	—	7	—	93	14·8	—	8	—	3	2	—	—	—	1	14	2·2	146	23·2	143
Port of London	—	1	—	—	—	6	—	—	—	—	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Southwark, and Lewisham sanitary areas The 24 cases of puerperal fever included three in Lambeth and two each in Kensington, Hackney, Bethnal Green, Poplar, Newington and Wandsworth sanitary areas

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the public institutions of London having been distributed among the various sanitary areas in which the patients had previously resided During the five weeks ending Feb 3rd the deaths of 12 027 persons belonging to London were registered, equal to an annual rate of 27 3 per 1000 against 18 5 17 6 and 27 3 in the three preceding months The lowest death rates last month in the various sanitary areas were 13 5 in Woolwich, 19 6 in Hampstead 20 9 in St Giles 21 3 in Stoke Newington, 22 0 in Hammersmith and 22 1 in Wandsworth, the highest rates were 38 7 in St Martin in the Fields 39 1 in City of London 40 8 in St Luke, 43 5 in Holborn and in St George Southwark, and 57 1 in Lewisham During the five weeks of January 815 deaths were referred to the principal zymotic diseases in London, of these 231 resulted from measles, 35 from scarlet fever, 225 from diphtheria, 181 from whooping cough 86 from enteric fever, 57 from diarrhoea and not one either from small pox from typhus, or from any ill defined form of continued fever These 815 deaths were equal to an annual rate of 1 9 per 1000, against 1 8 1 9 and 2 1 in the three preceding months No deaths from any of these diseases was recorded last month in Strand sanitary area, among the other sanitary areas they caused the lowest death rates in Hammersmith St James Westminster, Hampstead, St Giles and City of London and the highest rates in Fulham Clerkenwell St Luke, Newington and Bermondsey The 231 deaths referred to measles were slightly below the average number in the corresponding periods of the ten preceding years, this disease was proportionally most fatal in Fulham, Chelsea Islington, Newington Battersea, and Plumstead sanitary areas The 35 fatal cases of scarlet fever were as many as 57 below the corrected average number, the greatest proportional fatality from this disease occurred in Paddington Fulham Marylebone Islington Shoreditch, and Limehouse sanitary areas The 225 deaths from diphtheria were slightly in excess of the average number in the corresponding periods of the ten preceding years; among the various sanitary areas this disease was proportionally most fatal in St Luke, St George Southwark Newington, Bermondsey, Camberwell and Lewisham The 181 fatal cases of whooping cough were 164 below the corrected average number, this disease showed the highest proportional fatality in Westminster Hackney Clerkenwell, Bethnal Green Poplar, and Greenwich sanitary areas The 88 deaths referred to enteric fever were 29 in excess of the average number in the corresponding periods of the 10 preceding years among the various sanitary areas the highest proportional mortality from fever occurred in Fulham, Westminster, St Pancras, Mile End Old Town, St Saviour Southwark, and Wandsworth The 57 fatal cases of diarrhoea were slightly below the corrected average, this disease was proportionally most fatal in Fulham, St George Hanover square St Pancras and Newington sanitary areas In conclusion it may be stated that the aggregate mortality from these principal zymotic diseases in London during January was nearly 20 per cent below the average

Infant mortality in London last month measured by the proportion of deaths of children under one year of age to registered births was equal to 143 per 1000 The lowest rates of infant mortality were recorded in Hammersmith St James Westminster, Marylebone Hampstead, St Giles Strand and St Olave Southwark and the highest rates in Westminster, Holborn City of London, Limehouse St George Southwark and Lee sanitary areas

Influenza was stated to be the primary cause of 1125 deaths in London during the five weeks ending Saturday, the 3rd inst the corrected average number in the corresponding periods of the 10 preceding years being 315 Among the various sanitary areas the greatest proportional mortality from influenza was registered in Chelsea Hampstead Stoke Newington Greenwich, Lewisham Lee and Plumstead In addition to the 1125 deaths directly attributed to influenza there were 235 cases in which it was stated to be a contributory cause of death The deaths referred to diseases of the respiratory organs last month numbered 3865 and showed an excess of 744 over the corrected average

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

Surgeon A G Fratment is lent to Yarmouth Hospital for survey of stores

ROYAL ARMY MEDICAL CORPS

Major M. F Yarr from the Seconded List, to be Major, vice T Dorman, deceased.

Major J S Edye and Major J Moir have joined at Woolwich

The following officers are ordered to the front —Major T P S Hayes appointed to No 7 General Hospital; Lieutenant D Harvey to No 24 Field Hospital, Lieutenant A F Carlyon to No 5 General Hospital, and Surgeon Lieutenant J Clerke Militia Medical Staff Corps, to No 5 General Hospital

THE IMPERIAL YEOMANRY

To be Medical Officer, with the temporary rank of Captain I A Hadley

VOLUNTEER CORPS

Artillery 1st Ayrshire and Galloway Surgeon-Lieutenant H A Lattullo resigns his commission 1st Caithness Samuel Davidson to be Surgeon Lieutenant *Rifle* 8th *Volunteer Battalion the Royal Scots* (*Lothian Regiment*): The undermentioned Surgeon Lieutenant-Colonels resign their commissions with permission to retain their rank and to wear the uniform of the battalion on their retirement —A Ballantyne and C. J Allan The undermentioned Surgeon Lieutenants to be Surgeon-Captains —G Melville and J Cameron 2nd Volunteer Battalion the Royal Fusiliers (City *of London Regiment*) Lloyd John Hollis Oldmeadow to be Surgeon Lieutenant 2nd (Prince of Wales's) Volunteer Battalion the Devonshire Regiment William Edward Manderson Corbett to be Surgeon Lieutenant 2nd Volunteer Battalion the Suffolk Regiment *Sidney Hillier to* be Surgeon Lieutenant 1st Volunteer Battalion the Royal Welsh Fusiliers Surgeon Captain John Edward Henry Davies resigns his commission and is appointed Captain, Surgeon Lieutenant R Drinkwater to be Surgeon Captain 2nd Volunteer Battalion the East Lancashire Regiment Surgeon Lieutenant C E R Bucknill to be Surgeon Captain

TRANSVAAL WAR NOTES

The following is a list of officers of the Royal Army Medical Corps who were members of the staff of the Royal Victoria Hospital, Netley, or who have passed through the Army Medical School since the commencement of the war and who are now serving in South Africa.—Colonel W. T Stevenson Professor of Surgery, Army Medical School principal medical officer, lines of communication, Lieutenant-Colonel M D O Connell, No 2 General Hospital, Major G H Sylvester, secretary to principal medical officer, lines of communication, Major J Gibson, No 5 General Hospital, Major F Daly, Field Hospital, Major I Paterson 1st Corps Field Hospital, Major M O C Drury, Langman Field Hospital, Captain I W Beggie 1st Corps Field Hospital, Captain W T Mould Iveagh Hospital Ship, Lieutenant W Jagger, No 1 General Hospital (x rays), Lieutenant R H Lloyd, 1st Corps Troops Field Hospital, Lieutenant F Harvey, 2nd Middlesex Regiment, Lieutenant C E Trimble, 37th Field Company, Royal Engineers, Lieutenant H S Roch, No 15 Bearer Company Lieutenant P S O Reilly 2nd Corps troops Field Hospital; Lieutenant H C R Hime, No 6 General Hospital Lieutenant E McDonnell, No 7 General Hospital, Lieutenant A M McLaughlin, 1st King's Own Borderers, Lieutenant F H Merry, 2nd Hampshire Regiment, Lieutenant R I Davies No 9 Company Royal Engineers, Lieutenant C S Smith, 2nd South Wales Borderers, Lieutenant C R Evans 2nd North Stafford Regiment, and Lieutenant J M Quddon Fletcher, 7th Infantry Division

A hospital corps of 57 Irishmen has left New York for service with the Boers under the American Red Cross Flag

The Western Counties Association for providing convalescent homes for the South African wounded (working in connexion with the Soldiers and Sailors' *Help Society*) has raised nearly £1200 It has been decided to take 10 beds at the Combe Down Home and three at the Weston super Mare Sanatorium

The committee of Westminster Hospital have granted leave of absence to Mr. Charles Stonham, Dr. Purves Stewart, and Mr. William Turner. Substitutes will be appointed in their absence in order that the public may not suffer.

The medical staff of the Princess Christain Hospital, which is shortly to proceed to South Africa, has largely been chosen from members of the Bristol Medical School. As this is the only hospital going out in which a provincial medical school is so represented, the medical students organised a dinner which was given on Feb. 17th. Mr. Paul Bush and the other members of the staff, including Mr. Flemming, Mr. Pearse, and Mr. A. B. Cridland, together with the donor of the hospital, Mr. Alfred Mosely, were the "guests of the evening." The dinner, which was very successful, was largely attended by the medical practitioners of Clifton and Bristol and their friends.

Dr. J. Bruce (civil surgeon) left in the *Gascon* on Feb. 17th for South Africa. Mr. J. G. Wallis (civil surgeon) also left for the front in the *Guelph*. On the same day No. 20 Field Hospital of the Royal Army Medical Corps, in charge of Major Ritchie, R.A.M C., left in the *Sicilian*.

It is an excellent and happy idea to associate the Indian dhoolie bearers with the benefits of the Royal Army Medical Corps Fund and to make them participators in its benefits. Officers of the Royal Army Medical Corps have had many opportunities of judging of the work of these men. They really render invaluable services which do not stand out so prominently with the public as they deserve, for however quietly and unassumingly performed they *nevertheless frequently* make calls upon the courage, self-reliance, and coolness of those who have to carry them out on the battlefield and often under very trying circumstances. The Indian dhoolie bearers are, as a rule, devoted and fearless in their efforts to strip the battlefield of its wounded and carry them to positions where their wounds can be properly cared for. The services which these men have rendered to the British soldier in this respect in our Indian campaigns and now in South Africa thoroughly merit recognition. It is but right and fitting, therefore, that when they return to their native villages they should be able to feel, and to tell the natives of India, that this nation was not unmindful of the services which they rendered to the British army in South Africa.

On Feb. 21st the Duke of Cambridge inspected the Langman Field Hospital at the headquarters of the St. George's Rifles in Dover-street, W. The hospital, which has 100 beds, leaves in the *Oriental* on Wednesday next. As we have already announced, Mr. Robert O'Callaghan is chief civil surgeon, Mr. C. Gibbs surgeon, Dr. H. J. Scharlieb surgeon and anæsthetist, and Dr. Conan Doyle physician; Mr. Hackney, Mr. Turle, Mr. Blasson, Mr. Mayes, and Mr. Burton, senior students and dressers at University College Hospital, will act as dressers; while Major M. O'C. Drury, R.A.M.C., has been appointed by the War Office as army medical officer in charge.

All the details of the Imperial Yeomanry Hospital will, it is hoped, have been despatched by to-day (Feb. 24th) and the arrangements for the field hospital and bearer companies are making rapid progress.

The Imperial War Fund have forwarded £200 to Netley Hospital for the temporary assistance of discharged disabled soldiers.

A provisional committee for the Welsh hospital for South Africa has been formed, which includes among its members Sir John Williams, Dr. F. T. Roberts, Dr. Isambard Owen, Mr. Edmund Owen, and Professor Thomas Jones. The organising secretary, Professor Alfred Hughes, of King's College, will receive donations at 7, Chester-terrace, Regent's-park, N.W. Sums amounting to nearly £1000 have been already promised.

Captain J. E. C. Canter, R.A.M.C, and Lieutenant Goddard, R.A.M.C., were both wounded near Paardeberg during Lord Roberts's advance between Feb. 16th and 18th.

Volunteer Medical Staff Corps.

At the invitation of Surgeon-Lieutenant-Colonel J. Edward Squire the friends of the London Companies of the Volunteer Medical Staff Corps mustered in large numbers on Feb. 17th at the head-quarters of the corps in Calthorpe-street to witness the presentation of prizes by Surgeon-General H. S. Muir, Deputy Director-General, Army Medical Service Corps Surgeon-Lieutenant-Colonel Squire was able to state that 110 recruits had joined since the end of the last volunteer year when the strength of the corps was 429. Efforts were being made to furnish the corps with its own transport. The Royal Veterinary College students had shown such interest in their transport section that it was believed they would be able to draw all the men they wanted from that college. 74 of their men out of 450 had volunteered for service when the South African war broke out and he trusted that the Volunteer Act would be altered to permit of Volunteers going to the front. Surgeon-General Muir having distributed the prizes Surgeon-Major V. Matthews moved a vote of thanks, which was seconded by Surgeon-Captain J. Harper. Surgeon-General Muir, in acknowledging the vote, said that he had had the pleasure of being at the inspection last summer and was then highly delighted with what he saw in the way of work. With regard to the transport he was deputed by his chief, the Director-General, to say that he sympathised with them in the matter, and that it was his intention to try to obtain for them a better grant than what was now the case. He had every reason to suppose that his recommendation would be acceded to. With regard to the offer of Volunteers for active service it must be remembered that the situation was new. It was the first occasion on which such a large force had left the country and it must also be remembered that the motto of the Volunteer force was "Defence, not defiance." It had not been contemplated that Volunteers should go on a campaign abroad, but things, however, had changed and now the Volunteers were to have a chance at the front. With reference to the Volunteer Medical Staff Corps the warrant that was now coming out, though perhaps not satisfactory to everybody, would set things right. Those men who wished to go to the front would have an opportunity in the near future, and he hoped that he might say on behalf of the Director-General that they would sooner have them than anyone else. He had heard it said that the St. John Ambulance men had been preferred to them, but that was not so. The officials had not the authority to take the men of the Volunteer Medical Staff Corps, but he hoped that the authority was now coming. Some misunderstanding had arisen in regard to the strictness of the medical examination, but that must be fairly strict and they could not relax it altogether. He believed that some men had been disappointed at being rejected, but possibly when the rules were slightly relaxed, as they would be all round, these men might have a chance of distinguishing themselves in South Africa.

Volunteer Ambulance School of Instruction.

The spring class of the School for Stretcher Bearers held at Queen's Hall, James-street, Buckingham-gate, the head-quarters of the Queen's Westminster Rifle Volunteer Corps, by kind permission of Colonel Sir Howard Vincent, K.C.M.G, C.B., M.P., is now full. The officers' class will be held at the head-quarters of the 20th Middlesex (Artists) Rifle Volunteer Corps, Duke's-road, Euston-road, by kind permission of Colonel R. W. Edis, V.D., commencing on May 7th, a further notice of which will appear later. During the absence in South Africa of Surgeon-Captain R. R. Sleman, S.M.O.C.I.V., Surgeon-Captain E. M. Callender, Prince of Wales's Own 12th Middlesex (Civil Service) Rifle Volunteer Corps, is detailed as Adjutant to the school.

Royal Army Medical Corps Fund.

A local committee is being organised in Birmingham in support of the Royal Army Medical Corps Fund and a meeting of medical practitioners and the lady members of their families will be held on Monday next, the 26th inst., at 4 P.M. in the Medical Institute.

Reported Murder of an Army Medical Officer.

Major Walter Kiddle, R.A.M.C., is reported to have been murdered at Monghen by the Was tribe while engaged with the Burmo-Chinese Boundary Commission.

Taunton and Somerset Hospital.—The annual meeting of this institution was held on Feb. 8th under the presidency of Colonel Welby, M.P. The medical report stated that 777 in-patients had been admitted. The financial statement showed that there was a deficit on the year of £1777 which had arisen partly through exceptional expenditure on the laundry and re-flooring the wards, and also to the fact that the amount received from donations and bequests had fallen off considerably. The fund raised in memory of the late Colonel Chard, V.C., had been increased to £909. It was decided to sell stock of the value of £1000 to meet the deficiency in the accounts. The committee decided to offer 10 beds for the use of soldiers wounded in South Africa.

Correspondence.

"Audi alteram partem."

"SOME POINTS IN THE NATURAL HISTORY OF UTERINE FIBROIDS."

To the Editors of THE LANCET.

SIRS,—In your issue of Jan. 20th last is an interesting paper bearing this title and written by Dr. Champneys. The eminence of the author and his impartial judgment are likely to make these *statistics for* some time to come the standard of comparison when considering the question of operation. As I read the paper the general impression left by the figures is to show the extraordinarily small fatality of fibroids of the uterus and the high death rate that *follows* the operation of hysterectomy for their removal.

Dr. Champneys truly observes that the arguments that apply to the operation of ovariotomy cannot be urged for hysterectomy, for, whereas the natural termination of most ovarian tumours is in death, with rare exceptions fibroid *tumours do not end fatally. Speaking generally, therefore,* it is not necessary to life to remove them. With this I agree. A large number of fibroids are small, give no inconvenience, and show no tendency to increase. In such cases obviously no operation is needed and, I should imagine, is rarely performed. There is another class of cases in which the fibroid tumour is actually causing death from obstruction or acute peritonitis. In these cases notwithstanding the removal of the tumour, the patient may die from the obstruction or peritonitis previously existing. Now, it is obvious that in considering the mortality of the operation such cases must be excluded. Excluding, then the simple cases of fibroid causing no trouble and in which no operator would interfere and admitting that occasionally *from* sloughing or obstruction an operation is the only resource there remains a considerable number of cases in which without immediately threatening life, the tumour owing to its size the hæmorrhage it produces its pressure on other organs, and its rapid increase, *must seriously interfere* with health and the enjoyment of life. In this class of case whether or not hysterectomy is advisable must depend on the risk of the operation itself. If the interference with health is considerable and the risk slight a patient would naturally desire an operation. On the contrary should the risk of the operation be great and the ill health produced by the tumour inconsiderable it might be right to refuse an operation. It is therefore in this class of case that the *mortality from* the operation has to be considered. As stated by Dr. Champneys there is a difficulty in obtaining statistics for comparison, *for* the practice at the London hospitals somewhat differs. At some hospitals the operation is only undertaken when the tumour itself is formidable *or producing* serious complications. The operation in these cases is generally difficult and prolonged and the *mortality* will be high. *In other* hospitals a wider scope is given to the class of case considered suitable for removal consequently the cases will be simpler and less complicated and the mortality lower.

The special object in addressing this letter to you Sirs is to point out that the high mortality referred to by Dr. Champneys in his tables *cannot* be accepted in its crude form without some further explanation or relied on as a true index of the risk involved. It is true that Dr. Champneys explains in one portion of his paper that the figures given do not necessarily mean deaths from the operation but he does not make this point sufficiently clear for he states immediately below the table (page 149 line 4) that he takes these statistics "as a basis for arriving at the mortality from operations on *fibroids*." *As to the details of the* operations referred to at other hospitals I am unable to speak but as regards St. Bartholomew's I have before me the details of 11 of the deaths referred to in his tables and I would call attention to the following four cases amongst these.

CASE 1.—A woman, aged 49 years, was admitted *into* the women's ward St. Bartholomew's Hospital with symptoms of peritonitis a rapid feeble pulse and constant vomiting. The abdomen was *tight and enormously* distended with a fluid tumour. The skin over an area the size of the hand above the most prominent part of the tumour was gangrenous and *sloughing*. The tumour was considered to be ovarian, but the patient's general condition was so grave as to make an immediate operation impossible. The tumour was aspirated as a palliative. 16 pints of purulent fluid were drawn off. After the tapping she rallied considerably and six days later an abdominal section was performed. The tumour proved to be an enormous fibro cystic tumour lying between the layers of the broad ligament with a large quantity of pus in the main cyst. It was dissected out with difficulty, and found to be connected with the uterus by a narrow pedicle which was ligatured. Hysterectomy was not performed, she died on the following day. The solid part of the tumour weighed 13 lbs.

CASE 2.—A female aged 41 years, gave the following history. 12 days previously while at stool she was seized with violent abdominal pain followed by vomiting and shivering. When admitted she looked ill, with a flushed face, anxious expression, a rapid pulse and raised temperature. The abdomen was tender much distended, and tympanitic. Abdominal section was performed the next day. Some of the coils of intestine were found glued together with lymph and there was a large quantity of blood clot. The cause of the bleeding and peritonitis was a fibroid tumour with a long stalk attached to the fundus of the uterus. This had become partially twisted. The tumour was removed but hysterectomy was not performed. The lymph and *blood clot* between the coils of intestine were washed away as far as practicable. The patient however, gradually grew worse and died 40 hours later.

CASE 3.—A woman aged 29 years, was intensely anæmic from profuse losses at her periods. The pelvis was blocked *by a tumour which rose two thirds of the way* to the umbilicus. On opening the abdomen the uterus which had some large fibroid nodules on it was pushed right up out of the pelvis by some tumours growing beneath. Hysterectomy was first performed with comparative ease on account of the way in which the body of the uterus was pushed up. The tumour on the left side was next removed. This proved to be a pyosalpinx intimately connected with the rectum with which it had probably communicated. Anyhow the rectum was damaged and it was sewn up with Lembert sutures. The tumour on the right side was then examined and was found to be an adherent dermoid cyst of the right ovary. This was removed. The triple operation lasted one and three-quarter hours, the greater part of the time being occupied in dealing with the pyosalpinx and injured rectum. The patient was greatly collapsed she never rallied and died the same night.

CASE 4.—A woman aged 44 years was admitted for *profuse menstruation and pain*. On the abdomen being opened a large cyst was found situated between the layers of the broad ligament. The uterus was intimately connected with the cyst. The cyst was dissected out with considerable difficulty and much loss of blood. One side of the uterus which was enlarged showed a raw bleeding surface, the hæmorrhage being difficult to deal with it was then decided to remove the uterus as the best means of arresting it. The uterus contained two fibroids one the size of an orange one half the size. The patient was much collapsed from the prolonged operation and hæmorrhage and never rallied and died 19 hours afterwards.

I think that these four cases should not have been included *without an explanation in* a table showing the mortality from abdominal hysterectomies for fibroids, for in the first two cases no hysterectomy was performed, the removal of the pedunculated tumours merely failing to save the patients, while in the two latter hysterectomy was only an incident necessitated during the removal of other coincident disease.

I remain Sirs, yours obediently,

HARRISON CRIPPS.

Stratford place Oxford street W. Feb. 12th, 1900.

AUGUSTE COMTE.

To the Editors of THE LANCET.

SIRS,—You have an annotation in THE LANCET of Feb. 10th on Auguste Comte founded on an interesting article by Dr. W. W. Ireland with respect to the philosopher's mental aberration. Any mention of his insanity has always been disagreeable to his followers. When a few years ago I communicated to THE LANCET a short account of my colleague James Hinton and said, "what the world called madness had often been associated with genius, as in the cases of Irving, C [illegible] Comte, I got an immediate reply from the late Richard Congreve, one of Comte's chief apostles, as follows:—

17, Mecklenburgh-square, Jan. 8th, 1876.

DEAR SIR,—Forgive me if, having known Mr. Hinton slightly and M. Comte much better, I object to your putting them in juxtaposition as you do in this week's LANCET. Press the former in argument and you got deeper into obscurity, or ask him a question as to what he held on a certain point, and in like manner he seemed able to hold both "yes" and "no" upon it. I will venture to say that no one ever carried away that impression from Comte. His profound mathematical training had given him the clearness and precision on all subjects which Mr. Hinton so singularly wanted and which I think had you known Comte you would have valued. If I may be allowed to state the inference I drew from the impression produced in my mind by reading what you write whenever I meet it I often think you come nearer the positive statements than any other physician. Especially do I remember a vigorous elimination of that foolish conception of nature which so many bore us with.

Pray excuse my freedom in writing to one who is a perfect stranger to me.

Yours faithfully,
RICHARD CONGREVE.

Dr. Wilks.

I had the pleasure of making Comte's acquaintance when dining with a friend at Paris in the spring of 1851. I found him very quiet and unpretentious; there was nothing striking in his appearance; he had a shelving forehead and did not look like a man of power. He was then giving a course of gratuitous lectures on Sunday mornings styled, "Cours philosophique sur l'histoire générale de l'humanité." I went to hear the first one on "Théorie fondamentale de la nature humaine, d'après la doctrine subjective du cerveau." On his syllabus he had his usual motto, "Ordre et progrés—vivre pour autrui." In the following year Louis Napoleon proclaimed himself Emperor and Comte's public life came to an end, but he did not die until five years afterwards.

I am, Sirs, yours faithfully,
SAMUEL WILKS.

Grosvenor-street, Feb. 17th, 1900.

"THE PHYSIQUE OF THE BOERS."

To the Editors of THE LANCET.

SIRS,—Your sane and timely article on British physique as compared with that of the Boers ought to be pressed further. Imperialists and humanitarians must unite in desiring for every British citizen a body which has been developed to the utmost perfection whereof it is capable. Town life is a bar to this, but town life has proved itself so attractive that we must accept it as inevitable; what is required is that to the town-dweller there shall be assured all the healthy conditions of country life. The problem may seem insoluble to many; if so, they will be glad to learn that a solution has been thought out and is being shaped for experiment. Mr. E. Howard has devised a garden city which combines the good points of both town and country. It seems to me and to others who have studied his book a feasible plan. In the *Medical Magazine* for this month I have published a short paper on this practicable city of health; but I would urge every sanitarian and philanthropist to study for himself Mr. Howard's notable book. He will feel inclined to carp at details, no doubt. Then let him join the Garden City Association and aid in perfecting a noble and salutary conception.

This heartbreaking war ought surely to issue in a wiser and healthier national life. That it may do so we as a profession must strive to turn the minds of the people from revenge abroad to reform at home, from covetousness to righteousness, from the mote in the eye of another nation to the beam in the eye of our own.

I am, Sirs, yours faithfully,
W. WINSLOW HALL.

Feb. 20th.

*** Dr. Hall will observe that the article in question was from a correspondent. We agree with the writer in the main.—ED. L.

"NOT THE DISEASE ONLY BUT ALSO THE MAN."

To the Editors of THE LANCET.

SIRS,—Your annotation on the Shattock lecture for 1899 on this subject interested me exceedingly. That the physician has to study not disease *per se* but the diseased man is a truth which took us some 22 centuries to learn but which Aristotle evidently knew Anno 350 B.C., for he writes: "Φαίνεται μὲν γὰρ οὐδὲ τὴν ὑγίειαν οὕτως ἐπισκοπεῖν ὁ ἰατρος, ἀλλα τὴν ἀνθρώπου, μᾶλλον δ᾽ ἴσως τὴν τοῦδε, καθ᾽ ἕκαστον γὰρ ἰατρευει." Until 50 or 60 years ago disease was regarded as an entity distinct from the body, to be expelled from it by drugs, like a tapeworm, whereas we now regard it as *a state* affecting the entire man, body and mind, structure and functions, so that it would be more correct to say that he *is* the disease than that he has "got" it. And as this state varies with the constitution, inherited tendencies, antecedents and surroundings of the man, it requires a corresponding variety of treatment. Hence the necessity of having the patient before us to study, and the impossibility of advising and prescribing at a distance; also the folly of supposing that for every disease and symptom there is a specific remedy. The wise physician adapts his treatment to each patient's peculiarities; to one he may give a certain drug, to another with the same disease a different one, and to a third no drug at all; in short, "καθ᾽ ἕκαστον ἰατρευει." A man who had a pain at the vertex was told and believed that he had softening of the brain; after taking many drugs, finding he was no better he consulted the late Sir William Gull, in whom he had great faith, and who assured him that he had no brain disease and that a week's change and rest from work and worries would cure him. This assurance alone cured him at once. A young lady who apparently vomited everything she took and was treated for gastritis and gastric ulcer by several medical men, who gave her all the usual drugs, at last consulted a physician who ascertained that she had been thwarted by her father in love and religion. He compelled her to give up her lover, and afterwards refused to allow her to enter a convent. Removal from home and father to friends at the seaside cured her completely without any drug whatever. A medical man, who has had many years' practice and experience, finds out that symptoms such as vomiting may be the result of a great variety of causes, each calling for special treatment, and he naturally feels insulted when American manufacturing chemists send him pamphlets, as they do almost every week, professing to teach him therapeutics, giving him prescriptions (into which certain advertised specialities enter) for every disease and symptom under the sun, and testimonials from a vast number of M.D.'s, *always American!* I treat these pamphlets as I should Mother Siegel's and throw them at once into my waste-paper basket.—I am, Sirs, yours faithfully,

D. HOOPER, B.A. Cantab., M.B. Lond.,
Physician to the Surrey Dispensary.

Trinity-square, S.E., Feb. 20th, 1900.

"THE SO-CALLED DANGER FROM THE USE OF BORIC ACID IN PRESERVED FOODS."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Jan. 6th (p. 13) there appeared an article under the above heading by Dr. Oscar Liebreich, from which I quote the following: "During these 10 years of experience of practising physicians there has not been forthcoming any instance of injury to health from the administration of small doses of borax and boric acid." I frequently order boric acid in from 10 to 20 grain doses three times a day, especially in bladder cases, and with a considerable experience of the drug thus administered I can say that in the majority of cases a detrimental effect on the general health becomes apparent, usually within a week or 10 days. The symptoms that develop are those of dyspepsia more or less acute, not bad enough to confine the patient to bed or even to the house, but still sufficient to make life miserable. So often has this been observed that I am in the habit of warning people when they are taking boric acid of the possible occurrence of such symptoms and that their onset must be regarded as the signal for its discontinuance. On discontinuance the symptoms quickly subside, to reappear when the patient has resumed the use of the drug.

I remain, Sirs, yours faithfully,
A. R. ANDERSON, F.R.C.S. Eng.,
Surgeon to the General Hospital, Nottingham.

Feb. 20th, 1900.

THE NORWEGIAN EXPERIMENT OF NOTIFICATION OF VENEREAL DISEASES.

To the Editors of THE LANCET.

SIRS,—Among other schemes for the prevention of contagious diseases Norway has, since 1860, included in the list of notifiable diseases those of gonorrhœa, soft sore, and syphilis. I have just received from Dr. Boutzen of Christiania, Inspector for all Norway, a copy of the law of 1860, which empowered plans to be framed for the notification of these maladies. This sanitary law of 1860 enjoins on all practitioners in Norway to declare to the Sanitary Commission all cases of contagious disease, among which are also enumerated venereal diseases. These last are to be notified without indicating the name or residence of the patient. Hence, there has existed in Norway since 1860 a comparative statistical account of these diseases, which is, it seems to me, very interesting.

From the year 1860 up to 1879 soft sores were not separated from syphilis in the statistical reports, and therefore Dr. Boutzen commences his statistics with the year 1879. In that year there occurred in the city of Christiania, with a population of 117,000, 1127 notified cases of gonorrhœa, 314 cases of soft sore, and 365 cases of syphilis, besides 36 cases of hereditary syphilis. Taking all these venereal contagions together they amounted to 1·58 per cent. of the population in 1879 At that date, and up till the year 1888, the Parisian system of the obligatory examination of prostitution was in force, as I heard long ago from Professor W. Boeck when he visited London. Owing to discussion in this and various other European countries the French system was given up in 1888, but since then the notification of all cases of venereal diseases has been kept up. In 1887, the last year of the French *régime*, there were in Christiania, in a population of 136,000, 930 notified cases of gonorrhœa, 343 of soft sore, 222 of syphilis, and 44 of hereditary syphilis. The proportion of all venereal cases per 100 of the population was 1·14, and in 1898 it was 1·39 per cent. of the population.

After the abolition of the regulation in 1888 the percentage of venereal disease notified fell considerably for some years. In 1890 it was 0·90; in 1891, 0·81; in 1892, 0·99; in 1893, 1·05. After this it began again to rise In 1897, 2204 cases of gonorrhœa, 493 of soft sore, and 633 cases of syphilis, with 50 cases of inherited syphilis, were notified in Christiania, in a population of 207,000—i e, 1·65 per cent of the population was attacked by venereal contagion Dr. Boutzen, in a communication to the Brussels Congress of September last (*tome* Ir, *appendice*, p 67), *says* "Up to the year 1888 the control of prostitution was enforced in all large towns in Norway and regular examinations were enforced. When in 1888 this law was suppressed (except in Bergen and Trondhjem) I in common with most physicians entertained a fear that venereal disease would increase greatly in amount I had formerly been employed as visiting physician and, in my then opinion, that was the only means of combating venereal diseases. I was, therefore, the more surprised to find that, after all, in Christiania these diseases went on after the suppression almost as they had done before the abolition Having been one or two years after this nominated as Director of Civil Medical Services in Norway, I had to travel over all the country, and, as a general rule, I observed that the suppression of the old system had had no appreciable consequences. ...... In our country people are coming more and more to require that any measures taken against venereal diseases shall be based as far as possible on the equal treatment of both sexes, with the greatest respect for individual liberty and a minimum of arbitrary administration."

It seems to me, Sirs, that as all disseminators of preventable contagions ought to be prosecuted we might adopt with advantage the notification of cases of gonorrhœa, soft sore, and syphilis, as is done in Norway, no name being given. *Practitioners* might hand to venereal patients rules for the prevention of contagion of relatives and other persons, accompanied with warnings as to their responsibility if they should carelessly or maliciously infect any other unfortunate victim. All contracted persons, such as married people, should, if they claim it, obtain divorce from partners who damage their health in such a way. And generally speaking the law might, according to the spirit of our laws, inflict a penalty—fine or imprisonment—on any person who, carelessly or knowingly, infected another person with such a dangerous foe to life, if the victim lodged a valid complaint Such, according to M Jules Lejeune, President of the Brussels Congress and Minister of State, is as far as the State has a right to interfere in this hygienic question

I am, Sirs, yours faithfully,

CHARLES R DRYSDALE,
Consulting Physician to the Metropolitan Hospital, London.

Feb 15th, 1900.

"THE CONFERENCE AT NEWCASTLE AND THE MIDWIFERY QUESTION."

To the Editors of THE LANCET.

SIRS,—If I have somewhat laboured the question of responsibility it is because it is an important element in any scheme for midwifery nursing. It dominates Mr. Haydn Brown's scheme as sketched in his letter to THE LANCET of Jan 20th, p. 197, it is as a matter of practice essential to proper care and efficiency in work, and I am confident that medical men would for the most part be largely influenced in their estimate of any scheme by this very question; they certainly would wish to regulate their fees accordingly. Your correspondent, Mr Haydn Brown, again, in his letter in your issue of Feb. 10th, p. 420, refers to the relations between principal and assistant, and says that the obstetric nurse *could be dismissed by the medical man for malpraxis* This is hardly the point. A medical man does not wait until his assistant makes some culpable and gross mistake before dismissing him; he dismisses him if he finds that his work is not good, if it is of such a character as to keep him, the principal, in a constant *state of anxiety for fear* he should make some mistake Now I take it that it would not be possible for the obstetric practitioner to dismiss the nurse under such circumstances The question of fees is certainly a very important one, and as Mr. Hadyn Brown devotes two out of eight clauses to it I imagined that he also considered it important. Whether or not the fees are to be included in a bill does not affect their sufficiency. As to Clause 4, a casual visit by the practitioner is said to be "simply confirmative and disciplinary, to satisfy everybody. ...." I seriously doubt what such a visit would confirm; it might satisfy the nurse, but it certainly would not satisfy every medical man.

I did not suppose or suggest that all patients would be compelled to call in the obstetric practitioner, but according to the suggested scheme all who employed the obstetric nurse would have to be visited by him once at any rate and this whether they were *or not his patients* at another time. This to my mind is what would be so very likely to cause unpleasant complications between neighbouring practitioners. I did not refer to consultations between medical men, though I doubt whether in that class of patient "*consultants of standing*" would be called in as often as the neighbouring practitioner. That "women ...... need not engage the combination" is only half a truth, for if they engage the nurse they must be afterwards visited by the practitioner, and, if complications arise, be attended by him; *so that if the nurse were popular and* the practitioner not, what an unfortunate position would be created between the patient, and the obstetric surgeon, the patient and her usual medical attendant, and between the two practitioners. Mr. Haydn Brown has commenced his letter by *formulating a most flattering and comforting doctrine*, but I would remind him that silence is applicable to other things than consent and praise.

I am, Sirs, yours faithfully,

Freshford, Feb. 13th, 1900. CHARLES FLEMMING.

"MYOIDEMA IN PULMONARY TUBERCULOSIS"

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Jan. 27th, p. 230, Dr Walsham is, I think, inclined to underestimate the value *of myoidema* in phthisis. In every case where the disease is at all active, as shown by the temperature chart, I have never failed to obtain myoidema Sometimes, if there has been no loss of flesh, the small lump can be more easily felt than seen One condition is, as far as I know, peculiar to phthisis—that is, the presence of myoidema on one side of the chest only; this happens when there *is* active disease at one apex only and that slight. In cases where there is doubt whether an apex is affected or not the presence of myoidema on that *side* alone is absolutely conclusive of phthisis, though the presence of myoidema on both sides is not as conclusive. In the more advanced *cases* there is *often a* difference on the two sides as to the readiness of myoidema to appear, the more ready contraction being produced on the more diseased side. In acute cases it can often be got in every [illegible] in the [illegible]

A very fair estimate of the rate of progress of the disease at the time is given by this phenomenon; the more readily it is produced the more acute the case, and if it cannot be obtained the phthisis is quiescent.

I am, Sirs, yours faithfully,
WALTER BROADBENT, M.D. Cantab., M.R.C.P. Lond.
Brighton, February, 1900.

"DEATHS UNDER CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—Mr. Whiteford quotes one sentence from my last paragraph but he ignores the sequent and governing sentence, which runs: "But I confess, now I have got used to the Krohne inhaler and realise the significance of these deaths, that I should think it a crime to go back to a towel or a Skinner's mask." Yet this very sentence, which Mr. Whiteford passes over, has since been reprinted and made the text of an approving editorial notice by one of THE LANCET'S medical contemporaries.

Prior to this present decade no inhaler gave us greater security or convenience than the towel or the Skinner's mask. While that was so we older men were quite scientific in sticking to the open method. But that is so no longer.

Watching its effect on the pulse, respiration, and pupils is not "a method of estimating accurately the amount of chloroform absorbed." Such watchings give only a rule-of-thumb measure of the progression of the anæsthesia.

Mr. Whiteford now narrows down the "we" in his question so as to include only himself and me. This to shunt my reply. But Mr. Whiteford has forgotten that he published his question in THE LANCET of July 1st, 1899, long before I had turned up to assist him in the discussion. Is Mr. Whiteford a prophet?

I am, Sirs, yours faithfully,
JAMES EDMUNDS.
Manchester-square, W., Feb 19th, 1900.

THE DISCUSSION AT THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

To the Editors of THE LANCET.

SIRS,—It is of small moment to myself, but the distinguished Royal Academician Mr. Seymour Lucas may be surprised to learn that your reporter gave him credit for re-opening the adjourned discussion on Mr. Ballance's interesting paper instead of

Your humble servant,
R. CLEMENT LUCAS.
Feb 20th, 1900

PUBLIC PRESCRIBING.

To the Editors of THE LANCET.

SIRS,—We are all anxious for war news and most of us no doubt invest daily in an evening paper, but that is no reason why we should tamely submit to be insulted as a profession by the proprietors of some of these journals. When I open my paper and find one whole column devoted to the specious advertisement of an anti-gout remedy and another to the puffing of a tonic with a portrait of the "last cure" my bile rises and I am in want of one of the various liver-pills more modestly advertised in the same paper. Cannot we as a profession boycott the papers which lend themselves to this offensive practice of public prescribing?

I am, Sirs, yours faithfully,
F.R.C.S.
Feb. 20th, 1900.

THE Biennial Dinner of the Metropolitan Branch of the British Dental Association will be held on Saturday, March 3rd, at 7.15 for 7 30 P.M., at the Hotel Cecil, in the Richelieu and Medicis Rooms. Dr. Ashley Barrett, L.D.S., will be in the chair.

BATH EYE INFIRMARY.—The annual meeting of this institution was held on Feb 16th under the presidency of Alderman Bartrum. The medical report stated that 268 in-patients and 1749 out-patients had been treated. The financial statement showed that there remained a favourable balance of £31. On the motion of the Rev. B. N. Thompson it was decided that an honorarium be awarded to Mr. W. Beaumont, the honorary surgeon to the infirmary.

THE ORGANISATION OF THE PROFESSION.

GREAT YARMOUTH.—THE FRIENDLY SOCIETIES DECREE A MEDICAL LOCK-OUT.

(FROM OUR SPECIAL COMMISSIONER.)

THE medical practitioners of Great Yarmouth have successfully formed a strong union. For many years they had suffered at the hands of medical aid companies and friendly societies, but they are now energetically coping with the evil. According to the last census, Yarmouth has a population of 49,334 inhabitants; but this, of course, does not include the immense number of visitors and holiday folk who throng to this town during the sea-bathing season. The medical profession is, however, more concerned with the resident population, who belong, for the most part to the seafaring, working, and tradesman classes. There is not a large upper middle-class and wealthy residential population; still, there are the dealers in the export fish business and the import timber trade who possess some wealth. Then the season is very heavy while it lasts, so that hotel and lodging-house keepers must make some considerable profits. Of late, also, a few very good high schools have been established at Yarmouth and they have increased the residential population, as the parents of children sometimes come and live near these educational institutions. Nevertheless, even when all this is taken fully into account, it is on comparatively poor patients that the medical practitioners must rely for the greater part of their income. It is therefore very necessary that those who can afford to pay small fees should not be able to avoid doing so by joining semi-charitable institutions. There are in Yarmouth many persons who appear to be poor when they are not so. By letting lodgings in the summer months and by successful fishing expeditions considerable sums are sometimes earned. Very often these people do not live up to their income and the balance is put in a bank or devoted to the gradual purchase of a house; others, on the contrary, squander this surplus in drink. In either case it may justly be urged that those persons who in the course of a yea can earn not only enough to maintain their homes but are also able to spend in dissipation or to bank considerable sums should pay proper fees to their medical attendants. In practice, however, this is not done. Because these people are content with a low standard of living they imagine that they have a right to avail themselves of provident organisations which were originally established only for the benefit of the poor. Nevertheless, even this was to some extent tolerable so long as it applied only to the bread-winner, the head of the family. By attending the members of a benefit society for 1*d*. per week the practitioner obtained fees at the usual rate when members of his family were taken ill, and thus this contract work helped to build up a private practice. Of late, however, female lodges were founded and both women and children were brought in, so that the indirect advantage of contract work was seriously menaced.

There was no organisation capable of dealing with this grievance. Certainly Yarmouth possessed a Medico-Social Club, but it did not include all the practitioners of the district. The members met at each other's houses, read scientific papers, and then terminated the proceedings by having supper together. During the course of these social gatherings a pamphlet was circulated among the members, entitled "An Open Letter to the Profession," which urged practitioners to unite and to fight against various evils, notably against the contrac system. Mr. W. E. Wyllys spoke on the questions raised b this pamphlet, and finally it was resolved to get up a meet ing of the local profession to discuss the subject. Th meeting was held in March, 1896, in the mayor's parlour the town-hall. 19 practitioners attended, including sor who had come from the neighbouring district of Gorlesto At Yarmouth, as in many other places, there existed primary difficulty: who was to take the initiative in the mo ment? This is a delicate matter, for it does not often hap that a practitioner holds so prominent a position that can without question or cavil take the lead. The Yarmou practitioners avoided this difficulty by transferring the responsibility to an outside body. They resolved to form themselves into a branch of the Incorporated Medical Practitioners' Association. Then they applied to the central and governing body of this association, sent up their subscriptions, and received official sanction to form a branch. By thus making use of this central body they readily persuaded all the local practitioners to meet and no one was accused of taking too much on himself or of attempting to thrust himself forward. At their second gathering, which was also held in March, 1893, the medical practitioners of Yarmouth met as a branch of the Incorporated Medical Practitioners' Association and proceeded to appoint their officers—namely, a committee of five, a president, and Mr. W. E. Wyllys (25, King-street) as secretary and treasurer, a post which he retains to this day. They called themselves the Great Yarmouth District Committee of the Incorporated Medical Practitioners' Association.

Even at this early date they began to discuss the question of female Foresters. This debate was forced upon the association, perhaps somewhat prematurely, inasmuch as one of the members had resigned his position as medical officer to a female lodge of Foresters because several women who possessed good incomes had been admitted as members. The female Foresters had already applied to other practitioners to accept the vacated position, but the latter very loyally replied that they would wait till after the meeting before giving an answer. The meeting after some discussion decided that the medical officer in question had better withdraw his resignation for a period of three months so as to give the newly formed medical union the time to negotiate. From the very first the profession had displayed great unanimity, and therefore there was some hope that such negotiations might prove successful. At the first meeting 19 names were given in, but this included three practitioners from Gorleston, and as it was subsequently found that the two districts could not be worked together the Gorleston practitioners ultimately withdrew. There remained 16 Yarmouth practitioners, who, with few exceptions, included all the members of the profession in active practice. There are other medical men at Yarmouth, but for this reason or that they certainly would not take up contract work and are no longer dependent on medical practice. It may be thought that this is a very small number of medical men for so large a town, but this can be explained by the very peculiar topographical situation of Yarmouth. There are no suburbs; on the one side there is the sea and on the other side the marshes. Yarmouth is situated on a narrow tongue of land that runs from north to south. To reach any of the inland residences beyond the marshes it is necessary to go a long way round and this means a journey of some 20 miles. A town practice generally includes a certain number of country residences which, though at some distance, are accessible by a direct route, but this is not the case at Yarmouth.

The members of the District Committee met every month and one of their first acts was to draw up a letter which was addressed to all the benefit societies urging that a joint conference should be held so as to discuss the existing grievances. The terms on which the medical practitioners were willing to take up contract work were also fixed and these were printed and sent round to all the clubs. In reply, the benefit societies adopted a lofty tone and the majority refused to entertain the proposals made by the medical practitioners. Two benefit societies did, however, accept the new rules and conceded to their medical officer the right to refuse those members whom he thought were too well off to belong to such societies. They also agreed to an increase in the amount to be paid as subscriptions. The other benefit societies adopted a course which was singularly devoid of tact and showed that they in no wise appreciated the situation. They held a large meeting at which the following resolution was adopted :—

> This representative meeting requests the doctors to withdraw their circular and retain their position on the old terms and take females on the same terms as the males.

The medical men were further called upon not to raise the question in future. In a word, there was to be no improvement, and the medical officers were to pledge themselves never in future to seek to obtain any such ameliorations. This resolution was passed in October, 1896, and the medical officers at once replied that they adhered to their former demands; at the same time they decided that they would not resign but that they would wait to be dismissed. The benefit societies had put themselves in an awkward position, for they had called upon their medical officers to pledge themselves not to raise these questions in the future. Of course, they all very naturally refused thus to pledge themselves, and this demand being rejected the benefit societies thought themselves bound to dismiss their medical officers. Thus the onus of dismissal fell upon the benefit societies; it was not a strike but a lock-out.

At the time when matters had come to a head the Yarmouth practitioners addressed a memorial to all the medical licensing bodies of the United Kingdom calling attention to the evils and abuses of the clubs and medical aid societies, and expressing the desire that these licensing bodies should give their opinion on the conduct of those of their graduates and holders of diplomas who by accepting appointments in such institutions aided and abetted in the perpetration of the abuses in question. This memorial set forth that well-to-do persons were admitted to institutions which were meant primarily for the relief of the poorer classes; that women and children were admitted at rates of payment that were absolutely inadequate; and that industrial assurance companies had organised a system of indiscriminate canvassing whereby the private patients of other medical men were solicited directly for the company and indirectly for its medical officers. These lay organisations conducted medical practice purely as a commercial speculation, in some cases paying their medical officer a fixed salary and appropriating for themselves whatever medical fees were received over and above this sum. At Yarmouth these societies had refused to come to an understanding with their medical officers and had dismissed them. They then advertised in the lay press for other medical men to take up this work, the medical journals having refused to insert such advertisements. Though fairly warned that such conduct was condemned by the general voice of the profession, some medical men had accepted these appointments thus "knowingly, wilfully, and openly assuming the position of assisting a certain section of the public to defeat the local medical men in a matter involving the vital interests of the profession." The memorial to the licensing bodies then went on to relate that .—

> One of our members had previously acted as the medical officer of an industrial assurance company offering medical aid as an attraction to its insurers, paying its medical officer a fixed salary and canvassing for patients from door to door. This office he has resigned, but in the absence of any declaration as to these appointments by the General Medical Council or by the universities and colleges granting medical qualifications the company has, we believe, easily found a substitute. Such facts as we have recited can be quite paralleled in the experience of other towns and districts of the United Kingdom and appear to us to call for the careful attention of the various governing bodies entrusted with the granting of medical qualifications and with the control of those qualified.

The memorialists concluded by inquiring whether the holding of such positions was compatible with the degree or diploma granted, and if it did not contravene existing regulations, would it not be possible to enact a new by-law forbidding such practice? And was it not desirable that the General Medical Council should declare such conduct to be infamous from a professional point of view? This memorial was signed by 15 of the Yarmouth practitioners; and it is worth noting that though it often happens that Irish medical men are the offenders in regard to such club practice, the most sympathetic and encouraging replies were received from the Irish licensing bodies

Great Yarmouth.

(*To be continued.*)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Health of the City.

THE report of the medical officer of health, Dr. A. Hill, for 1899 has been issued by the Health Committee. It contains much useful and valuable information. The birth-rate for the year was 34 3, a higher figure than in any year since 1885. The death-rate was 20 5 per 1000; this is an increase over the average and is due to mortality from diarrhœa and enteritis during the hot months. The zymotic death-rate was small, being 2 9 per 1000. No case of small-pox has occurred for three years past. Typhoid fever shows an increase owing to a severe outbreak in the autumn, the number of deaths being 119, or 20 more than the average. Dr. Hill expresses his strong conviction with regard to the infectiousness of this disease—that direct contact with the person or belongings of a typhoid fever patient is one of the greatest factors in the spread of the disease. Some interesting details are given in reference to the diagnosis and treatment of diphtheria. Under the arrangement made with Mason University College 269 specimens from the throats of persons who had some symptoms of diphtheria were examined. In 123 instances the characteristic bacillus of diphtheria was found. Antitoxin was supplied to 108 cases where the bacillus was found and to 10 cases in which it could not be discovered; also in 94 cases where no examination was desired. The report says that in addition to defraying the cost of primary examinations the committee here also decided to pay the cost of examinations at the College which medical men may desire to have made before certifying the complete recovery and freedom of patients from the disease. The women health visitors appointed last April have done useful work; they visited about 11,700 houses and paid about 3000 revisits. Altogether evidence is given of the activity and value of the Health Committee's labours.

Birmingham and the Medical Arrangements for the War.

Mr. J. F. Hall-Edwards, surgical radiographer to the General Hospital, has been appointed x ray expert and surgical photographer to the Hospital of the Imperial Yeomanry at Cape Town. Messrs. Parker and Sons, electrical engineers, of Wolverhampton, have made a gift of a dynamo for electrically lighting the operating theatre of the Imperial Yeomanry Hospital. It will serve also to furnish the current for the x ray work. Mr. Hall-Edwards is to take this with him as well as photographic apparatus of all kinds voluntarily supplied by the public for his use. The city has also supplied ten members from the St. John Ambulance Brigade, whose appearance elicited pleasing comments from the commissioner. On Feb. 12th an urgent telegram for ten more men was received. In spite of the short notice more than the original number had volunteered by the next morning from the ranks of the police and civilian members of the local branch, promptitude which speaks well for the organisation.

The Workhouse Infirmary.

The Workhouse Infirmary of Birmingham holds a high reputation among similar institutions, being said to be one of the finest and best equipped in the country. On Feb. 2nd the Lord Mayor (Alderman Beale) and the Lady Mayoress paid a lengthened visit to the wards, thoroughly examining the whole building. The Lord Mayor expressed himself as having for the first time realised the importance of the duties discharged by the guardians. As to the infirmary, he stated that the excellent arrangements and management entirely justify the high reputation in which the infirmary is held.

Feb. 20th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Royal Infirmary.

AT the annual meeting of the trustees of the Manchester Royal Infirmary which was held a few days ago the chairman, Mr. Edward Heywood, moved the adoption of the report and mentioned the negotiations which had taken place with the corporation respecting the sale of the infirmary site. The infirmary board named the sum of £400,000 for submission to the trustees, but as the city council decided not to offer that sum the negotiations came to an end. He also moved:

> That the trustees hereby authorise the board of management to appoint a committee to deal with the last resolution of the medical board as given in the annual report with a view to ascertain (1) whether or not a hospital suitable in every way can be built on a plan other than the pavilion; and (2) if this be decided in the affirmative by such committee, that the board of management be authorised to take steps to obtain suitable plans and estimates and to incur all necessary expenses in connexion therewith.

He believed that the best thing for Manchester would be to have a great central hospital on the site where the infirmary has stood for nearly 150 years. Dr. T. Harris seconded the resolution and said that the advance of science rendered it doubtful whether a pavilion hospital at the present time was an absolute necessity. Dr. D. J. Leech said that the first part of the resolution commended itself to all the trustees, but he felt some doubt about the second part. The pavilion type of hospital had been considered necessary for 20 or 30 years and was still held to be the best. Mr. G. A. Wright supported the resolution, which was carried almost unanimously. It would be useless to speculate as to the future. Should the corporation take heart and offer a sum sufficient to make it worth while for the infirmary to sell the whole site it would provide for the building of a large and fully-equipped hospital on another site and secure a worthy position for the Art Gallery and Free Library, which is one of the needs of Manchester. It is also by no means certain that the present site of the infirmary is sufficiently large for the great hospital with its administrative buildings which is deemed necessary for Manchester, even if some type inferior for hospital purposes to the most approved be chosen.

Manchester and Salford Sanitary Association.

The annual meeting of the Manchester and Salford Sanitary Association was held last week, Mr. T. O. Horsfall, in the absence of Dr. Leech, being in the chair. The chairman regretted the lack of interest shown by the people of Manchester in the association, which was indicated by the small amount of the subscriptions (£164 14*s*.) received during the past year. He mentioned one instance showing the pressing need for improved physical education. Out of 11,000 young men who had presented themselves as recruits from Manchester only 3000 could be accepted, and of the latter only 1000 were found fit to serve in line regiments. Against a great town like Manchester, he thought, "no more disgraceful fact had been recorded in human history." If the like holds good of the other great towns of our country the prospect of our being fit to meet possible international difficulties is but poor. Without touching on politics, the situation must be spoken of as perilous, and it is the duty of all, and especially of those who have the control of our educational schemes, to see to it that our boys have a fair chance of possessing sound and healthy bodies, and minds filled with something more practically useful than the mere mass of ill-digested book lore which seems to be too often the outcome of our present-day methods.

Hospital Sunday.

The dreadful weather of Sunday, Feb. 11th, had the effect of so reducing the Machester congregations that the Hospital Sunday collections were grievously lessened. Indeed, in some cases the congregations were so poor that it was decided to postpone the appeal for the hospitals. That at the morning service at the Cathedral numbered, exclusively of clergy, choir, and the boys of the Cheetham Hospital, which is close by, only 40 persons, although it is usually crowded. "The committee of the Hospital Sunday and Saturday Fund appeal to all to support in their various places of worship any arrangement that may be adopted for furthering the interests of the medical charities of Manchester by generous contributions." The sum collected has of late rather fallen off, and this year with the pressing claims of those who are dependent upon our soldiers many charities will suffer. It is said, however, that just now Manchester is exceptionally prosperous and will therefore still be able to give freely. Many have long felt that a more genial time of the year should be chosen for this annual effort. The heavy snowstorm of Feb. 11th is a strong argument in favour of a change of date which should surely be made. If this is agreed upon the collection should be fixed for a day either before or after the summer holiday season, or the results will be disappointing. Obviously it would be best to have the collections before the holiday season has begun.

Feb. 20th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Annual Report of the Liverpool Royal Infirmary.

THE report of the Liverpool Royal Infirmary states that the number of in-patients during the year 1899 was 3012, with an average residence of 27·95 days. There had been 23,605 attendances of out-patients, and 58,883 re-dressings, so that altogether they had dealt with 82,488 cases during the year. The receipts were £13,452, and the expenditure was £14,129, leaving a deficit of £1269.

The increased prosperity of the country had not benefited the institution in the matter of extra donations The contribution from the Hospital Saturday and Sunday Fund was £2783 or an addition of £190 for the year The question of rating had been a source of trouble to the committee While formerly they paid no rates, since 1893 they had paid poor rates on £510 assessment, which was, however, a liberal reduction of their assessment Representatives of 39 charities in Liverpool had asked the finance committee of the city council to relieve them from the city rate, but without a satisfactory result, owing to the present state of the law The consequence was that the Royal Infirmary had to pay poor and city rates amounting to 6s 8½d on the assessment or a sum of £163 per annum The town of Derby had obtained a local Act relieving medical and other charities from the payment of rates, and it was hoped that it might be possible for the Liverpool Corporation to introduce a clause in their omnibus Bill freeing Liverpool charities from the payments of rates which were considered to be a great hardship upon all charitable institutions Mr Charles Langton was elected president for the ensuing year, and Mr Edward Hewley was elected chairman of the committee

The Liverpool Royal Southern Hospital

At the annual meeting of the Liverpool Royal Southern Hospital, held on Feb 12th, the treasurer announced that owing to extensive improvements effected during the year the hospital was in debt to the extent of £4000 The Lord Mayor said that about £50 000 would place all the Liverpool charities in a condition of comfort, and he thought that it was a pity that Liverpool merchants some of whom he had heard, had made from £50 000 to £200 000 out of the war, did not give more to these charities

The Municipal Bacteriologist

Professor R W Boyce of University College has been appointed municipal bacteriologist at a salary of £600 a year

The Stanley Hospital

The new out patient wing which has been added to the Stanley Hospital at a cost of £2000 by the trustees of the Roger Lyon Jones Trust will be formally opened on Feb 22nd by the Lord Mayor The wing is placed at the rear of the institution and is connected with the main building by a covered way It contains a large and well ventilated waiting room, heated by hot air pipes and is capable of accommodating 200 patients There are also a porter s lodge, consulting rooms for the physicians and surgeons a dispensary, and other necessary accompaniments The hospital will provide 20 beds for the disabled soldiers arriving from the seat of war

The Liverpool Medical Institution and the Prevention of Tuberculosis Presentation to the Sub Librarian

The following resolution was carried unanimously at the recent meeting of the society on the proposition of Dr Nathan Raw —

> That it is desirable that a local branch should be established in Liverpool in connexion with the National Association for the Prevention of Consumption and other Forms of Tuberculosis

A sub committee of the institution was appointed to carry out this object —Mr. William Jones the resident librarian of the Medical Institution at the same meeting was presented with a cheque for £193 12s 9d, subscribed by the members in appreciation of his valuable services during a period of 21 years Mr Jones acknowledged the gift in a humorous and happy reply

The Proposed Parochial Hospital for the Treatment of Tuberculosis

At a meeting of the select vestry held on Feb 6th, a letter was read from the Local Government Board enclosing the draft of an Order which the Board had caused to be prepared for combining the unions of West Derby, Liverpool, and Toxteth, for the purpose of providing a joint hospital for paupers suffering from tuberculosis The document consisted of 86 sections which several members of the vestry pointed out, a lawyer would have to decipher The consideration of the communication from the Local Government Board was adjourned for a fortnight to enable the vestry clerk to prepare for the members an abstract of the document setting forth its meaning The matter will be fully discussed at the next meeting of the select vestry

Extension of a Corporation Infectious Hospital

Plans were submitted to the health committee for the enlargement of the administrative block, the erection of a porter s lodge and a patients' discharge block at the Corporation Infectious Hospital, Linacre, at an estimated cost of £2050 The necessity for an immediate provision of additional sleeping accommodation for the nursing staff was found to be pressing During the past few years there had been an overcrowding of the staff through lack of sufficient room, giving rise to much inconvenience The out districts supplying patients to the hospital—viz , Waterloo, Seaforth, Sutherland and Great Crosby —would be called upon to contribute to the expense incurred The plans were approved and tenders for carrying the work into execution were issued

The Outbreak of Ophthalmia at the Liverpool Workhouse

Dr W Alexander surgeon to the workhouse hospital, has reported the prevalence of ophthalmia amongst children under the care of the select vestry He instanced the satisfactory results obtained from isolation and treatment of the children at Olive Mount and Maghull. Successful treatment was impossible in the workhouse itself, and he urged the retention of the children at those two institutions The ignorance of parents had had a great deal to do with the spread of the disease Parents should be encouraged to leave their children in the workhouse until a cure was effected If treatment could not be conducted in the future at Olive Mount or Maghull, he suggested the establishment of an ophthalmic school for 40 children—20 boys and 20 girls—at some suitable place The terrible scourge could only be stamped out by isolation and rigorous treatment A bacteriological and pathological report of the ophthalmic cases had been obtained by Dr Alexander from the Thompson Yates Laboratories This was described by Mr William Rathbone as an extremely valuable document which should be printed and circulated amongst the members of the select vestry, and copies he said should be sent to other boards of guardians

University College, Liverpool, and the Royal Army Medical Corps

The Secretary of State for War has offered the authorities of University College a nomination for a commission in the Royal Army Medical Corps for a student of the College Candidates must be duly qualified and physically fit After undergoing the usual physical examination and being approved by the Director General of the Army Medical Department the nominated candidate will be required to report himself at Netley on March 1st to undergo the necessary course of instruction

Feb 20th

SCOTLAND

(FROM OUR OWN CORRESPONDENTS)

Suicide in Scotland

AT a meeting of the Royal Society of Edinburgh on Feb 19th Sir John Sibbald delivered an address on the Statistics of Suicide in Scotland He said that the information to be found on that subject in the Reports of the Registrar General had not been as in other European countries digested and tabulated He then presented a series of statistical statements which he had prepared and in which he had collected and arranged this information The tables showed (1) the influence of age and sex on suicide, (2) the comparative frequency with which different methods were employed, (3) the influence of the time of year on the number of suicides, (4) the influences of town life and country life respectively, and (5) how far they were justified by a study of these statistics in accepting the assertion that in Scotland as in other countries suicide was on the increase The statistics for Scotland showed the same preponderance in the number of suicides in summer over those occurring in winter as had been shown by the statistics of every country in which the matter had been investigated The suicide rate gradually rose from the months of November, December, and January to the months of May, June and July after which it gradually fell This he considered to be one of the most remarkable facts in vital statistics the proportional progress from month to month being almost identical for all countries north of the equator, As regards the question of town and country life the statistics of Scotland did not support the statement that suicide was more frequent in towns. The suicide-rate in the mainland rural districts was somewhat higher than the rate in the large towns. The counties along the east coast of Scotland had higher rates than those along the west coast from the Mull of Galloway to Cape Wrath. The average rate for the whole of Scotland during the 18 years from 1877 to 1894 was 55 per 1,000,000 of population. The lowest rates were for the Highland counties lying north-west of a line drawn from the Moray Firth to the Firth of Clyde. The highest rates were shown by Kincardine, Forfar, Mid-Lothian, Linlithgow, and Haddington, all of which had rates over 71. These facts were illustrated by means of a coloured map. The Registrar-General's returns for successive years showed a great increase in the number of suicides. In spite of this, however, Sir John Sibbald did not believe that they were justified in accepting the increase as a fact. It had to be borne in mind that of late years public opinion with regard to suicide had altered considerably. It was now so universally recognised that in the greater proportion of cases suicide was the outcome of mental disease, that the idea of disgrace was not so closely connected with the act, and efforts to conceal its occurrence had consequently decreased. Another point which had also to be taken into account was the greater efficiency during recent years of the administrative machinery for registration. After considering the rates for the different methods of suicide Sir John Sibbald concluded by saying that it seemed clear that the alleged increase of insanity must be regarded as not proven.—Dr. Clouston congratulated Sir John Sibbald on the valuable addition he had made to vital statistics. In the course of a few remarks he said that as regarded the medical aspect of the subject, between two-thirds and three-fourths of all cases of melancholia either felt suicidal or attempted suicide, but that there was also no doubt that excess of alcohol produced a condition of brain which frequently led to suicide, and that if there was an increase of suicide it was not due to the intensity and difficulty of living but to the excessive use of alcohol in our cities. He believed that the fact that suicides were more frequent at certain seasons was due to a reversion to the old sexual conditions of the ancient ancestors of the human race. As regarded the distribution of suicides there was no question that the Celt with his vivid imagination, though often melancholic, feared death more than the Teuton did.

The Dietary and Food-Supply of the Poor in Edinburgh.

At a meeting of the Edinburgh Town Council on Feb. 13th a letter was read from Dr. Noel Paton, superintendent of the Research Laboratory of the Royal College of Physicians of Edinburgh, asking the interest of the Town Council in a study upon which he was engaged of the dietary and food-supply of the poorest classes. The object of the study was to obtain data which should serve as guides in directing the poor how to obtain satisfactory food-supply at the lowest cost. He further asked the Town Council for a sum of £50 in order to enable a preliminary study to be made. Enclosed with the letter was a statement describing the method of procedure in this study. It is being carried out in the Research Laboratory of the College of Physicians with the coöperation of Dr. J. C. Dunlop in the scientific part of the work and of Dr. S. Inglis and a staff of voluntary workers in the collection of materials and information. The letter was sent to the Public Health Committee of the Town Council for report.

Feb. 20th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Victoria Eye and Ear Hospital, Dublin.

AT the annual meeting of the supporters of the Royal Victoria Eye and Ear Hospital, Dublin, held at the Mansion House on Feb. 13th, the honorary secretary (Mr. Henry R. Swanzy) was enabled to make the important announcement that the council had succeeded in purchasing a desirable site in Adelaide-road for the long-contemplated new buildings. The plot is situated on high ground and has never yet been built upon. It is large enough to accommodate a corridor hospital with 120 beds, besides apartments for the staff of nurses and a separate building for the treatment of extern patients.

Death of Samuel George Wilmot, M.D. Aberd., F.R.C.S. Irel.

Mr. Samuel George Wilmot, Ex-President of the Royal College of Surgeons in Ireland, died at his residence, 4, Vesey-place, Kingstown, on Feb. 17th. A circular has been issued by the President requesting the Council and Fellows of the College to attend his funeral which will leave the Royal College of Surgeons on the morning of Feb. 21st for the cemetery at Mount Jerome. Mr. Wilmot, who had retired from the practice of his profession for some years, was formerly well known and highly esteemed in Dublin. He was for a long period surgeon to Steevens' Hospital and consulting surgeon to the Coombe Lying-in Hospital.

The Ulster Medical Society.

On Feb. 16th Alderman James Graham, M.D. (chairman of the Public Health Committee of the City of Belfast), in his official capacity as President of the Ulster Medical Society, entertained the members of the medical profession and his municipal colleagues in the Exhibition Hall, Belfast, which was comfortably warmed and beautifully furnished and decorated for the occasion. The entertainment took the form of a smoking concert. Mr. Boyle's string band was present, and a most enjoyable concert was provided, while, in addition to the music, Dr. J. S. Morrow and Dr. A. Fullerton gave recitations. An interesting kinematograph exhibition was also shown. Supper was served in the ante-room. The evening was a most enjoyable one and the entertainment was characterised by that cordial hospitality for which Dr. Graham is proverbial. Such occasions do much to cement that feeling of brotherhood which is so important to the medical profession.

Extra Professional Assistance in Dispensary Cases.

The Local Government Board have written to the Limavady guardians stating that in their opinion, both in the interests of the ratepayers as well as of the sick poor, reasonable remuneration should be fixed for extra medical assistance, and urging them to adopt a scale, as otherwise, in the case of legal proceedings, they might be obliged to pay very much larger fees than those suggested by the medical officers. At their meeting on Feb. 19th the Limavady guardians adopted a scale of one guinea with one shilling mileage on the outgoing journey for daytime, and a guinea and a half with similar mileage for night. It is hoped that the Local Government Board will decline to accept such a low rate of payment.

Londonderry County Infirmary.

Under the new Local Government Board the committee of management is to be constituted of 11 of the old governors (who were elected on Feb. 13th), a like number of the City of Derry Corporation, and four to be selected by the Derry County Council. The Local Government Board, by the advice of the adjuster of taxation, has assessed the city corporation at £1250 a year for the maintenance of the infirmary and the county at large at only £244, which the city authorities regard as inequitable. The county council are to be asked to summon a special meeting to elect their representatives, as until this is done the new board of the infirmary cannot be constituted.

Appointment to the Chair of Surgery at the Queen's College, Cork.

Dr. C. Yelverton Pearson, Professor of Materia Medica at the Queen's College, Cork, has been appointed to the chair of Surgery, rendered vacant by the death of the late Professor Stephen O'Sullivan. Professor Pearson is surgeon to the Cork North Infirmary and has had considerable experience as a clinical teacher. The chair of Materia Medica is now vacant and already several candidates are in the field.

The Nursing Question in the Belfast Royal Victoria Hospital.

For a considerable period there has been friction between the authorities of the Nurses' Home, Belfast, and the Royal Victoria Hospital in reference to the payment of nurses and the question has reached an acute stage owing to the fact that the committee of the Nurses' Home have intimated to the board of management of the hospital that their financial position is so critical that they can no longer supply special nurses to the hospital except at the ordinary market rate of 25s. per week and board and lodging, and that they will put on no new probationers to replace those completing their time until some satisfactory arrangement has been concluded with the hospital. The whole question has been referred to the Finance Committee of the Royal Victoria Hospital and some of the medical staff, who are to meet a sub-committee of the Nurses' Home and try to arrange a *modus vivendi.*

Feb 20th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Difficulties in making Post-mortem Examinations in Hospitals

DR NAPIAS, the head of the Assistance Publique, has sent a most disturbing circular to the authorities of all the hospitals, one which, moreover, has called forth the most lively protestations from the heads of the various hospital departments. Under the pretence of sticking strictly to the letter of certain ancient enactments dated Dec. 3rd, 1834, and which formally forbid the practice of dissections in hospitals, the head of the Assistance Publique recalls the fact that the only object of a post-mortem examination should be simply to ascertain the cause of death Any mutilation or removal of any organ—however interesting it may be from a pathological or other scientific point of view—is therefore forbidden on principle. In future, then, no pathologist must remove or preserve any organs or portions of organs without having made a special request to Dr. Napias stating in detail the reasons for his action and the scientific interest of the specimen. Dr. Napias has decided that henceforward this permission will only be very exceptionally granted. As a reason for this stringency he gives in the case of bodies which are claimed the necessity for safeguarding the rights of the relatives, and in the case of unclaimed bodies the necessity for handing over to students of anatomy subjects which are complete and possess all the viscera, whereas at present bodies are sent from the hospitals with the thorax, the abdomen, and the skull quite empty. As Dr. de Maurans says in a sensible article in the *Semaine Médicale*, this circular not only runs counter to the scientific interests of medicine, but also to those of the sick. Clinical medicine can nowadays make no serious progress unless it goes along with accurate anatomico-pathological research. It is to be hoped that this regulation, which creates for the medical profession of Paris a situation so harmful and at the same time places them in a position differing from that of the profession in every other country, will, like so many other official regulations in this country, remain a dead letter.

Rates for Gratuitous Medical Attendance.

Once more there is a great discussion over the application of the enactment of July 15th, 1893, which dealt with the question of gratuitous medical attendance for the poor. It made it compulsory upon every commune and department to allocate from their funds a sufficient sum to provide for their poor obtaining medical attendance, and, further, should the gravity of the case demand it, removal to the nearest hospital which was in future bound to take the case in. The State takes cognisance of the matter with regard to the amount of the rating, which of course varied with the rateable value of the district and the number of poor. Owing to the great latitude left to the local bodies (*conseils généraux*)[1] to vote the annual sums necessary the enactment has been applied very differently in different districts. To-day, seven years after the passing of the Act, there are some departments where it has never been put in force. True, in the great majority of places the system is well organised and in good working order; in others, as Lot-et-Garonne, Alpes Maritimes, Gard, the Landes, and Hautes Pyrénées, the organisation is rudimentary; in others, still it is better, but only works with difficulty. The crux of the whole matter is deciding how much the medical man shall be paid Generally, the sum depends upon the number of visits paid, a small sum being added for mileage. Although the fees are anything but high medical men are generally content because there is a fair relation between the amount of work and the pay. But a dispute has arisen in the department of Ille-et-Vilaine owing to the local authority claiming the right to pay the medical man a definite sum for every patient on the list, however many visits may be necessary. This sum is fixed at 1 franc per annum or 1 franc 50 cents if medicines are provided. If it be calculated that a third of the poor on the list will send for the medical officer during the year, and that these patients for the most part will be laid up for varying lengths of time necessitating a certain number of visits, it is obvious how absurd is the rate at which the local authority wishes to pay the medical man. The syndicate of medical men in Ille-et-Vilaine have refused to agree to these conditions, so the matter is still in debate, and the poor are without medical attendance until the Minister of the Interior shall decide the point at issue. What is remarkable is that all the neighbouring departments have adopted the system of payment by visit and have found it work most satisfactorily.

Feb. 20th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Professor Koch on Malaria.

PROFESSOR KOCH'S report of his expedition to the Dutch Indies for the study of malaria has been published by the medical department of the Colonial Office in a recent number of the *Deutsche Medicinische Wochenschrift.* He commences by stating that malaria has decreased considerably not only in Batavia but also in the other towns of the colony, so that during five weeks only 30 cases of malaria in an active stage could be examined; the other cases under observation were either convalescents or suffering only from sequelæ of the disease. In the colonial army the number of patients had decreased 60 per cent. during the last 15 years, a fact partly due to hygienic improvements but especially to the systematic treatment of malaria by quinine. In Professor Koch's opinion the distribution of quinine to the population free of charge is a very judicious measure. During the last 10 years on an average 2000 kilogrammes (39 cwt.) of quinine were distributed every year and Professor Koch advised the governments of countries where malaria is prevalent to follow the example of the Dutch authorities. He then discussed the question whether malaria is communicable to animals or not. He injected blood of malaria patients into monkeys (orang outangs and others) but no malaria was produced; he therefore concluded that malaria was confined to the human subject. From Batavia the commission proceeded to Ambarawa in the hope of finding there a more ample supply of material for research; but although Ambarawa is situated in a marshy region only a small number of recent cases of malaria were found. Professor Koch was of opinion that the general population having contracted the disease during the period of youth had become immune against it. To test this hypothesis he examined the blood of children and detected the parasite of malaria in about 9·2 per cent.; in another village the proportion was even 22·8 per cent. From Ambarawa the commissioners went to Tosari, having received the information that this was the only place in Java where malaria occurred apart from mosquitoes. They found there one malaria patient who, however, had caught the disease elsewhere; no parasites were to be seen in the blood of children. The researches conducted in Java have therefore confirmed the view that endemic malaria exists only in places where mosquitoes are to be found. Professor Koch believes that malaria is less malignant in Java than in Africa; in the former country the real tropical fever was present in only 47 per cent., whilst in East Africa 89 per cent. of the patients suffered from the malignant form Professor Koch finally insists upon the necessity of examining the blood of children in places where the adult population is free from malaria, for it is only in this way that a reliable result can be obtained. The commission will proceed from the Dutch Indies to New Guinea.

Public Health in South Africa.

In the Berlin Societ

---

[1] There is no institution in the British Islands which answers exactly to a conseil général, but perhaps a county council has to perform nearly the same functions

read a paper on the Hygienic Conditions of South Africa from the Cape to the Zambesi River. He is particularly well informed on this question, having visited those countries, together with Professor Koch, for the purpose of studying rinderpest. He said that the climatic conditions of South Africa are not yet thoroughly investigated, the number of meteorological stations being relatively small. The public health service is well organised. There are public health officers whose duties include travelling over their respective districts and using the necessary means in the event of outbreaks of infectious disease. Bacteriological institutions, good hospitals, and leper asylums exist, and the notification of infectious diseases is strictly enforced. A large portion of South Africa is very healthy and would be very suitable for phthisical patients if trees were more plentiful. Water, however, is very scarce, so that the rain water has to be collected and stored in reservoirs, and better methods of filtration are required. Among endemic diseases enteric fever claims the first place. This disease is of a severer type in Africa than in Europe owing to a greater virulence of the bacilli. South African practitioners are of opinion that this aggravation of the symptoms is due to a combination with malaria. The British troops would probably suffer from enteric fever to a greater extent than the Boers would, the majority of the latter having had the disease in childhood and being therefore protected against it. Some of the British regiments have been inoculated with anti-typhoid serum and some have not, and Professor Kolle remarked that it will be of great interest to observe the differences, if any, in the attack and in the degree of malignancy in the two classes. Malaria is prevalent in many districts of South Africa, and certain species of mosquitoes are capable of conveying the germs of the disease. Finality has, however, not yet been reached in our knowledge of the relations between mosquitoes and malaria. The endemic dysentery of South Africa is comparatively mild. The grave form of dysentery affecting the British force was probably conveyed by troops coming from India. Scurvy also occurs in South Africa owing to the deficiency of fresh vegetables. Bubonic plague has never been prevalent there, in the author's opinion, because there are no rats. Small-pox is widely spread, but the medical authorities have now succeeded in preparing vaccine lymph in the country. Tuberculosis is very little known in South Africa, whereas, on the other hand, leprosy threatens to become in course of time a real danger for the population. In conclusion, Professor Kolle gave an account of the rinderpest and the immunisation of cattle performed by Professor Koch, by himself, and by Dr. Turner.

A University for Hamburg.

Rumours are current that the municipal authorities of Hamburg intend to establish a university. This large commercial city, one of the confederated states of the empire, possesses many scientific institutions, partly belonging to the city and partly supported by the liberality of the wealthy inhabitants. One of these is an ethnological museum, very rich in interesting specimens, the collection of which has been facilitated by the free communication between distant countries and this great seaport, the largest on the continent. There are also a museum of antiquities, a museum of arts, an observatory, a chemical and a physical State laboratory, an institution for natural history, a botanical institute, and a great public library. With respect to medical science there are a number of good hospitals, of which the new State hospital at Eppendorf is the largest; it is also one of the best equipped on the continent. The Institution for Tropical Diseases established by the Imperial Government will be in connexion with the hospitals of Hamburg Representatives of the above-mentioned institutions have occasionally delivered popular lectures in Hamburg, but there has not hitherto been any systematic course of study. As a first step in the direction of university organisation the Senate of Hamburg has submitted a Bill to the representative assembly of the city providing that the heads of the above institutions, together with a staff of lecturers, shall form the "teaching body" of Hamburg and shall be entitled to elect a rector. The number of lectures will be augmented, and it is hoped that the combination of the individual scientific institutions may lead in course of time to the formation of a fully-equipped university to which students may be admitted.

Feb. 19th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Apparent Death and Premature Burial.

SHORTLY after the great cholera visitation of 1866 Dr. Filippo Pacini, professor of anatomy in Florence (who gave his name to the "corpuscula nervosa"), called attention to this subject in a memorable paper. He cited not a few cases in which the patient, certified as dead, had come to life on his way to the cemetery, and he started the not unnatural—if horrible—inference that the resuscitation referred to may in several instances have come about within the grave itself. The rapidity, not to say the haste, with which burial follows death in Italy gave colour to the gruesome surmise. Indeed, the next great cholera epidemic—that of 1884—afforded something very like a case in point. At Turin a well-known physician who had lived through the epidemic was at last seized with the malady and, worn out by professional duty, failed to rally. Certified as dead, he was laid out for the offices of the undertaker in a room adjoining that in which his wife and family were awaiting his consignment to the coffin. To their horror and amazement he appeared at the door in his winding-sheet, and, in a voice barely audible, reproached them for having left him so long uncared for. Every effort was immediately made to ensure his rescue, but in vain: He relapsed, and death, real this time, not "apparent," supervened. Had the undertaker arrived 20 minutes sooner the unfortunate man would have revived under the coffin lid. The incident made a profound impression at the time and restarted, while redoubling, the apprehensions aroused by Pacini. Now we are having another such recrudesence of these, the heavy mortality due to influenza and the all too brief interval between the issue of the death certificate and the interment or cremation of the victim sufficing to re-awake them. Unfortunately for the peace of mind of the public a highly sensational, but quite authentic, case of the kind—not, however, occurring after influenza—is reported from Southern Italy. At Lecce a young country woman, as the result of a very difficult confinement necessitating much unavoidable intervention, appeared to have died, her offspring, also given up for dead, remaining in utero. In accordance with Italian custom the funeral was fixed for the next day and the body was left in its coffin in the mortuary chapel adjoining the cemetery. Early in the morning, some hours before the burial, a photographer who was commissioned to take the poor woman's likeness obtained leave from the *custode* of the chapel to open the coffin. Hardly was this done when the two men were shocked to find that the corpse, which had been placed on its back, was now on its side and close to it was a lovely child wanting both arms, which had been detached during the obstetric operations. The judicial authorities, including the "giudice istruttore," were at once called in and found that the woman had come out of the lethargic condition in which she had appeared as dead and had given birth to her child in the coffin—"dop atroce agonia," says their report, resulting in the suffocatio of both. It seems from evidence extracted from the *custod* that during the night while a storm was raging he had hear feeble cries as of some one calling for help in the mortua chapel. The tragedy, for such it is, has evoked much co ment, pending the official inquiry now in progress.

The English-speaking Practitioner in Italy.

A Cabinet Council has just been held for the purpose examining the Bill shortly to be introduced into Parliament for regulating the practice of their profession by foreign medical men in Italy. "Our laws," says the official report communicated to me, "allow such medical men to practise among their compatriots resident in the country; but to secure their confining their practice within these limits is very difficult, for it is found that they not only encroach on the *clientèles* of other nationalities, but even on the *clientèle* exclusively Italian. The medical men of Italy, therefore, crave of the Government to obtain for them reciprocal rights, that is, to get them entitled to practise abroad, without their being obliged, as at present, to undergo a fresh examination in the language of the country where they wish to practise. Foreign Governments," continues the report, "refuse this reciprocity. Hence our Government in self-defence, while wishing to interpret professional liberty in the most liberal spirit, will have to insist on an examination in Italian to be undergone by these foreign practitioners who practise in Italy." It is not said whether the contemplated legislation is to be retrospective and whether the English-speaking practitioner, for instance, who has long been settled in Italy will virtually have to qualify anew by taking an Italian degree. Be this as it may, the object of the Bill is clearly to exclude the foreign, particularly the British or American, practitioner and to open to Italian medical men the lucrative *clientèle* hitherto enjoyed by graduates from the British Isles or the United States.

Feb. 12th

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

An Anti-Vivisection Bill Introduced in the United States.

READERS of THE LANCET may have read that an anti-vivisection Bill has recently been introduced into the United States Senate by Senator Gallinger, the measure having for its nominal object the prevention of cruelty to animals in the District of Columbia. The District of Columbia has twice favourably reported on the Bill so that it would appear that *this ill advised action on the part of the Senator may have the* effect of very considerably curtailing the scope of scientific research in that portion of the United States. Dr. W. W. Keen of Philadelphia, the President for this year of the American Medical Association, refers to the matter in these well-chosen words: "The Bill is speciously drawn up as if it were intended only in the interest of prevention of cruelty to animals. The real object of the Bill is twofold—first to prohibit vivisection and secondly to aid the passage of similar Bills in all the State legislatures. I need hardly point out that this would seriously interfere with or even absolutely stop the experimental work of the Bureau of Animal Industry and of the three medical departments of the Government—the army, the navy, and the marine hospital service. The animals themselves *might* well cry out to be saved from their friends. No more humane work can be done than to discover the means of the *prevention of diseases which have ravaged our flocks* and herds. All those who raise or own animals are vitally interested in the preservation of their health and the preven*tion of disease. The inestimable value of these scientific* researches as to the prevention and cure of disease among human beings it is superfluous for me to point out. Modern surgery and the antitoxin treatment of diphtheria alone would justify all the vivisection ever done." Undoubtedly the majority of the physicians in the United States are in accord with Dr. Keen's views, and it is to be hoped that the efforts of the American medical profession may be successful in defeating the Columbian Anti-Vivisection Bill. The anti-vivisectionists in America are chiefly composed of unscientific enthusiasts or of notoriety mongers

Rapid Transit for New York City.

The means employed in New York to convey passengers have long been remarkable for their inadequate accommodation at certain periods of the day as well as for many insanitary features. The modes of locomotion chiefly in vogue are the overhead steam railways and on the level street-cars propelled by electricity. The elevated railways are in several respects a disgrace to a city of the size and wealth of New York and have been freely pilloried in the lay and medical journals. The stations are for the most part uncomfortable, dirty sheds; while the carriages themselves are lacking in many *points* usually considered necessary to health. In regard to the street system of transit much improvement has been effected of late, the cars in all the principal *thorough*fares are driven by electric power, and the comfort of passengers is fairly well looked after. Faults may be found with the methods of heating and ventilation and with some less important details, but the great blot on the whole system of locomotion in New York is the excessive over-crowding in the morning and evening at the time when people are going to and from their work. No limit is placed on the number of persons carried, and, the consequence is that a car calculated to seat 20 passengers will *for* an hour or two before and after business hours have at least twice that number inside and probably 20 outside, hanging on the steps or in any place where they can gain a footing. This state of affairs, as may be well imagined, does not conduce to the health, comfort, or temper of those who are obliged to make use of one or other of the *transit systems of* New York, *and the cry has for* a long time been that radical reforms must be introduced. The fact is perfectly plain that the only really effectual remedy will be to relieve in some way the overgorged traffic. It is just as evident that this desirable relief can be brought about but in one manner, which is by introducing an underground system. The capitalists interested in the existing methods of transit have fought long and vigorously against this innovation, but have apparently been beaten, for the news has gone forth that the contract has been given for a tunnel measuring several miles and costing $30,000,000 to run through the heart of New York.

Medical News in American Lay Journals.

A prominent feature in up-to-date American lay journalism is the great interest which is taken in medical matters. This is doubtless done mainly for sensational purposes, and the *more* gruesome the account *of some simple surgical* operation given by the reporter the better does it suit the literary palate of a certain class of readers. Often it happens that the reporter makes ludicrous mistakes which, of course, are read with some amusement by members of the medical profession. Dr. Nelson W. Wilson of Buffalo, writing on the subject in the *American Medical Quarterly* for September last, gives some laughable instances of mistakes made by journalists who were ignorant of medicine or of the anatomy of the human body. Dr. Wilson speaks of the first instance that came under his notice as follows: "One of the most amusing errors which I have seen recorded in print appeared in a Buffalo newspaper. The reporter, who was young, was present at an autopsy and was deeply interested. *As* the *organs* were removed he was told what they were. He expressed surprise at the size of the liver. There was a pathological condition of *the spleen which* excited *comment among* the examiners. The reporter shortly afterwards left. The next issue of his newspaper contained this statement: 'A curious condition existed. *In* addition to the liver being very large a smaller liver was found some distance away in the left side of the body.' A physician who was 'sterilising catgut in boiling alcohol' had the misfortune to set fire to his clothes. A New York paper described the after events in the following lurid terms: 'Across the lawn to the operation section he wildly ran, the flames enveloping him from head to foot. Unannounced, the man of flames threw open the door of the operating-room, dashed in among physicians, nurses, and attendants, who were busy performing a delicate operation on a *morphine unconscious woman, and before* they recovered from their fright the man was so seriously burned that his recovery is most improbable. When Dr. —— entered the *operating-room* the *surgeons were at* the most critical stage of their work "Save!" he yelled to the chief surgeon as he bolted into the room, "or I will be burned to a *crisp*." ..... *It is a remarkable thing* that the young woman on the operating table never recovered consciousness during all the excitement She was entirely oblivious of all the exciting events that transpired until she came to and was told of them. It is doubtful whether she would have stood the fright if she had come to when the burning man had rushed into the room'" Dr. Wilson relates many more accounts of medical and surgical happenings as told in American lay journals, but the preceding will suffice to show that the American reporter if not to be relied upon for accuracy is well able at least to provide reading for the patrons of his newspaper which will compare with that of any papers in the world for word painting.

Feb 10th.

Obituary.

PROFESSOR LUDWIG MEYER.

WE regret to learn that *Professor Ludwig Meyer*, Director of the Provincial Asylum and of the University Clinic at Göttingen, died at his post of duty on the 8th inst. *Professor* Meyer was a distinguished physician in the department of mental medicine and early in life he strenuously adopted the non restraint principles advocated by Dr. Conolly. In 1866 he was promoted from Hamburg to Gottingen and throughout his long and active life he maintained his position in the forefront of scientific and administrative work. Professor Meyer wrote many articles on subjects connected with nervous and mental diseases which commanded respectful attention. He was specially proud of the institution of clinical wards in connexion with the German universities for the purposes of teaching and treatment. His enthusiasm and devoted attention to duty was an inspiration to those who were fortunate in his friendship, and his death will be deeply felt by his colleagues at home and abroad.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Gabriel Tourdes of Nancy, aged 90 years. He was the son of a professor of medicine in the old Strasburg Faculty in which he himself afterwards held the combined chairs of Forensic Medicine and Pathology until the organisation of the German University of Strasburg after the war in 1871. He then migrated to Nancy, in which faculty he held the chair of Forensic Medicine until 1888, since which he has lived in retirement. He was a somewhat prolific writer on medico-legal topics and also on medical geography.—Dr. Philipp Knoll, who was recently appointed to the chair of General and Experimental Pathology in Vienna. He had previously held a similar post in the German University of Prague where he was the means of establishing a laryngological institute. He wrote a large number of papers on various subjects connected with experimental pathology. In addition to his scientific labours he found time to carry on an energetic political campaign in the interests of the German as opposed to the Bohemian population of Bohemia.—Dr. Albert Edward Hoadley, professor of Orthopædic Surgery in the Chicago College of Physicians and Surgeons.—Dr. O Widman, extraordinary professor of Medical Pathology in the medical school of Lemberg.—Dr. Coste, formerly a French senator.—Dr. Charles Delstanche, lecturer on Aural Surgery in the University of Brussels, aged 59 years.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the necessary examinations and conformed to the by-laws, have been admitted Members of the College:—

Alfred Parker Ambrose, Westminster Hospital, Miguel Arango, University of Bogota, Columbia; Frank Atthill, Charing cross Hospital, William Edward Bamber, Owens College and Royal Infirmary, Manchester; Lionel Jasper Bartlett, St. George's Hospital; Basil Sorley Bartlett, Francis Reinagle Barwell, and William Bastian, University College Hospital; Hugh Wansey Bayly, Cambridge University and St. George's Hospital; Frank Miller Bingham and Edward Wemyss Browne of St. Thomas's Hospital; Anthony Fewster Blake, London Hospital; Francis Dawson Blandy, Middlesex Hospital; Hubert Penrose Bradley, Cambridge University and London Hospital; William Philip Sutcliffe Branson, Cambridge University and St Bartholomew's Hospital; Clement Arthur Douglas Bryan, Guy's Hospital Edward Payton Burns, Queen's and General Hospitals and Mason College, Birmingham; John Cameron, Edinburgh University; Thomas Chetwood, London Hospital; Harry Norman Rix Child, University of New Zealand and Middlesex Hospital; John Aylward Churchill, St. George's Hospital; John Moore Collyns and Charles Vivian Cornish, St Bartholomew's Hospital; Walter Edward Cooper, University College Hospital; Gilbert Edgar Cope, Westminster Hospital; John Francis Cunningham, St Thomas's Hospital, Henry Newcombe Clarke and Autrey Hugh Davies, Cambridge University and Guy's Hospital; Percy Clarence Douglas, St. Mary's Hospital; Henry Durbridge, Guy's Hospital, Gerald Meade Eastment, Middlesex Hospital; Frederic George Henry Edwards St. Thomas's, Middlesex, and London Hospitals, Thomas Crisp English, St George's Hospital; Robert Fell and Henry Bertram Foster, Guy's Hospital; Herbert Wortley Fisher, London Hospital, John Edmund Francis, University College Hospital, William Varé Chalmers Francis, Westminster Hospital, Thomas Gillespie, Cambridge University and St. Bartholomew's Hospital, Guillermo Gomez, University of Bogota, Columbia, Arnold Saxty Good, St. George's Hospital; Nathaniel Grece, McGill University, Montreal, and St. Bartholomew's Hospital, Wilfred St. George Grantham-Hill, Ernest William Holyoak, and John William Hunt, St Mary's Hospital; William Henry Harland, Middlesex Hospital, Owens College, and Royal Infirmary, Manchester, Francis Raymond Mitchell Heggs, Mason College, Birmingham, St. Mary's and London Hospitals, Richard Farrar Hiley, Cambridge University and St. Thomas's Hospital, Edward Falkner Hill, Owens College and Royal Infirmary, Manchester, Samuel Prince Hopewell, London Hospital; Richard Rotherwell Horley, Middlesex Hospital; Edmund Hudson, Owens College and Royal Infirmary, Manchester, and St. Thomas's Hospital; John Warwick Illius, St. Bartholomew's Hospital; Orlando Inchley, and Arnold Woodford Izard, Cambridge University and St. Bartholomew's Hospital; Frederick Burroughs Jefferiss, King's College Hospital; Robert George Johnson, University College and Royal Infirmary, Bristol; Joseph Edward Judson, Owens College and Royal Infirmary, Manchester; Stanley James Kerfoot, London Hospital; Robert Blair Kinloch, University College of South Wales, Cardiff, and St. Thomas's Hospital; Charles Lees and Percy Augustus Longhurst, Charing Cross Hospital; Harold Samuel Libby, St. Thomas's Hospital; Llewellyn Lindop, St. Mary's Hospital; Charles Thomas McClure, London Hospital: William Augustine McEnery, Richard William Herbert Meredith, and Percival Thomas Nicholls, Middlesex Hospital; Oswald Marriott and Bertram Wilmore Moss, Guy's Hospital; Herbert Alfred Mason, Firth College and General Infirmary, Sheffield; Leonard John Pavillet Mordaunt, St Mary's and Charing Cross Hospitals and Edinburgh University; John Wilfred Nunn, St. Bartholomew's Hospital; Harold Rothery Nutt, St. Mary's Hospital; Herbert John Orford, Mason College and Queen's and General Hospitals, Birmingham; Vivian Bernard Orr, Melbourne University and Westminster Hospital, Thomas Dainly Paddock, University College and Royal Infirmary, Liverpool; William Hodgson Park, Charing Cross Hospital; John Frederick Paul, St. George's Hospital; Allan Campbell Pearson, Cambridge University and St George's Hospital; William Edward Peck, University College Hospital; Claud Maxwell Pennefather, Durham University and St. Bartholomew's Hospital; Sydney Pern, St Thomas's Hospital; Charles Ayre Peters, McGill University, Montreal, and St. Bartholomew's Hospital; Henry George Pinker, St. Bartholomew's Hospital; Redcliffe Nathan Salaman, Cambridge University and London Hospital; James Herbert Sanders and George Herbert Spencer, London Hospital; Edward Mells Saunders, King's College Hospital; Michael Sheehan, Queen's College and Northern Infirmary, Cork; Alfred Ernest Softly and Henry Zouch Stephens, St. Thomas's Hospital; Alfred Richard Spencer and Edmund Hamilton Blake Stanley, University Cottage Hospital; Philip Graham Stock, University College and Royal Infirmary, Bristol; William Sutherland, University of New Zealand and University College Hospital; William Benjamin Batchelor Taylor and Henry Thwaites, London Hospital; Christopher Thackeray, Firth College and General Infirmary, Sheffield, and Owens College and Royal Infirmary, Manchester; Bernard Renshaw-Beckit Truman, Cambridge University and St. Bartholomew's Hospital; Walter Edward Turner and Alfred Dittop Benedictus Von Rosen, St. Mary's Hospital, John Valérie, St. Bartholomew's Hospital; Robert Alexander Walker, Cambridge University and St. George's Hospital; Richard Warren, Oxford University and London Hospital; Robert Nimmo Watson, Westminster Hospital, Charles Herbert Welch, University College and Royal Infirmary, Bristol; William Reginald Eyton Williams, Edinburgh University and Guy's Hospital; Richard Le Geyt Worsley, St. George's Hospital and Durham University; Thomas Preston Yates, Owens College and Royal Infirmary, Manchester.

UNIVERSITY OF CAMBRIDGE.—At the congregation held on Feb. 15th, the graces proposing to abolish the order of merit in the Mathematical Tripos were rejected. The following medical degrees were conferred:—

M.B. and B.C.—A. C. Fry, Pembroke; H. Glasier, Emmanuel.
B.C.—H. M. Harwood, Trinity, J. A. Nixon, Caius.

PRESENTATIONS TO MEDICAL MEN.—At the Institute, Woburn Sands, Beds., on Feb 9th, Mr. Robert L. Brander, M B. Aberd., of Aspley Guise, Beds, was presented with a testimonial for his meritorious medical attendance on the night of Nov. 23rd last, on a well-sinker, who was entombed for some time while working in a shaft, the sides of which collapsed. Dr. Brander was sent for, and on seeing the body he made strenuous efforts for several hours to produce resuscitation, but life was extinct. Recently, in remembrance of Dr. Brander's exertions on the occasion, it was thought they deserved some public recognition; accordingly subscriptions for that purpose were collected, to which friends and the villagers generally in the district freely responded, the result being the presentation of a purse containing money and an illuminated address.—Mr. William C. Smith, M.B. Edin., of Great Harwood, Lancashire, was the recipient of a pair of binocular field-glasses on Feb. 6th from the members of the local golf and union clubs as a farewell offering on his leaving for the front in the South African war.—On Feb. 14th, at the Municipal Offices, Liverpool, Mr. E. P. Manby, M D. Cantab., the assistant medical officer of health, who is about to leave for London, having been appointed on the medical staff of the Local Government Board, was presented with an inkstand, suitably inscribed. Dr. Hope, in making the presentation on behalf of the staff, wished Dr. Manby every happiness and success in his new position.—On Feb. 13th the members of Court Perseverance of the Ancient Order of Foresters, Bath, presented Mr. J. W. Wigmore, M.D. R U.I., with an inkstand engraved with the following inscription: "Ancient Order of Foresters, Feb. 13th, 1900. Presented to J. W. Wigmore, Esq., M.D., on his resigning the duties of medical officer to Court Perseverance after 20 years' faithful service."

HOME FOR INEBRIATES AT CARDIFF.—At the meeting of the Cardiff Watch Committee held on Feb. 14th a sub-committee recommended that 10 acres of land should be purchased and that a home to accommodate 50 inmates (25 of each sex) should be erected at a cost of £10,000. The cost of maintenance was estimated at 15*s.* per patient, towards which the Government allow half a guinea, and it is considered that the annual expenditure would be about £830. The committee unanimously adopted the report.

FREEMASONRY.—The installation meeting of the Phœnix Lodge, 904, has just been held at the Masonic Buildings, High-street, Rotherham, when the new Worshipful Master, Bro. Charles A. Locke, L.R.C.P. Lond., M.R.C.S. Eng., Dist. Assist. G.D.C., Barbados, Senior Warden, who had been elected at the regular lodge meeting in January, was installed into the chair of the lodge by W. Bro. James Mellors, the retiring Master, assisted by W. Bro. John Gibbs, P.M., P.P.G. Treasurer. There was a large attendance and after the ceremony about 60 brethren dined together.

THE forty-third annual meeting of the subscribers and friends of the Bradford Eye and Ear Hospital was held on Feb. 16th, the Mayor of Bradford presiding. The hospital draws patients from a very wide area, the number during the past year being 6126, of whom 907 were treated for diseases of the ear. There have been 992 in-patients, giving a daily average of 27 and an average stay of 10 days. The number of major operations was 970, of which 116 were flap extractions of senile cataract and 28 removal of lens for high myopia. The number of out-patient attendances was about 15,000, necessitating now a daily attendance in that department. The income was £2454 and the expenditure £2835. The hospital has invested funds amounting to £15,000.

A NEW ISOLATION HOSPITAL FOR SOUTHAMPTON.—On Feb. 12th the Mayor of Southampton, Alderman G. A. E. Hussey, formally opened the new isolation hospital for Southampton which the town council decided upon erecting so far back as 1896. The buildings stand upon a site of 10 acres, having a loam and gravel soil. At present the buildings consist of an entrance lodge, an out bathing station, a mortuary, an administration block, and four pavilions of wards. In all there are 72 beds. Besides these buildings there are a laundry and an ambulance block, with stables, coach-house, and rooms for the male staff. The wards are floored with polished narrow battens of pitch pine and all angles are rounded off. The walls are cemented and painted a pale apple-green colour. All the buildings with the exception of the ambulance block are lighted with electricity. Southampton stood particularly in need of an isolation hospital owing to the prosperity of the place depending in such large measure upon the docks. It is thus specially exposed to the chance of infection from without and unless it is known that every precaution is taken against the spread of infection great injury would accrue to the shipping industry and thus to the trade of the port.

PUBLIC HEALTH IN HONG-KONG.—In his annual report for 1898 Dr. F. W. Clark, the medical officer of health of Hong-Kong, states that the estimated population of the colony in the middle of the year was 254,400, including Chinese, 239,210; non-Chinese civilians, 8732; army, 3073; and navy, 3385. No less than 70·9 per cent. of the Chinese population and 58·6 per cent. of the non-Chinese population are males, while considerably more than the half of both classes are between the ages of 20 and 45. The population of the city of Victoria is given as 164,250 Chinese and 6950 non-Chinese. The city is divided into 10 health districts, in two of which, covering each an area of 23 acres, there is extreme overcrowding, the number of persons per acre being 982·3 and 760·5 respectively. The number of births registered during the year was 1206, giving a general birth-rate of 4·7 per 1000 as compared with 5·5 per 1000 in 1897. In this colony there is a great preponderance of male over female births; in Great Britain and in temperate climates generally the proportion is 104 male to 100 female births, but in Hong-Kong the proportion is among the white races 128 males to 100 females. The total number of deaths registered during the year was 5874, as compared with 4688 during 1897. The death-rate for 1898 was therefore 23·3 per 1000. The total deaths among the Chinese were 5383, or 22·5 per 1000. The death rates in the non-Chinese community were 16·2 per 1000 among the white races and 33·6 per 1000 among the coloured races. Plague caused 1128 deaths among the Chinese, 40 in the non-Chinese civilian community, and three in the army. Small-pox caused 99 deaths among the Chinese, 11 in the non-Chinese civilian community, and one in the navy. Beri-beri caused 117 deaths, all among the Chinese.

VACCINATION GRANT.—Mr. Philip E. Hill, M.R.C.S. Eng., public vaccinator to the Crickhowell District of the Crickhowell Union, has been awarded the Government grant for successful vaccination for the eleventh time in succession.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Petroleum Question.

THE Government has made it known that it does not see its way to introduce during the present session of Parliament legislation with reference to accidents arising from the use of petroleum lamps. A Bill, however, has been brought in by a private Member for the raising of the statutory flash point of petroleum oil.

The Inebriates Act in Scotland.

There is in course of passage through the House of Lords a Bill designed to strengthen the administration of the Inebriates Act in Scotland. It confers on the local authorities increased powers of assistance for the establishment and maintenance of inebriate reformatories, and it makes eligible for committal to these institutions persons convicted of drunkenness and disorderly conduct in a public place.

HOUSE OF LORDS.

THURSDAY, FEB. 15TH.

Isolation Hospitals.

The Earl of LICHFIELD, in moving the second reading of the *Isolation Hospitals (Amendment) Bill* explained that the object of the measure was to improve the facilities for the provision of sufficient isolation hospital accommodation. The Act of 1893 empowered county councils to provide isolation hospitals and to group districts together for that purpose. The Local Government Board, however, had decided that where a local authority had already provided sufficient hospital accommodation, although it was willing to be included in a hospital district, it could not sell or lease its existing hospital to a hospital committee constituted under the Act of 1893. It was chiefly to remedy this that the Bill was introduced, and he urged the Local Government Board to take the Bill up so that it might pass the House of Commons.—Lord HARRIS intimated that the Local Government Board had no objection to the Bill and said he would bring the request of the noble Earl before Mr. Chaplin.—The Bill was read a second time, and at the following sitting the House passed it through Committee without amendment.

The Medical Examination of Volunteers.

Earl BROWNLOW called the attention of the House and the Government to the inconvenience caused by the rejection of Volunteers for service in South Africa by the army medical officers after the men have got their clothing and equipment. The noble Earl spoke of men having to crawl home to their native towns in humiliation and disgust.—The Marquis of LANSDOWNE, after expressing sympathy with the complaint, intimated that a regulation to this effect had been drafted—viz.: "When a Volunteer commanding officer receives an application from any Volunteer he will at once have him medically inspected, and when he has received sufficient applications from Volunteers who have been passed medically fit to form not less than a section he will so inform the officer commanding the regimental depôt to which the battalion is affiliated, who will then have them attested." To this he proposed to add "medical inspections may be carried out by any medical officer holding a commission in any force of Her Majesty's service."

HOUSE OF COMMONS.

THURSDAY, FEB. 15TH.

The Purity of Oysters.

Mr. CHAPLIN, in reply to a question on this subject, said that he did not think it would be possible to introduce an Oysters Bill during the present session. He was glad, however, to be able to say that very considerable improvements had been made in the oyster-beds and that further improvements were in contemplation.

Introduction of Sir Michael Foster.

The new representative of the University of London, Sir Michael Foster, was introduced by Mr. Jebb and Sir William Anson and took the oath and his seat. The two sponsors are representatives respectively of Cambridge and Oxford Universities.

FRIDAY, FEB. 16TH.

Medical Appointments in Londonderry.

Mr. ARTHUR MOORE asked the Attorney-General for Ireland whether the attention of the Irish Government had been drawn to the fact that almost all the public appointments in the city of Derry were in the hands of the Protestant minority; and whether, in view of the vacancies caused by the death of Sir William Miller, due consideration would be given to the claims of Roman Catholic and Nationalist medical men before filling these appointments.—Mr. ATKINSON: The meaning expression "public appointments" in the first clear. If the hon. Member refers to the officers of local bodies I would remind him that these officers are appointed independently of the Government. And as regards the officers whose appointments are subject to the control of the Government I have no information as to the politics or religion of such officers. With respect to the second paragraph the legitimate claims of all candidates will be carefully considered.

Deaths from Disease at the War.

Sir WALTER FOSTER asked the Under Secretary of State for War whether he could state approximately the number of deaths from disease among the forces serving in South Africa and if possible the number of those who had succumbed to enteric fever.—Mr. WYNDHAM: The figures are approximately—deaths from enteric fever 240, deaths from other diseases 268, making a total of 508.

Infectious Disease in the Post Office Service.

Sir WALTER FOSTER asked the Secretary to the Treasury, as representing the Postmaster-General, whether servants of the Post Office were compelled to notify to the department the outbreak of infectious diseases in their homes; and whether such officers were generally prevented from performing their official duties, and compelled to remain away from office until medical sanction was given, whether a regulation had recently been issued stating that this enforced absence would be treated as sick leave, and whether he could state if it was intended to count this time when an officer's superannuation, owing to illness, was being considered.—Mr. HANBURY: Post office servants are required to report to their superior officer any case of scarlet fever, small-pox, typhus fever, cholera, diphtheria, measles, or typhoid fever, occurring in their homes. Should the case be one of the first four of these diseases the man is not allowed to attend for duty; but this practice is not maintained as regards diphtheria, measles, or typhoid fever, except under special circumstances. Full pay is allowed in all cases of compulsory detention from duty from the above causes; but in calculating the amount of sick leave which an officer may receive on full pay during the year, the period of any such compulsory absence is included.

MONDAY, FEB. 19TH.

The Report of the Malarial Commission.

Mr. WEIR asked the Secretary of State for the Colonies whether he could say when the report of the Malarial Commission would be issued, and would he state whether Her Majesty's Commissioner had yet advised the establishment of a sanatorium in the Shire Highlands, British Central Africa.—Mr. CHAMBERLAIN: The report is not expected before the close of the year. The question of a sanatorium in the Shire Highlands has not been raised by Her Majesty's Commissioner. There is a hospital at Blantyre of which the Administration will assume control on April 1st next, and a staff of nurses paid from Protectorate funds.

The Removal of Casualty Cases in Glasgow.

Sir CHARLES CAMERON asked the Lord-Advocate whether the Scottish Local Government Board had yet considered the change of practice recently introduced in Glasgow in dealing with cases of debility and injury brought to the police offices, and subsequently removed to the parochial hospital, whereby pauper patients were removed to that hospital without any certificate from the parochial medical officer of their fitness for removal; whether the criminal authorities had sanctioned the inspection of the private police books by the parochial officers; and whether the removal of a moribund person on the data contained in these books, and without certificate from the parochial medical officer, would be held to satisfy the requirements of the Poor-Law Act, and on whom, in case of mishap occurring in connexion with a removal so conducted, would legal responsibility rest.—The LORD-ADVOCATE: I am informed by the Local Government Board that they have inquired, and find that a slight change of practice has taken place in regard to cases occurring during the night in the portion of the amalgamated parish formerly the City Parish of Glasgow. These cases used to be removed direct to the poorhouse by cab, &c., by the police, and were admitted without communication with the parochial authorities or a certificate of any kind. Now a telephone message is sent to the parochial chambers and the poorhouse ambulance is used for the conveyance of the person to the poorhouse on the casualty surgeon's written recommendation. Casualty surgeons have been instructed to enter in a book kept by them their opinion whether the patient can be safely removed, and such book is to be available to the inspector of poor or his representatives before removing any patient from the police offices to the poorhouse. I may add that the Local Government Board consider this system to be a great improvement on the previous system, and I see nothing in it contrary to the requirements of the Poor-law Act.

TUESDAY, FEB. 20TH.

Medical Organisation for the Army.

Dr. FARQUHARSON asked the Under Secretary of State for War what steps were proposed to be taken in connexion with the scheme of the Government for increasing the efficiency of the Army to create a proper effective medical organisation for the Militia, Yeomanry, and Volunteers, and would it be represented at the War Office by proper staff officers; and if it was proposed to give effect to the numerous recommendations to the War Office to create the bearer companies of the Volunteer infantry brigades separate units, independent of any particular regiment or regiments of the brigade.—Mr. WYNDHAM: This subject is one of the many connected with the organisation of the Auxiliary Forces which are now being considered.

PRESERVATIVES AND COLOURING MATTERS IN FOOD.

EVIDENCE BEFORE THE DEPARTMENTAL COMMITTEE.

WEDNESDAY, FEB. 7TH.

The Committee met again to-day with Sir Herbert Maxwell in th chair.

Mr. ROBERT GIBSON, salesmaster of the Public Creamery Market in Limerick, examined by the Chairman, said that he had been fully 40 years in the butter trade and his experience told him that the use of preservatives was necessary in Ireland. He had tried again and again to do without them and he had always failed to satisfy his customers and had been compelled to fall back upon preservatives. Irish butter had always had a name for keeping, and in consequence it was not treated by customers in the same way as Danish or Normandy butter—that was to say, the Irish butter was kept on hand, while the Danish or Normandy was disposed of quickly. He had a customer in Grantham who kept the butter for four months and who said that it tasted as well at the end of that time as when he received it from Ireland. So satisfied was the witness that preservatives were necessary and that they were wholesome, that all the butter under his control now contained them. The butter he himself ate contained 1 lb. of boric preservative to 112 lb. of butter, which produced an article capable of keeping sweet for at least a month. When he used to eat butter without this preservative, and of course containing salt, he found that he had to take several drinks between meals—not intoxicating drinks, for he was a teetotaller—while now that he ate butter with boric preservative, these between-meal drinks were no longer necessary. His opinion was that for the health of the community and for its pocket the use of preservatives had been an immense advantage. The community were well aware of the practice and therefore there could be no objection to a declaration of the presence of preservatives in butter. On the subject of colouring butter the trade in Ireland was divided.

By Dr. TUNNICLIFFE: The butter he had referred to as keepin sweet for four months contained 1 lb. of boric preservative t 112 lb. of butter, which never worked out on analysis at more tha 0·8 per cent.

Dr. A. GRUNBAUM, lecturer on chemical physiology in the Universi College, Liverpool, said, in answer to the CHAIRMAN, that when he a Professor Boyce were recently on the Continent in connexion with the Sewage Commission they made inquiries as to food preservatives in France, Belgium, Germany, and Austria, but principally in the last two countries. In Germany he found that the law as to food and drugs was hardly more definite than it was here, but there was a circular issued by the Ministry of the Interior and two other Ministries to the various presidents of provinces in which it was said that the addition of preservatives to milk should be prohibited. As the result of this circular by-laws were made and these were put in force by magistrates against whose decisions there was always the right of appeal. As regards wine there was a definite law which prohibited the use of certain substances such as salicylic acid. In the case of the city of Hamburg, on every occasion when boric acid preservative was found in milk there was a prosecution followed in the great majority of cases by a conviction, and the same state of things prevailed in other places. A favourite preservative in Germany was sodium sulphite in minced meat and for its use punishment up to six weeks' imprisonment had been inflicted. In Vienna the law did not actually say that boric acid or formalin or anything of the kind was not to be added to milk but by-laws did so, and lately the city of Vienna got expert opinion on the subject to the effect that these preservatives should be forbidden. It might be taken that the general drift of opinion in Germany and Austria was against the use of these preservatives. For instance, a law was now being formulated in Prussia in which the addition of borax or boric acid preservative to meat would in all probability be prohibited. In Switzerland there was a direct prohibition against the importation of meat with the addition of borax or boric acid.

By Dr. BULSTRODE: He should say that preservatives in milk had been prohibited in Germany on the general idea that they, as a whole, would prove injurious or might prove injurious. In 1884, when the circular he had mentioned was sent out, it was stated that the addition of preservatives would particularly be likely to injure children. It was only occasionally that formalin was found in Germany. In Hamburg it had only been found once although it had often been looked for, while as to salicylic acid it had been found two or thre times but not within the last year. He could not say whether th legislation of prohibition in Germany was based upon the evidence o expectation or upon experimental evidence, though in the case o sodium sulphite he knew that various experts had given evidence as t the symptoms which follow its administration. The use of sodiu sulphite in minced meat was condemned because among other things made stale meat look like fresh and because the food was largely us for invalids. The general trend of the medical evidence was th this material caused diarrhœa and indigestion. In Germany it had be decided that the amount of sulphate of copper required to colour p was so small that it would not have an injurious effect, and the use sulphate of copper for this purpose in minute quantities was prohibited. He found that the medical profession in Germany ha strong feeling that the addition of these preservatives was undesira They based that feeling on general principles and on the desirabilit the medical man knowing what his patients were taking. The cit Berlin, with a population, roughly speaking, of 1,500,000, was supp with milk free from preservatives.

By Dr. TUNNICLIFFE: Both in Germany and in Austria there w law forbidding the use of preservatives in beer.

By the CHAIRMAN: It seemed to him that on general grounds servatives should be forbidden because, so far as they knew, wha injurious to bacteria was also injurious to the cells of higher deve organisms, and although in the latter case they were capa replacing, which bacteria would not be, it did not appear to hi the higher developed organisms should be called upon to repla which had been destroyed by disinfectants. He thought that they aim not at antiseptic food but at aseptic food, just as in surge aimed at aseptic surgery. The great point with him was that th not yet got any antiseptic which while killing bacteria wo injure living cells. Declaration of the presence of a preservativ in his opinion, be an advantage. He agreed that much w learned from experiments on lower animals, but it seemed th lower animals stood unnatural additions to food better tha beings.

The Committee then adjourned.

BOOKS, ETC., RECEIVED.

CARRÉ ET C. NAUD, Paris.

La Peste et le Microbe: Sérothérapie et Vaccination. Par Dr. Netter. 1900.

CHAPMAN AND HALL, London.

A Text-book of Physiological Chemistry. By O. Hammarsten. Authorised Translation from the author's fourth German edition by J. A. Mandel. Third edition. 1900.

CLARK, T. & T., George-street, Edinburgh.

What is Thought? By J. H. Stirling, LL.D. Edin. 1900. Price 10s. 6d.

CORNISH BROTHERS, New-street, Birmingham.

The Bradshaw Lecture on the Causation of Functional Heart Murmurs. By A. Foxwell, M.A., M.D. Cantab. 1899.

DORNAN, W. J., Philadelphia.

Transactions of the American Gynecological Society. Vol. xxiv., for the year 1899. 1899.

FANNIN AND CO., Grafton-street, Dublin.

Transactions of the Royal Academy of Medicine in Ireland. Vol. xvii. Edited by J. B. Story, M.B., F.R.C.S. 1899.

FISCHER, G., Jena.

Mittheilungen aus der Medicinischen Klinik zu Upsala. Von S. E. Henschen. Zweiter Band. 1899.

FUNK AND WAGNALLS COMPANY, London and New York.

The Cyclopedia of Classified Dates, with an Exhaustive Index. By Charles E. Little. 1900.

GLAISHER, H. J., Wigmore-street, Cavendish-square, London.

Consumption: its Nature and Treatment, with a Chapter on Bacteria and Antiseptics. By Wm. H. Spencer, M.D. Cantab., M.R.C.P. Lond. 1900. Price 1s. 6d. net.

JOHNSTON, G. P., Edinburgh.

The Early Days of the Royal College of Physicians of Edinburgh. By the President, Robert P. Ritchie, M.D. Edin., F.R.C.P., F.R.S. Edin. Illustrated. 1899.

KIMPTON, H., High Holborn, London.

Diseases of Children. By G. M. Tuttle, M.D. Series edited by B. B. Gallaudet, M.D. Illustrated. 1900. *Price 7s. 6d.*

Practice of Medicine. By G. P. Malsbary, M.D. Series edited by B. B. Gallaudet, M.D. Illustrated. 1900. *Price 7s. 6d. net.*

Bacteriology in Medicine and Surgery. By Wm. H. Park, M.D., assisted by A. R. Guerard, M.D. Illustrated. 1900. Price 15s. net.

Progressive Medicine, a Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, M.D. Vol. iv., December, 1899-1900. Price 12s. 6d. net.

LEWIS, H. K., Gower-street, London.

Mentally Deficient Children: their Treatment and Training. By G. E. Shuttleworth, B.A., M.D. Second edition. 1900. *Price 5s. net.*

LLOYD, EDWARD, 12, Salisbury-square, London.

The Municipal Year-book of the United Kingdom *for* 1900. Edited by R. Donald. Price 2s. 6d.

LUCAS GRÄFE AND SILLEM, Hamburg.

Die Entwicklung des Menschlichen Knochengerüstes während des Fötalen Lebens dargestellt an Röntgenbildern. Von Lambertz. 1900.

Die Angeborenen Verbildungen der Oberen Extremitäten. Von Dr. Georg Joachimsthal. 1900.

MACMILLAN AND CO., London.

The Refraction of the Eye, including a Complete Treatise on Ophthalmometry. By A. E. Davis, A.M., M.D. Illustrated. 1900. *Price 12s. 6d. net.*

MURRAY, JOHN, Albemarle-street, London.

Kirkes' Handbook of Physiology. By W. D. Halliburton, M.D., F.R.S. Sixteenth Edition. Illustrated. 1900. Price 14s.

PERCY LUND, HUMPHRIES, AND CO., Amen-corner, London.

The Illustrated Annual of Microscopy. 1900.

REBMAN, MESSRS., Shaftesbury-avenue, London, W.C.

The Treatment of Pelvic Inflammations through the Vagina. By Wm. R. Pryor, M.D. Illustrated. 1899. Price 8s. 6d. net.

SCIENTIFIC PRESS, Southampton-street, Strand, London.

The Nursing Profession: How and Where to Train. Edited by Sir Henry Burdett, K.C.B. Second Year. 1900. *Price 2s. net.*

SELL, H., 167, Fleet-street, London.

Sell's Dictionary of the World's Press. 1900. *By H. Sell.*

SMITH, ELDER, AND CO., Waterloo-place, London.

Saint Bartholomew's Hospital Reports. Edited by N. Moore, M.D. and D'Arcy Power, F.R.C.S. Vol. xxxv. 1900.

SWAN SONNENSCHEIN AND CO., Paternoster-square, London.

Consumption and Chronic Diseases. By Emmet Densmore, M. *Price 3s. 6d.*

WHITTAKER AND CO., White Hart-street, London, E.C.

Dod's Parliamentary Companion for 1900. Sixty-eighth yea Price 4s. 6d.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institution and others possessing information suitable for this column, a invited to forward it to THE LANCET *Office, directed to the Su Editor, not later than 9 o'clock on the Thursday morning of eac week, for publication in the next number.*

ALLAN, C. M., M.D., Ch.M. Edin., has been appointed Public Vaccinat for Stoke.

BAYLISS, RICHARD ARTHUR, M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Medical Officer to the Eastern Dispensary, Bath.

BELL, H. J., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has bee appointed Medical Officer for the Mortlake Sanitary District of th Richmond (Surrey) Union, vice A. McC. Weir, resigned.

BROOKS, J. H., M.D. Aberd., has been appointed Medical Superintenden of the Infirmary and Medical Officer of the Workhouse and School by the Mile End Guardians, London.

BRUMWELL, ARTHUR, L.R.C.P. Edin., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Morpeth District.

CLARKE, S. A., L.R.C.P. Lond., M.R.C.S., has been appointed Distric Medical Officer for the West Ham Union.

GOFFE, E. G. L., M.B. Lond., L.R.C.P., M.R.C.S., has been appointe Assistant Medical Superintendent of the Infirmary by the Lewishan Board of Guardians.

HICK, JOSEPH, L.R.C.P. Edin., M.R.C.S., has been appointed *Certifyin* Surgeon under the Factory Acts for the East Leeds District.

JOSCELYNE, E. W., M.B., L.S.A., has been appointed Public Vaccinato for No. 3 District of the Steyning Union, vice E. F. Grün.

KENDALL, BERNARD CHARLES, L.R.C.P. Lond., M.R.C.S., has bee appointed Honorary Medical Officer to the Helston (Cornwall) Public Dispensary.

KNIGHT, HENRY, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer and Public Vaccinator to the No. 3 District of the South Stoneham Union.

LAW, A. T., M.B., C.M. Edin., has been appointed Certifying Surgeon under the Factory Acts for the Kirkoswald District, Cumberland.

LAWRENCE, H. CRIPPS, M.D., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of the Male Department, Cheltenham Training College, vice G. A. Cardew, resigned.

McCRELIE, ANDREW, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Upper Division of the Parish of Colmonell, South Ayrshire.

MORRISSEY, P. F., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer of the Keereen Dispensary.

MORTIMER, J. D. E., M.B. Lond., F.R.C.S., has been *appointed pro tem.* Registrar and Anæsthetist to the Royal Hospital for Women and Children, Waterloo-bridge-road, London. Corrected notice.

OLIVER, A. R., M.B., C.M. Glasg., has been appointed Surgeon to the Glasgow Central Dispensary, vice J. H. Nicoll, resigned.

ORR, VIVIAN B., M.B., B.S. Melb., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Surgeon to the Westminster Hospital.

PENDLEBURY, H. S., F.R.C.S., has been appointed *pro tem.* Assistant Surgeon to the Royal Hospital for Women and Children, Waterloo-bridge-road, London. Corrected notice.

RICHARDSON, W. G., M.B., B.S. Durh., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Royal Infirmary, Newcastle-on-Tyne, vice Walter Ridley.

SELBY, J. S. T., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Seventh Sanitary District of the Aylesbury Union, vice J. Shaw, resigned.

SMITH, J. L. M., M.B., C.M. Edin., has been appointed *pro tem.* Local Medical Officer for Lochgoilhead and Kilmorich by the Argyll County Council.

SMITH, L. A., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Physician to the Eastern Dispensary, Leman-street, London.

SMITH, SIR THOS., Bart., F.R.C.S. Eng., has been appointed Honorary Consulting Surgeon to the Finsbury Dispensary, London, vice Sir James Paget, Bart., deceased.

SMITH, T. H., M.D. Durh., L.R.C.P., L.R.C.S. Edin., D.P.H. Camb., has been re-appointed Medical Officer by the Reddish District Council.

WEARNE, WALTER, M.R.C.S., L.S.A., has been re-appointed Honorary Medical Officer to the Helston (Cornwall) Public Dispensary.

WHITTINGTON, RICHARD, M.B., B.Ch. Oxon., M.R.C.S., L.R.C.P., has been appointed Surgeon to Her Majesty's troops in South Africa.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

BELGRAVE HOSPITAL FOR CHILDREN, 77, Gloucester-street, London.—House Surgeon for six months. Board and residence, and an allowance of £5.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Birmingham.—Assistant House Surgeon. Salary £60 per annum, with apartments and board.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL, Edmund-street, Birmingham.—House Surgeon, tenable to Oct. 31st, with re-appointment for a further six months, conditionally. Salary at the rate of £40 per annum for the first period, and if re-appointed at the rate of £60 per annum, with board, lodging, and washing.

BIRMINGHAM AND MIDLAND SKIN AND URINARY HOSPITAL.—Clinical Assistant.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £110 per annum, with board and residence.

BRECON INFIRMARY.—Resident House Surgeon, unmarried. Salary £90 per annum, with furnished apartments, board, attendance, fire, and gas.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Locum Tenens as House Surgeon for several weeks. Three guineas per week, with furnished rooms and attendance.

CARMARTHENSHIRE INFIRMARY, Carmarthen.—Resident Medical Officer for 12 months, unmarried. Salary £100 per annum, with furnished apartments, board, attendance, fire, gas, and washing.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary £50 per annum, with board and residence in the hospital.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant. Tenable for three months on payment of £8 8s.

CHELTENHAM GENERAL HOSPITAL.—Junior House Surgeon for two years; unmarried. Salary £45 per annum, with board, lodging, and washing.

CITY OF LIVERPOOL.—Visiting Physician to the City Hospital East, Mill-lane, Old Swan. Salary £80 per annum. Apply to the Town Clerk, Town Clerk's Office, Liverpool.

COUNTY BOROUGH OF SOUTHAMPTON.—Assistant Medical Officer of Health, unmarried. Salary £150 per annum, with residence and board. Apply to the Town Clerk, Southampton.

COUNTY BOROUGH OF STOCKPORT.—Medical Officer of Health for five years. Salary £400 per annum, increasing annually by £25 to £500. Apply to the Town Clerk, Town Clerk's Office, Stockport.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £100 a year, with board and residence.

DEVON COUNTY ASYLUM, Exminster. Third Assistant Medical Officer. Salary £100, rising to £125.

DURHAM COUNTY ASYLUM.—Assistant Medical Officer, unmarried. Salary £140, rising by yearly increments to £160, with board, lodging, washing, and attendance. Apply to Medical Superintendent, Winterton, Ferryhill.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Glamis-road, Shadwell, E.—House Surgeon. Board, residence, &c., provided, and an honorarium of £25, conditionally.

FARRINGDON GENERAL DISPENSARY, 17, Bartlett's buildings, Holborn-circus, London.—Resident Medical Officer. Salary £100 per annum, with apartments and attendance.

FRENCH HOSPITAL AND DISPENSARY, 172, Shaftesbury-avenue, London.—Resident Medical Officer. Must speak French. Salary £80 per annum, with full board.

GENERAL HOSPITAL, Nottingham.—Assistant House Physician for twelve months. Salary £100, with board, lodging, and washing in the hospital.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, London.—Junior House Surgeon for six months. Salary at the rate of £30 per annum, with board, lodging, and washing in the hospital.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX HOSPITAL.—House Surgeon, unmarried. Salary £75 per annum, with residence, board, and washing. Also Ophthalmic Surgeon.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Physician.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

ITALIAN HOSPITAL, Queen's-square, London, W.C.—House Surgeon. Salary £50 per annum, with board, residence, and laundry.

KENT COUNTY OPHTHALMIC HOSPITAL, Maidstone.—House Surgeon. Salary £100 per annum, with board and lodging in the Hospital.

KING'S COLLEGE, London.—Senior Medical Registrar and Tutor and Senior Surgical Registrar and Tutor. Also Professorship of Materia Medica and Therapeutics.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN, 8, Hunter-street, Brunswick-square, W.C.—Medical Woman for Demonstrator of Anatomy.

MANCHESTER CHILDREN'S HOSPITAL.—Junior Resident Medical Officer for six months, unmarried. Salary at the rate of £80 a year, with board and lodging. Apply to the Secretary, Dispensary, Gartside-street, Manchester.

NEWPORT AND MONMOUTHSHIRE HOSPITAL, Newport, Mon.—House Surgeon. Salary £100 per annum, with board and residence. No stimulants provided.

QUEEN'S COLLEGE, Cork.—Professorship of Materia Medica. Apply to the Under Secretary, Dublin Castle.

ROCHDALE INFIRMARY AND DISPENSARY.—House Surgeon; unmarried. Salary £90 per annum, with board, residence, and washing.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. Board, lodging, and washing provided.

ST. MARY'S HOSPITAL SCHOOL, Paddington, W.—Demonstrator of Physiology. Salary £100 to £150

SHEFFIELD ROYAL HOSPITAL.—Two Assistant House Surgeons (Senior and Junior), unmarried. Salary £50 each per annum, with board (exclusive of wine and beer), washing, and lodging.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary £2 per mensem, with residence, board, and washing.

SUNDERLAND INFIRMARY.—House Surgeon. Salary £80, rising £10 annually to £100, with board and residence.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Assistant House Surgeon for six months. Salary at the rate of £30 per annum, with board, lodging, and washing.

THE CHIEF INSPECTOR OF FACTORIES gives notice of a vacancy as Certifying Surgeon under the Factory Acts at Bracknell in the county of Buckingham.

UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.—Demonstrator and Assistant Lecturer in Anatomy. Salary £120.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea.—Resident Medical Officer for six months. Honorarium £25, with board and lodging in the hospital.

VICTORIA HOSPITAL FOR CONSUMPTION, Edinburgh.—Resident Physician. Rooms, board, &c., and honorarium £20 per annum. Also Non-resident Clinical Assistant in Charge of Out-patients. Salary £60 per annum.

WESTERN DISPENSARY, Rochester-row, Westminster.—Locum Tenens, to act as Resident Medical Officer for a few weeks. Remuneration three guineas a week, with residence, attendance, coals, gas, &c.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon.—Salary £50 per annum, with board, &c.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon for one year. Salary £75 per annum, with board, residence, &c.

WORKSOP DISPENSARY HOSPITAL.—Resident Surgeon, unmarried. Salary £120 per annum, paid monthly, with increase when hospital is opened. Rooms, coal, gas, furniture, and housekeeper provided. Apply to Mr. Charles A. Whall, Worksop.

YORK DISPENSARY.—Resident Medical Officer, to visit the sick poor at their own homes; unmarried. Salary £110 a year, with board, lodging, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

DE JERSEY.—On Feb. 19th, at Netherton, Guildford, the wife of Walter B. de Jersey, M.B. Cantab., of a son.

FAGGE.—On Feb. 20th, at St. Thomas's-street, S.E., the wife of C. H. Fagge, M.S., F.R.C.S., of a daughter.

TAYLOR.—On Feb. 11th, at Windsor-place, Cardiff, the wife of Arthur E. Taylor, M.B., of a daughter.

MARRIAGES

GRAYLING—PERKINS.—On Feb. 15th, at Stratford-on-Avon, Arthur Grayling, M.B. Lond., of Forest Hill, S.E., to Nellie, second daughter of W. E. Perkins, Esq., J.P., of Astwood Bank, Worcestershire.

HARRATT—NOAD.—On Feb. 15th, at St. Andrew's Church, Fulham, Henry Harratt, M.R.C.S., L.R.C.P., of Elmside, Northiam, Sussex, to Winifred Beatrice Innes, second daughter of the late Stephen Innes Noad, of Chigwell Row, Essex.

HEELAS—DENTON.—On Feb. 15th, at Christ Church, Tettenhall Wood, by the Rev. W. D. Heelas, M.A. (brother of the bridegroom), assisted by the Rev. B. Danks, M.A. (vicar), Walter Wheeler Heelas, M.R.C.S., L.R.C.P. Lond., of 2, Clifton terrace, Wolverhampton, to Jessica Mary, elder daughter of Henry R. J. Denton, Esq., J.P., of Tor Lodge, Tettenhall Wood.

ROWLAND—PLUMER.—On Feb. 20th, at Shoreham, Walter John Rowland, B.A. Lond., M.B. Durh., M.R.C.S., L.R.C.P., son of John Rowland, of Gwydyr House, Bromley, Kent, to Jessie, daughter of Alfred S. Plumer, of Springwells, Steyning, Sussex.

STEEN—LILLEY.—On Feb. 17th, at St. Andrew's-street Chapel, Cambridge, William Carmichael Steen, M.D., Belfast, to Margaret, youngest daughter of the late William Eaden Lilley, Thorpe House, Cambridge.

TOMBLESON—LIVINGSTON.—On Feb. 14th, at St. Mary's, Spring-grove, Isleworth, James Bennett Tombleson, M.B., B.Ch. Oxon., Overtown House, Spring-grove, to Eleanor, youngest daughter of James Livingston, of Claremont House, Spring-grove.

DEATHS.

CARDOZO.—On Feb. 19th, 1900, in London, Samuel Cardozo, M.D., aged 77 years.

DAVIS.—On Feb. 18th, at his residence, Crawford-square, Londonderry, Thomas Davis, M.D., J.P., aged 82 years.

HEATH.—On Feb. 15th, at Exminster, Devon, aged 34 years, Alan Jasper Heath, M.B. Lond., Captain in the Indian Medical Service (Bombay), second son of Christopher Heath, F.R.C.S., Cavendish-square.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

SHOULD HOSPITAL PATIENTS SMOKE OR PLAY CARDS?

AT the annual meeting of the governors of the Hunts County Hospital at Huntingdon on Tuesday, Mr Sweeting moved that a new rule to the effect that *any patient guilty of misconduct should be liable to* dismissal be substituted for Rule 65, which specified certain particular offences for which patients might be dismissed, including among them smoking and playing cards. He said the old rule seemed obsolete. He really saw no reason why a patient should not be allowed to smoke where it could be done without discomfort to other patients, and playing cards, he thought, might be a most desirable recreation for the patients at times Mr Layton seconded the motion. Mr Tillard opposed it Who, he asked, was to say when smoking would be a discomfort to other patients? If arrangements could be made for separate rooms for smoking it might be more feasible but he could conceive nothing worse for a patient to whom the smell of tobacco was obnoxious than to have to endure other people smoking With regard to cards, he was fond of playing cards, but he could not forget that one of the greatest curses of the country was gambling and he believed gambling with cards was on the increase There were plenty of other amusements. Books, halma, draughts, and other games were provided, and he did not see why it was necessary to introduce cards. Mr Heathcote said he was rather in sympathy with Mr Sweeting's motion, but he thought it might have a tendency to encourage things which it was not desirable should be encouraged The Chairman (the Earl of Sandwich) said he must admit that the old rule savoured somewhat of the last century If ever he were admitted as a patient at the hospital, judging from the experience of his past life, the two things he would like to do would be to smoke and play cards. There were *several* wards and he did not presume that anyone would be entitled to smoke at any time without permission. There were certain wards where he thought smoking could go on without the smallest discomfort to anyone As for cards, he did not think they were likely to encourage gambling If *there were any tendency to* gambling the cards *could* be stopped by any authority in the hospital, but he did not think they need invent any misdemeanours which were not likely to arise Archdeacon Vesey said the matron, not knowing of the old rule, had allowed smoking at certain hours and thought it was a good thing It was of course stopped if there were any patient in the ward whom it would affect. With regard to cards he agreed that nothing should be done to encourage gambling in any form, but if it were a comfort to any of the patients and it were clearly understood that there should be no playing for money he did not see any difference between playing cards and playing halma or dominoes. *He was* inclined to think the rule should be a wide one so as to leave control in the hands of the matron Mr Sweeting's proposal to substitute the new rule was then carried.

We are very glad to see that the governors of the Hunts County *Hospital* arrived at the conclusion *to allow* both cards and smoking Recreation is of itself a great aid in the restoration of health and anyone who has been ill and is a smoker knows how pleasurable is the first pipe after a long illness It will of course be necessary to take care that smoking is not indulged in by some patients to the *annoyance or injury of others, and if it is allowed* in the wards we think that a limit should be put. With regard to cards we quite agree with Archdeacon Vesey, and we would add that if men want to gamble they will do it and nothing can stop them. Cards are not necessarily the devil's books and their legitimate use might lighten many a weary hour in a hospital *Apart from* any moral view *of* the propriety or otherwise of playing for money, a hospital patient certainly should not do so, for if he can afford to part with any money it should certainly be employed in paying for his maintenance in the hospital

LUNACY FEES.

To the Editors of THE LANCET

SIRS,—I have on two occasions certified insanity The relieving officer states he can only accept certificates from the parish doctor He notifies the parish doctor, who visits the patient and then notifies it Is the relieving officer correct in not accepting certificates from private practitioners?

I am, Sirs, yours faithfully,

Stamford hill, N.

M D

⁂ Our correspondent is not explicit enough as to what certificates he refers to If he alludes to a notice of "alleged" lunacy the relieving officer is of course bound without choice to accept notice from any medical man If he refers to a certificate of unsound mind for the purposes of removal to an asylum the choice of the medical man in these circumstances rests with the justices. Under the Lunacy Act it is the justice who calls in any practitioner he chooses to examine and report (i e., to certify as to the mental condition) in every case of lunacy, of which information is laid before him by the relieving officer. The question of what medical man is called in and what fee is paid remain absolutely in his discretion Since the relieving officer is constantly in relation with the justice the latter sometimes accepts the suggestion of the relieving officer as to which medical man should be called in, but most justices are very rightly jealous of their power and would at once check any such suggestion from a relieving officer The justice is certainly not bound to call in a parish medical officer, though the parish medical officer is often selected because he happens to know most about the case Many justices employ their ordinary medical attendant, a practice that *is open to misconstruction But it is quite clear that the relieving* officer has not any power in the matter, He is merely the agent of the justice to carry out his orders —ED L.

PRACTICE AT MONTE CARLO

To the Editors of THE LANCET

SIRS,—I should feel greatly obliged if you could give me any information with regard to practising at Monte Carlo. (1) Is the M R.C.S, L.R.C P. London accepted? (2) Is an M D degree necessary? and (3) If so, is the M D Brux recognised? I should *feel* greatly obliged for any information on the above

I am, Sirs, yours faithfully

Feb 15th, 1900

R. S

⁂ The right to practise in Monaco is held by permission of the Prince of Monaco who gives it when he thinks *fit* and withdraws it when he thinks fit. The right is, in fact, a personal favour —ED L.

A GREAT OPPORTUNITY

THE following advertisement has appeared in a Liverpool paper recently:—

> "Friendly society, with about 250 members residing in Liverpool and district, require the services of a qualified Medical Officer from the 1st of April next; must reside in a central part of Liverpool —For particulars *apply to Wm. Stainton, Pilotage Office, Liverpool.*"

In answer to the advertisement a medical man wrote for particulars and received the following letter from the Liverpool Pilots Benevolent Society:—

> Duties, &c., of Medical Officer
>
> Rule No 13.—"The Surgeon for the time being shall attend and provide at his own expense all medicines to any member of the *society when called upon or requested by* the stewards or other officers of the society Should he be engaged with other patients and unable to attend personally he shall provide a substitute within an hour from the time of notice being left at his residence."
>
> Medical certificates free when required. Members reside in Liverpool or the suburbs and are employed in the *Liverpool Pilot Service* or are pensioned therefrom
>
> Salary £20 per annum, payable half yearly
>
> 22/1/1900
>
> W. STAINTON

We wonder how large the benevolent society is that gives such an income to its medical officer It seems to us that if this functionary were to happen to be engaged with other patients once a week or so when the pilots wanted him, he would *have to discharge* his duties at pecuniary loss to himself

THE CHOICE OF AN OPHTHALMOSCOPE

To the Editors of THE LANCET.

SIRS,—Would some of your readers tell me what ophthalmoscope they consider probably the most suitable for a country practitioner? *In* the lists of instrument makers there seems to be very many and I am in doubts which to purchase A word in THE LANCET would be *esteemed*

I am, Sirs, yours faithfully,

Feb. 17th, 1900

A LEADER

MEDICAL ATTENDANCE IN BOURNEMOUTH

IN a recent issue of the *Bournemouth Guardian* appears the following letter —

LOCAL DOCTORS.

SIR,—*In Bournemouth—even with its hundred* doctors—there is the utmost difficulty between 10 A M and 1 P M and 3 P M and 6 o'clock in getting any doctor at all They are all out on their rounds

I have often been on the point of writing to you on this subject. Just now the alarming *hiatus* was *brought home* to me in the road at noon by a breathless inquiry where a doctor could be found The applicant had been to several doctors' houses none of the medicos were at home.

Surely this ought not to be The faculty, amongst themselves, should by telephone and otherwise have such *an intercommunication* that a medical man could at any moment be procured

Judging by equipages, doctors, though they work hard, do not *fare ill in* Bournemouth, and they owe something to the body politic for shelter and affluence Not to be able to procure a doctor for at least six hours out of 24 in a town which (in the *main*) owes its success to the invalid is surely little less than a scandal

February, 1900

ONE OF THE AILING

Now this is an excellent instance of how the average ailing person regards a medical man—namely, as someone who should always be at his particular *beck and call* A medical man has his set times for

THURSDAY (1st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (3rd).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (26th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Adjourned Discussion on the Pathology and Treatment of Appendicitis.

TUESDAY (27th).—CHILDHOOD SOCIETY (Library of the Sanitary Institute, 72, Margaret-street, W.).—8 P.M. Dr. F. Warner: The Elements of Early Training.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Papers:—Dr. F. Parkes Weber: Acute Ménière's Symptoms in Spleno-medullary Leucocythæmia, with special reference to the Anatomical Changes found in Acute Leucocythæmic Affections of the Ear, including a Pathological Report on the present case by Mr. R. Lake.—Dr. H. Thursfield: The Skin Affections met with in Bright's Disease.

WEDNESDAY (28th).—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—4.30 P.M. Informal Exhibition of Cases. 5 P.M. Ordinary Meeting.

THURSDAY (1st).—CHILDHOOD SOCIETY (7, St. James's-square, S.W.).—4 P.M. Annual Meeting. Rev. T. W. Sharpe: Address.

FRIDAY (2nd).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith, W.).—Clinical Evening. The following Cases will be shown:—Mr. C. B. Keetley: (1) Radical Cure of Hernia 10 years after Operation; (2) Case of Excision of the Pylorus.—Dr. C. Pope: (1) Case of Bradycardia in a Child; (2) Case of Abscess of Spleen cured by Drainage.—Dr. S. Taylor: Case of Palsy of the Sixth, Seventh, and Eighth Cranial Nerves.—Dr. Abraham: Two Cases of Disease of the Skin.—Mr. Bidwell: (1) A Case of Nephro-lithotomy; (2) Two Cases of Pyloroplasty.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by the following:—Sir Felix Semon, Dr. Horne, Dr. Potter, Dr. Powell, Dr. StClair Thomson, Mr. Heath, Mr. Lake, Mr. Robinson, and Mr. Waggett.

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.).—8.45 P.M. Exhibition of Clinical Cases, Specimens, &c. (Living Cases will be shown first):—Dr. McCann and Dr. Ezard: Case of Ruptured Ovarian Cyst.—Dr. Adkins: A Case of Enteric Fever in which the whole of the Ulcers were transversely placed and Peyer's Patches not much affected.—Dr. Toogood: Cases from Lewisham Infirmary.—Mr. C. Williams: (1) Case of Caries of the Spine; (2) Cast, Specimen, and Skiagraph of Case of Congenital Hypertrophy of Great and Second Toes. Council Meeting.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—8.30 P.M. Adjourned Discussion on the After-effects of Ether Inhalation on the Respiratory System (re-opened by Dr. Dudley Buxton).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (26th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. A. Keith: The Results of an Investigation of the Anatomy of Man and Higher Primates to determine more accurately the Relationship of Man to Living and Extinct Forms.

LONDON THROAT HOSPITAL (204, Gt. Portland-street, W.).—4.30 P.M. Dr. Cathcart: Chronic Glandular Diseases of the Nose and Naso-pharynx. (Post-Graduate Course.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Morris: Consultation. (Skin.)

TUESDAY (27th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. C. T. Williams: Consultation. (Medical.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, W.C.).—3.30 P.M. Mr. Ballance: Surgery of the Nervous System.

WEDNESDAY (28th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. A. Keith: The Results of an Investigation of the Anatomy of Man and Higher Primates to determine more accurately the Relationship of Man to Living and Extinct Forms.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—4.30 P.M. Dr. T. D. Savill: Lupus Erythematosus. (Post-graduate Course.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—5 P.M. Dr. P. Manson: Malaria Parasites and Malarial Disease.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. H. Mackenzie: Pulmonary Cavities.

THURSDAY (1st).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—5 P.M. Clinical Demonstration:—Dr. D. Grant: Cases of Aural and other Forms of Vertigo.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. F. E. Batten: Demonstration of Selected Cases.

CHARING-CROSS HOSPITAL.—4 P.M. Mr. Gibbs: Demonstration of Surgical Cases. (Post-graduate Course.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

FRIDAY (2nd).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. A. Keith: The Results of an Investigation of the Anatomy of Man and Higher Primates to determine more accurately the Relationship of Man to Living and Extinct Forms.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. H. Spicer: Consultation. (Eye, Ear, Nose and Throat.)

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND, IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1899, which was completed with the issue of Dec. 30th, and the Title-page to the Volume were given in THE LANCET of Jan. 6th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1899 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.			
One Year	£1	12	6
Six Months	0	16	3
Three Months	0	8	2

TO THE COLONIES AND ABROAD.			
One Year	£1	14	8
Six Months	0	17	4
Three Months	0	8	8

Subscriptions (which may commence at any time) are payable in advance.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

Communications, Letters, &c., have been received from—

A.—Dr. J. Armstrong, Liverpool; Messrs. Armour and Co., Lond.; Mr. Abbott, Tunbridge Wells; Dr. A. W. M. Auden, Leigh; A. D. La T.

B.—Mr. R. D. Boase, Penzance; Bradford and West Riding Medical Union, Hon. Secretary of; Mr. E. Burney Young, Lond.; Messrs. Brand and Co., Lond.; Messrs. Bates Hendy, and Co., Reading; Birmingham Ear and Throat Hospital, Secretary of; Messrs. Burroughs Wellcome and Co., Lond.; Messrs. H. K. Bushell and Sons, Reading; Buntingford House Retreat, Herts, Medical Superintendent of; Sir T. Lauder Brunton, Lond.; Bristol Royal Hospital for Sick Children, Secretary of; British Colonial and Foreign Press Cutting Agency, Lond., Secretary of; Mr. C. Birchall, Liverpool; Mons. O. Berthier, Paris; Bell, Surbiton; Bradford Royal Infirmary, Secretary of.

C.—Mr. Jackson Clarke, Lond; Mr. A. Cooper, Lond.; Mr. K. Campbell, Lond.; Mr. F. Churchill, Lond.; Mr. A. H. Cheatle, Lond.; Messrs. T. D Charlesworth and Co, Lond.; Messrs Condy and Mitchell, Lond.; Messrs. A. H. Cox and Co., Brighton; Carmarthenshire Infirmary, Secretary of; Cantab, Lond.; Cumberland, &c., Lunatic Asylum, Carlisle, Clerk of; Messrs. Creswell and Creswell, Dowlais; Cheltenham General Hospital, Secretary of; *City Press*, Lond.; County Borough of Southampton, Medical Officer of Health of.

D.—Mr. F. Deas, Lond.; Mr. E. Darke, Lond.; Messrs. Duncan, Flockhart and Co., Edinburgh; Messrs Derry and Sons, Nottingham.

E.—Dr. J. Edmunds, Lond.; Mr. E. F. Eliot, Southampton; Messrs. Eason and Son, Dublin; Examination Hall, Lond., Secretary of. Mr. R. S. C. Edlestone, Nantwich

F.—Dr. F. T. B. Fest, Iriona, Honduras; Messrs. J. S. Fry and Sons, Bristol; Mr. A. L. Franklin, Coventry; Messrs. Fassett and Johnson, Lond.; Messrs. Farrington and Co., Lond.; F.R.C S., Lond.; Messrs. Ferris and Co., Bristol.

G.—Mr. W G. Groves, Woodford Green; Messrs Grafe and Sillem, Hamburg; Grape Vinegar Co., Lond.; Gazette News Co., Blackpool.

H.—Mr. H. D Hamilton, Ilford; Hastings, Clerk to the Borough of; Mr. G. Hermanni, Lond.; Miss Hubbard, St. Leonards; Mr. A. B. Hughes, Deal; Messrs. B. Heller and Co., Chicago; Dr. J. Hay, Liverpool; Mr. F. S. D. Hogg, Rickmansworth; Mr. F. Hutchins, Lond.

I.—Mr. P. A. B Isherwood, Ramsgate; Messrs. Ingram and Royle, Lond.

J.—Dr. J. Johnstone, Bolton; Mr. Vincent Jackson, Wolverhampton; Dr. Arthur James, Lond.; Mr. Mark Judge, Lond.; Mrs. A. Jones, Lond.; Mr. A. W. Jackson, Plymouth; J. H. M.; Dr. P. Jakins, Lond.

K.—Mr. C. W. Krohne, Lond.; Dr. J. Kerr, Bradford; Messrs. J. B. Keene and Co., Bath; Dr. A. B. Kelly, Glasgow.

L.—Mr. C. A. Locke, Rotherham; Messrs. Chas. Letts and Co., Lond.; Mr. R. M. Littler, Southport; Mr. W. M. Locke, Newport; Messrs. Lee and Nightingale, Liverpool.

M.—Mr. F. Middleton, Brighouse; Dr. G. Mackern, Buenos Ayres; Dr. J. M. MacCormac, Belfast; M.D., Chesterfield; Dr. A. M. Martin, Newcastle-on-Tyne; Mr. Christopher Martin, Edgbaston; Metropolitan Asylums Board Clerk of; Medical Society of Victoria, Melbourne, Secretary of; Mr. D. Mendora, Madrid; Mr. B. G. A. Moynihan, Leeds; Messrs. T. Morson and Son, Lond.; Maltine Manufacturing Co., Lond; Dr. A. W. Montgomery, Edmonton; Dr. H. C. Major, Bingley; Mr. W. Mackirdy, Sunderland.

N.—Dr. Richd. Neale, Lond.; Nottingham General Hospital, Secretary of.

O.—Mr. J. Oldfield, Lond.; Dr. James Oliver, Lond.; Mr. J. Offord, Lond.

P.—Mr. J. Pond, Norwich; Messrs. Parke, Davis, and Co., Lond.; Mr. Y. J. Pentland, Edinburgh; Plumbers' Company, Clerk of; A P. V., Worcestershire; Mr. Herbert Page, Lond.; Dr. A. H. Pirie, Exminster.

R.—Dr. Risien Russell, Lond.; Mr. O. D. Roe, Plaistow; Mr. R. B. Roe, Berae, India; Rochford Union, Southend-on-Sea; Rochdale Infirmary, Secretary of; Messrs. Reynolds and Branson, Leeds; Messrs. Reynell and Son, Lond.; Dr. A. Roche, Dublin; Royal Meteorological Society, Assistant Secretary of; Messrs. G. Reiss and Co., Manchester.

S.—Dr. G. C. Simmons Sacramento, U.S A.; Sheffield Royal Hospital, Secretary of; Dr. S. W. Smith, Cheltenham; Subscriber, Lond.; Dr. R. Sisley, Lond.; Messrs G. Street and Co, Lond.; Mr. A. Stenhouse, Glasgow; Messrs. Sparkes, Treherne and Son, Lond.; South Coorg Medical Fund, Sidapur, India; Dr. W. H. Symons, Bath; Miss G. A. Stokes, Cheltenham; St. Peter's Hospital, Lond., Secretary of; Messrs. Street and Co., Lond.; Messrs. Spiers and Pond, Lond.; Stockport Infirmary, Secretary of; Messrs W. H. Smith and Sons, Manchester; Miss E. A. Smith, Shrewsbury.

T.—Mr. J. Thin, Edinburgh; Mr. E. T. Thring, Sydney, New South Wales; Messrs. C. Tayler and Co., Lond.; Dr. Aldren Turner, Felixstowe; Taunton and Somerset Hospital, Taunton, Hon. Secretary of.

V.—Dr. A. Vost, Alva; Mr. J. W. Vickers, Lond.

W.—Mr. W. F. B. Weldon, Oxford; Mr. C. Webb, Margate; West Ham Hospital, Secretary of; Messrs. H. N. Warren and Co., Liverpool; Wakefield Medical Library, Hon. Secretary of; Messrs. Whitbread and Co., Lond.; Messrs. Wright, Dain, Peyton, and Co., Birmingham; *Western Clinical Recorder*, Ashfield, U.S.A.; Wolverhampton General Hospital, Secretary of; *Wilts County Mirror*, Salisbury.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. T. C. Angear, Chatham; Dr. J. R. Armstrong, Treorchy; A. E. D.; A. T. S., Lond.; A. C.; Aberdeen Royal Asylum, Treasurer of; A. R. M.; A. G.

B.—Dr. W. T. Buckle, Lond.; Mr. Barraclough, Gloucester; Dr. R. L. Bowles, Lond.; Boron Battery Co., Liverpool; Mr. W. G. Burcombe, Lincoln; Mr. G. F. Burd, Dobcross; Mr. W. E. Barton, Staunton-on-Wye; Mr. L. Birch, Leckonby.

C.—Dr. J. J. Coleman, Bridlington; C. A. O.; Mr. F. de B. Collenette, Guernsey; Messrs. J. and A. Carter, Lond.; Children's Hospital, Manchester, Secretary of; Dr. J. E. A. Chatelier Birmingham; Clayton Hospital, Wakefield, Secretary of; County Asylum, Prestwich, Treasurer of; Mrs. E. M. Colt, Lond.; Messrs. J. W. Cooke and Co., Lond.; Messrs. Cassell and Co., Lond.; Messrs. T. Cook and Son, Lond.; C. I.

D.—Dr. C. R. Drysdale, Lond.; D. R.; Dundee Royal Infirmary, Treasurer of; Dr. D. N. Datta, Karnal, India; Dowlais Iron Works, Secretary of; Mr. H. Davies, Pontypridd.

E.—Dr. Moh. El-Calamauy, Assiout, Egypt; E. R.

F.—Mr. G. M. Foy, Dublin; F.A.C.; F. H. M; F. G.; F. W. A.

G.—Mr. O. W. Gange, Tuxford; Dr. A. Gardner, Kirby Moorside; Dr. S. T. Gwynn, Whitchurch; G. B.; G. H. R.; G. D.; Gledhill's Medical Agency, Lond.

H.—Mr. W. W. Heelas, Wolverhampton; Mr. W W. Hart, Bournemouth; Mr. R. F. Hiley, Spilsby; Messrs. J. Haddon and Co., Lond.; Surgeon R. Hill, R.N., Malta; Mr. R. M. Hugo, Purley; Mr. E. P. Hasluck, Sutton Coldfield; Dr. G. Home, New Plymouth, New Zealand; Mr. J. Hayward, Manchester; Miss E. Haires, Haverthwaite; Mr. C. C. Hinson, Rowhedge; Mr. W. A. Hardiker, Priors Marston; H. M.

J.—Dr. W. B. de Jersey, Guildford; Mrs. Jenkins, Lytham; Mr. Y. M. Jones-Humphreys, Cemmaes; Mr. D. J. Jones, Blaenavon; J. P. L.; J. M. B.; J. H.; J. M.; Jeyes' Sanitary Compounds Co., Lond.; Dr E. W. Joscelyne, Southwick; J. W. R. R.; J. M. F.

K.—Messrs Krohne and Sesemann, Lond.; Killgerm Co., Cleckheaton; K. D.; Kent County Ophthalmic Hospital, Maidstone, Treasurer of; Kensington Dispensary, Treasurer of; Messrs. Keith and Co., Edinburgh.

L.—Mr. H. Lloyd, St. Asaph; Mr. R. Lindsay, Botley; Mr. H. K. Lewis, Lond.; Dr. J. S. Lyttle, Cilfynydd.

M.—Mr. W. A. Mushé, Lond.; Dr. P. A. McCarthy, Killeagh; Mr. A. Macann, Lond.; Mr. E. W. Marshall, Lond; Mr. W. A. Maggs, Lond.; Medical Graduates' College, Lond., Medical Superintendent of; M. M. I.; M. L.; Dr. E. G. A. Morshead, St. Leonards-on-Sea; Mr. S. Massey, Fairfield; Dr. C. A. MacMunn, Wolverhampton.

N.—Dr. D. G. Newton, Sheffield; Mr. W. S. Nockolds, Cowes; Northern Medical Association, Glasgow; Messrs. Nicklin and Wylie, Walsall; North Riding Infirmary, Middlesbrough, Secretary of.

O.—Mr. J. G. O'Neill, Long Stratton.

P.—Dr. D. E. Powell, Cardiff; Mr. R. Pollock, Acton; Mr. W. H. Peet, Constantinople; Plasmon Syndicate, Lond.; Mr. A. H. Priestley, Hunslet; Dr. C. S. Pethick, Liverpool; Messrs. Preston Bros. and Co., Huddersfield; P. T.

R.—Mr. A. W. Read, Folkestone; Registered Nurses' Society, Lond.; Royal United Hospital, Bath; Mr. J. W. Rolph, Pahang, Singapore; R. J. C.; R. W. J.; Mr. R. J. Riley, Cannock.

S.—Colonel W. F. Stevenson, Cape Town; Mr. J. P. Stilwell, Blackwater; Mr. J. Sampson, York; Mr. W. A. Sharpin, Hambledon; Scarborough Hospital, Secretary of; Smedley's Hydro, Matlock; Dr. R. Sturgis-White, Cradley; Surgeon, Manchester; Surgeon, Chellaston; South Devon, &c. Hospital, Plymouth, Secretary of; Mr. J. Spencer, Ellesmere; Messrs. Sargent and Sargent, Lond.; Messrs. W. H Smith and Son, Liverpool.

T.—Dr. A. E. Taylor, Plymouth; Mr. H. Tilley, Lond.; Torbay Hospital, Torquay, Secretary of; Mr. L. Tyler Jones, Llangefni; Mr. Dr. R. E Threadgale, Lond.; Mr. P. Toller, Scarborough; T. B G.; T. G. G.

W.—Mr. J. Williams, Bradford; Mr. E. H. Worth, Scorrier; Mr. P. W. W. Walker, Birmingham; Wirral Children's Hospital, Birkenhead; Miss J. Wood, Lond.; Messrs. Westbrook and Hunter, Lond.; W. P.; W. J. R.; W. D.

THE LANCET.

EVERY FRIDAY. PRICE SEVENPENCE.

SUBSCRIPTION. POST FREE.

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

Terms for Position Pages and Serial Insertions on application.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents

---

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière, Asnières, Paris.

Two Lectures

ON

RABIES:

Delivered at the University of London on Feb. 15th and 20th, 1900.

BY JOHN ROSE BRADFORD, M.D., D.Sc., F.R.C.P. LOND., F.R.S.,

PROFESSOR SUPERINTENDENT OF THE BROWN INSTITUTION; PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL, ETC.

LECTURE I.

Delivered on Feb. 15th

GENTLEMEN,—The work of the Brown Institution at the present time is divisible into three main classes. First, there is the hospital side of the institution, under the charge of the veterinary officers, thanks to whom a large number of animals are seen daily and treated either as in-patients or out-patients.[1] Secondly, there is the routine investigation of cases of suspected rabies which takes place in the laboratory of the institution and which has taken place there for the last five years. Previously to that period such cases were only sent there irregularly. Thirdly, there is the research work bearing on the diseases of animals and of man which is conducted in the laboratory either by the professor or by other workers.

In the five lectures which I propose to give in accordance with the provisions of the will of the founder it is my intention to deal in the first two with certain questions in relation to rabies, and in the last three with certain research work on the tsetse fly disease of South Africa. During the last five years a large number of cases of suspected rabies have been investigated—between 300 and 400—and a very considerable amount of information and material has been accumulated in that way. Most of this material is of very little use for the purposes of research, owing to a variety of circumstances which I need not go into, but as affording statistical material on the incidence and on the diagnosis of rabies the material is of considerable value. During the first three of the last five years all the cases of suspected rabies in this country were sent to the Brown Institution, but latterly the Board of Agriculture have undertaken the examination of cases of suspected rabies in their own laboratory, just in the same way as they investigate cases of other suspected diseases in animals, and so for the last 18 months the Brown Institution only has received the suspected cases in the area that is governed by the London County Council, and therefore the number has very considerably fallen off. I propose to discuss at some little length the question of the diagnosis of rabies, both in man and in animals. The term "rabies" is more suitable for the disease both in man and in animals than the term "hydrophobia," the latter term being to a very great extent, if not entirely, a misnomer. Before going into detail with reference to the more immediate subject of our lectures I will mention one or two general points in connexion with rabies, beginning with certain historical matters.

Rabies is a very remarkable disease and affords one of the most interesting examples of the progress of scientific investigation and of the way in which scientific investigation of a disease in a laboratory in a comparatively few years has thrown a flood of light on the nature of the disease under consideration. There are very few, if any, maladies which resemble it at all closely—tetanus perhaps resembling it more than any other; but rabies is, as you will see, a disease that is really very remarkable, more especially as regards its pathology.

We find that rabies is mentioned in quite early times—i.e., by Aristotle. It was not, I believe, mentioned by Hippocrates, but a very fairly accurate description of it is given by Celsus. Subsequently to that time, in the Middle Ages, there is very little mention made of rabies, and it is not until we come to the latter end of the last century that we find any accurate description of the disease. There is a certain amount of interest in the fact that it was very fully described by a very celebrated English physician—viz., Dr. Mead—in the year 1767, but from the time of Celsus to the time of Dr. Mead there is, I believe, very little mention in literature of rabies. Van Swieten in 1771 gave a very good description of the disease and this is of special interest in connexion with some of the controversies that have occurred in the last ten years, more especially with reference to the work of Pasteur. It is of interest to remember that Van Swieten recognised that there were two forms of the disease—a furious form and a paralytic form. So that more than 100 years ago the paralytic form of rabies was recognised and described. Of course, it was not then described as fully as we know it now, but it was definitely recognised, and that is a point of very great interest when we remember that a few years ago—I think in 1885—when a well-known case of paralytic rabies occurred in the human subject it was asserted by many persons, well-intentioned, no doubt, that it was a new disease which had been produced by Pasteur's methods, and that it was not a disease that was known to the older writers. Morgagni, the celebrated Italian observer, described rabies, and he fell into an error—an error which persisted until quite recent times and which persists still to a certain extent in the public mind. He fell into the error of believing that the disease was not, so to say, a specific disease, and he taught that it could be not only communicated by the bite of rabid animals but that it could also be communicated by the bite of animals which were not rabid but which were furious or enraged in the ordinary sense of the word and which were not suffering from the malady of hydrophobia or rabies. From the time of Morgagni onwards there is no observer whose work on the subject need detain us until the year 1811. Then a French observer, Gohier, made a considerable number of observations on rabies, and he was one of the earliest, if not the earliest, to experiment on rabies in the laboratory. Many of his observations have stood the test of time, but one of his facts—or rather one of his supposed facts—I think has not stood that test. He thought that the carcass of the animal was highly infective and that the disease was spread in that manner. Subsequently to 1811 we come to Gruner who in 1813 made important observations and I believe he was the first to determine the fact that the saliva was infective. That, perhaps, is the most important observation that was made from the time of Van Swieten. Van Swieten's observations, recognising that the disease existed in two forms, was a very important one, and Gruner's observation that the saliva was infective was similarly a most important one. The next observer who worked extensively at the subject was Berndt, whose work was published in 1822, and who confirmed the observations of others and who corroborated the original observations of Van Swieten that the disease existed in two forms—a furious form and a tranquil form. I believe he was the first to use these terms, the tranquil form now being usually spoken of as "dumb rabies." That brings us to the year 1822. The next most important observation was that of Galtier in 1871, who described the disease in rabbits. Inasmuch as the disease in rabbits is totally different in its main symptoms to that in dogs, the recognition of it in the rabbit and the description of the typical symptoms in that animal was a very distinct advance. In recent times the most important observations up to the time of Pasteur were those of Nocard and Paul Bert in 1880. These observers showed that if the saliva was filtered through plaster the virus remained on the plaster; in other words, they showed that the poison of rabies—the exact nature of which we do not know even at the present time—was a particulate virus.

Then we come to the work of Pasteur. In five years—and that was about the time that Pasteur's work on rabies extended over—in speaking of Pasteur I, of course, mean the work of Pasteur and his pupils—the additions to our knowledge of rabies were far greater than those of all other observers put together. That affords an illustration of what I said a few minutes ago, that rabies is perhaps the most striking instance of a few years' experimental work in the laboratory adding more to our knowledge than, I was going to say, centuries of accurate and careful observation. Pasteur's most striking and important discoveries in connexion with rabies may be said to be four in number. He demonstrated first of all that the virus was not only in the saliva but that it was also in the nervous system. That was the first fact which Pasteur and his pupils showed, and they proved that not only was the virus present in the central nervous system but that it was present also in the peripheral nervous system. It had been suggested—I ot know when, but some considerable time ago—that was so in the case of tetanus, and long before the terial origin of tetanus was known it was surmised t the poison of tetanus travelled by the nerves. In the ler surgical writings observations are recorded with reference to the part played by the irritation of small nerves in ounds as a cause of tetanus. It is in rabies, and as a result f Pasteur's work, that we have our best instance of the poison of a fatal disease producing its effects by acting on the nervous system, and not only producing its effects by this means, but apparently reaching the central nervous system by travelling along the peripheral nervous system. The foundation for that view of the pathology of rabies was laid by Pasteur's discovery that the poison was found in the central nervous system and also in the peripheral nervous system.

Pasteur's second discovery was the ease with which the disease could be directly inoculated provided that it was inoculated in the nervous system. A great many observers had previously tried to inoculate rabies. Some had succeeded and some had failed; and the fact that they used the subcutaneous method of inoculation or the method of simply rubbing the virus on a raw surface in the skin is the probable explanation of the very great difference in the recorded facts. Some observers had even gone so far as to say that the saliva was not infective; others found that the saliva was infective; others found certain organs to be infective and not other organs. There were great discrepancies largely dependent on the fact that the method of inoculation, as we shall see later, was not quite a satisfactory one. Pasteur added very greatly to our knowledge by showing that the inoculation into the nervous system was the best way of communicating rabies for experimental purposes from one animal to another; and the method which Pasteur invented and elaborated with reference to rabies has, of course since his time, been used, not only with so much success in the case of rabies but with certain success in the study of the pathology of other diseases. Both those facts Pasteur observed in 1881. Thirdly, in 1884 he made his first attempts, or at any rate he got his first results in his attempts, at attenuating the virus. He proceeded first of all on the lines he had pursued in studying similar problems in other diseases—viz., by seeing the effects of inoculating a series of animals of different species. After trying a large number of animals Pasteur found that if a succession of monkeys were inoculated the virus became attenuated, and finally, after passing through a considerable number of monkeys, that the poison did not produce such marked effects on dogs as it had originally produced. Conversely he found that by passing the virus through a series of rabbits it was increased in potency. But he very soon came to the conclusion that he could not hope to get curative effects or to elaborate any means of treating the disease by the results obtained in monkeys. Lastly, in 1885, he elaborated the very remarkable method which goes by his name for treating the malady, or more especially for preventing the malady in animals and in man. I do not propose to discuss that at any length; but you will remember that it consists in getting a virus of a certain fixed strength which he called "*le virus fixe*," and this he obtained by passing the disease through a succession of rabbits—I think about 100—until the period of duration of the disease and the period of incubation of the disease are both absolutely fixed. It is well known that if you take the sporadic cases of rabies which occur in the streets sometimes the virus from one dog will produce a malady with a short incubation period, and the disease will run a rapid course, while in another case it will have a long incubation period and may run a very much slower course. Pasteur thought that it was essential to work with a virus of constant strength and he obtained this virus of constant strength by passing it through a succession of rabbits. Having done that he found that the virus was attenuated by drying, so that if the spinal cord of the rabbit be removed and dried he found that in the course of a fortnight the virus had completely lost its strength. Those who have seen Pasteur's Institute may remember the darkened room which is kept at an equable temperature, in which the spinal cords of these rabbits are dried. Therefore, by preparing separate extracts of these spinal cords every day extending over a period of a fortnight a virus of different degrees of potency could be nd that forms the basis of his method of treating thod I do not propose to discuss now.

Since 1885 our knowledge of the nature of rabies has not really greatly progressed. A number of observers have recorded that they have isolated an organism in cases of rabies, but at the present time there is no consensus of opinion amongst bacteriologists with reference to this question. I think it cannot be said that the identity of the organisms of rabies has been clearly established, although, of course, there are many strong arguments in favour of the disease being of microbic origin, quite apart from the observation of Nocard and Paul Bert which I have mentioned, that filtration of the saliva through plaster removed the virus.

That is a very short historical sketch of the progress of a portion of our knowledge with reference to the nature of rabies. There is one other point which one would like to go into before dealing with the immediate question of diagnosis, because one cannot really discuss the diagnosis without first discussing this. I refer to the question of the animals that are liable to be affected by the disease.

Rabies, as you know, is a disease which is common to man and to animals, but all animals are not affected with equal ease nor does the disease run the same course in all animals. It affects all the mammalia and it also affects birds, but it is very doubtful whether it affects the amphibia. It is said by one observer to do so, but others have been unable to confirm his observations. So we may say that the disease is limited to the mammalia and to birds. As a matter of fact, in the case of birds it is mainly seen as the result of experimentation. It is very difficult, as would occur to anyone, for a bird to be inoculated from a bite for obvious reasons; amongst other reasons is the fact that the feathers would probably remove the virus, so that the question of the disease affecting birds is not one of any great practical importance, although there is a considerable degree of theoretical interest about it, because birds are more refractory to rabies than are mammals. In mammals, as you know, the carnivora are those which are especially affected, and you know also that it is a disease which affects not only domestic animals but also wild animals. Some of the most serious outbreaks of rabies, both in animals and in the human subject, have occurred owing to its prevalence in wild animals. As regards wild animals, those of most importance from our point of view are wolves and foxes. Wolves, of course, have been a frequent source of rabies, both in France and in Russia, more especially in Russia, and it is not uncommon, I think, for outbreaks of the disease in this country to be associated with its prevalence in foxes. As regards other animals, the disease is not uncommon in cattle and it is more common in horned cattle. It is more common in cattle than in goats. It is not very rare in horses, but it is much rarer in horses than in cattle. It is exceedingly rare in pigs. A suggested and a probable explanation of this fact is that there is a very large amount of subcutaneous fatty tissue in the pig, and, as we shall see later, subcutaneous fat is not at all suitable for the inoculation of rabies. Therefore, the disease is common in dogs and cats, not uncommon in wolves and foxes, but in other animals it is rare—most rare in the pig, less rare in the horse, and least rare in cattle.

Another interesting point in reference to rabies is that, like many other diseases, perhaps nearly all diseases, it exists in certain localities and is very difficult to eradicate from those localities. Then at intervals of longer or shorter duration there are epidemics of rabies. In this country, for instance, Lancashire has long had an evil repute as a district where rabies is more or less endemic, and the same is true of Ireland and of certain districts in Germany and France. As regards epidemics, there was a very severe epidemic indeed in France and in Germany, and, in fact, in the whole of the western side of Europe, in the years from 1720 to 1723. In this country the best known epidemics of rabies—of course, I am speaking of rabies in animals—were from 1754 to 1762. There was a very severe epidemic in Lancashire in 1864. Then, more recently, there was what I think I may call a severe epidemic in the year 1894–96, and in 1895 and 1896 there was a very considerable amount of rabies in London. In 1897 there was not so much, in 1898 still less, and this last year I think I am correct in saying that there were no cases of rabies, anyhow none came under my observation. There have been epidemics amongst dogs an cats, but in addition to that in this country there have bee severe epidemics amongst deer. The most interesting ar extensive epidemics amongst deer have been these. In 17 there was an attack of rabies amongst the deer in the Ro parks, then there was a severe epidemic in 1872 in he of deer belonging to the Duke of Westminster, and it will be within the recollection of most of you that there was a very severe epidemic in 1886 among the deer in Richmond Park, where amongst 1200 animals 264 were affected with rabies. Those are the principal epidemics of the disease which have occurred in this country in recent times.

There are certain countries in which rabies is unknown, and amongst these countries are Australia and Norway. There are other countries where outbreaks of rabies have occurred as the result of the importation of dogs, and, it is said, more especially of sporting dogs. There is an impression that is very current that rabies is a malady which is especially apt to occur amongst uncared for dogs, whereas that is not at all the true state of affairs. Rabies is a disease which may occur in any dog, and we are always struck with the considerable number of cases in what are commonly called sporting dogs which are sent to us for diagnosis. There are three epidemics which have been laid to the charge of sporting dogs taken from this country. One of these was in the Mauritius in 1813, one was in Malta in 1847, and one was at Shanghai in 1867.

How is the malady communicated? In the great bulk of cases it is communicated by bites, and that is one of the very reasons why the prevalence of it amongst the carnivora is so important for us to recognise. When it is communicated by a bite you know that, on the whole, the cat is the more dangerous animal, owing to the fact that the cat is liable to "fly," as it is said, to the more exposed part of the body—the face, for instance—and also, perhaps, owing to the fact that it is well known that bites in the face, for reasons we will consider later, are more dangerous than bites in other parts of the body Rabies, perhaps, can also be communicated by licking—that is to say, by licking a raw surface on the body. But it must be always remembered that the virus of rabies is not one that is very easily inoculated, and that it is much more difficult in the laboratory to communicate rabies by smearing a raw surface with the saliva than it is by injecting it hypodermically. It is more difficult to communicate it hypodermically than by injection into the muscles, and it is more difficult to communicate it by injecting it into the muscles than by injecting it into the eye. Further, it is more difficult to communicate it by injection into the eye than by introducing it subdurally. So that I do not know that it can be said that it has been accurately proved that it can be communicated by licking, but at any rate it is probable. It is said that when people are bitten by a rabid animal from 10 to 20 per cent. of the sufferers succumb to rabies. That is a matter on which it is most difficult to get statistics. Anyone who has had occasion to look the matter up will find very varying statements with reference to this point Apparently, however, the balance of evidence is in favour of that view. A French observer, Leblanc, who collected a great number of accurate statistics—accurate, that is, as far as one can see—stated that the percentage was about 16. There is a very celebrated case quoted by Hunter where one mad dog bit 21 people and only one person succumbed from the disease. That has been sometimes quoted as showing that the mortality of the disease is only 5 per cent, but of course that is erroneous. The disease can also be communicated by infection at post-mortem examinations; and there have been instances of that amongst veterinarians. I am not aware of any recorded instance of such infection by the human subject—I mean of a human being having been infected by doing a post-mortem examination on a case of rabies in man—but there are cases on record in which it has occurred to veterinary surgeons. The third way in which it is said to be communicated is by the ingestion by animals of the flesh of other animals which have died from the disease. Here, again, there has been great controversy, many observers having failed to communicate the disease in that way and others having succeeded. Of course, an obvious explanation occurs—viz, that the question as to whether an animal contracts rabies or not by eating the flesh of an animal dying from rabies is whether there is any lesion in the throat or alimentary canal or not. Fourthly, it has been shown that it can be communicated by the milk of a suckling animal or of a suckling human being. There is a case recorded in the West Indies where an infant was suckled by its mother who was suffering from the early stages of rabies and the child contracted the disease and died from it before the mother. It has been proved in the laboratory that the milk of suckling animals, and human milk in cases of rabies in woman, is infective. Still, that is a point of only scientific interest.

Lastly, it has been shown in the laboratory that it can be communicated through the mucous membranes. The French observer, Galtier, has shown that if the virus of rabies be put into the conjunctival sac or into the interior of the nose a certain proportion of the animals so treated will succumb to rabies. These are really only matters of scientific interest. For all practical purposes the disease is communicated by biting, and you know that the danger of a bite depends very largely upon the part of the body upon which it is situated, quite apart from the question of clothes. Of course, it is obvious that bites in the legs and in the feet are less dangerous than bites in the hand or face, owing to the probability of the saliva being wiped off by the clothes or the boots. But, apart from that, there is, apparently, evidence that the inoculation of the virus into the face, for instance, is more liable to be followed by a rapid onset of the disease than if it is inoculated in the legs. The well-known experiment of Roux in which an animal was taken, the spinal cord was divided, and then the virus of rabies was inoculated into the hinder portion of the animal, throws some light on this question. Under those circumstances it can be shown that the lower segment of the spinal cord, separated from the central nervous system, will contain the virus in great quantity and in a high degree of virulence at the time when the upper segment does not contain it. And so it has been thought that the proximity of a part to the central nervous system does play a part and is a point of importance both in the progress and in the rate of onset of the malady. So that a wound of the face, inasmuch as it is near the central nervous system, is for that reason more dangerous. There are one or two other general points which I may mention.

First of all, let me say a few words with reference to the virus. I have already said—perhaps more than once—that rabies is a remarkable disease; but there is nothing, perhaps, in which it is more remarkable than in the nature and in the situation of the virus. We have seen that the virus is present in the saliva. We have also seen that it is present in the central nervous system and in the peripheral nervous system, but that it is not present in the blood. All observers are agreed that the blood of animals suffering from rabies is not infective. It is apparently not present in the bulk of the tissues and organs of the animal. It is not present in the muscles. It is not present in the liver or the spleen. It is present in the glands, such as the salivary glands, the pancreas, the lacrymal gland, the suprarenals, and the mammary gland; and it has always seemed to me, since I have been working at the subject, that that is one of the most striking phenomena in pathology—that this potent virus should be present in the central nervous system and in the secreting glands but should be absent from the blood and from the tissues such as those of the liver and the spleen. It is present, as I mentioned a minute ago, in the milk of suckling women; it is not present in the urine. It is said to be present in the seminal fluid, but in this there have been discrepancies among different observers. However, there have been no discrepancies as regards the saliva and those glands I have mentioned nor as regards the milk. Then, as I mentioned a few minutes ago, the virus is slowly destroyed by being dried in the air; and it takes about a fortnight for it to lose its virulence under those circumstances. When exposed to the air and to sunlight it loses its virulence in about 14 hours. In water it will maintain its virulence for as long as 40 days—for from 20 to 40 days—and in glycerine (which is a point of some importance with reference to the techn[illegible] of inoculation) it will maintain its virulence for a[illegible] as a month. Then an important point where one [illegible] to investigate suspected cases of rabies is the influence of putrefaction on it. It has been found by French observers that the virus remains potent in the carcass of a dog which has been buried for 44 days; it has been found potent in that of a rabbit 27 days after burial and in that of a sheep 21 days after. So we have periods ranging from three to six weeks. My own experience does not quite agree with this I know that I have failed twice to detect the presence of rabies in an animal which undoubtedly died from the disease where the carcass of the dog had been buried only a few days and had then been exhumed and sent to me. In one of those cases—a case in which a man had been bitten by the dog in the ear and had died from hydrophobia, so that one had very clear evidence quite apart from the suggested diagnosis of rabies from the symptoms in the dog—the inoculations from that dog were quite ineffective. That was probably owing to the presence of putrefaction. It occurred in the hot summer months. But the French observers—and that is the only discrepancy between their results and such results as I have obtained—have always laid stress on the point that ordinary putrefaction does not prevent the recognition of the presence of rabies in a buried carcass. Of course, you may often fail to detect the presence of rabies in suspected cases if there happen to be other organisms present, especially organisms capable of causing septicæmia, owing to the obvious fact that septicæmia runs a more acute course than rabies, and so perhaps both diseases may be communicated, but the animal dies from septicæmia before the symptoms of rabies have become manifest.

The only other point I wish to mention before discussing the diagnosis in full is the question of incubation. The diagnosis very often turns on incubation. The incubation period of rabies is known to vary greatly in different animals. I have prepared here a list of the more important. Most observers are agreed now that in man the incubation period of rabies lies between 20 days as a minimum and 60 days as a maximum and that it is rare after three months and very rare, if not unknown, after six months. One is perfectly aware of cases that have been mentioned in which the disease is said to have occurred after as long a period as 18 months, but I believe that the modern work on the subject has rather tended to the belief that there must be some error in those cases. But it is the minimum period which is of importance, because, as we shall see later, one of the important points in the diagnosis in the human subject is to distinguish rabies from a functional disturbance simulating rabies, which has been called by some observers "lyssophobia," and one of the points on which great stress is laid is the incubation period. It is of some importance to recognise that the disease in the human subject does not occur at a less period than 20 days after the bite. In a dog the incubation period is from 15 to 60 days and at least half the cases in the dog occur in less than a month after the bite or after exposure to contact with an animal suffering from rabies. In other animals the incubation period, from the point of view of practical medicine, is not of very great importance. In cattle it varies from one to three months; in sheep from 15 to 30 days; and in the horse from 15 to 60 days. Therefore, if you eliminate cattle, you may say that the incubation period in most animals varies from 15 to 60 days.

Now to come to what I propose to deal with in detail in my next lecture—diagnosis—I will only say now that the diagnosis of rabies can be considered from three points of view. You have, firstly, the clinical diagnosis, which is on the whole the most important, but it is not always the diagnosis which one can make, though it is the one which it is most desirable to make, especially in the case of an animal, owing to the loss of time that must necessarily occur if the diagnosis be made by any other method. Secondly, there is the diagnosis by post-mortem examination. Thirdly, there is the diagnosis to be made by experimental means. Now it is a very obvious thing, but it is sometimes forgotten, that the clinical diagnosis, especially in animals, is most readily arrived at by the question of the period of survival after the onset of the symptoms. This is a matter which I have mentioned here before and I will do so again. If a dog which is suspected of rabies bites an individual, that individual is, of course, most anxious to know whether the dog has or has not got [illegible]. It is a matter of the most vital importance to [illegible] a matter of life and death. If that dog be killed, [illegible] probably the case in 99 cases out of 100, the [illegible] a interval of three weeks at least must elapse before it can be stated positively whether the dog had or had not had rabies. On the other hand, if the suspected dog be isolated the question can probably be answered with certainty in from two to four days, so that the clinical diagnosis of rabies, the diagnosis in the living animal, is a matter of very great importance. The tendency nowadays is rather to rely on the experimental method. I should be the last to decry the value of that method, and it may be the only means by which you can say that the dog has or has not got rabies, but in many cases very valuable time is lost by killing the animal and investigating it experimentally. I think you will at once see how, if the animal be killed, it may be impossible to diagnose the disease in a shorter period than three weeks. It is for this reason—that the post-mortem signs of rabies, both in the human subject and in animals, are not very marked. They are at the best rather equivocal signs, especially in animals, and, further, the most characteristic post mortem signs of rabies in the dog are not developed until the malady has been allowed to run its full course. If the animal be killed on the very first day after it has become strange in its behaviour the post-mortem examination may be absolutely negative; it may show that the dog is apparently perfectly well. That is clearly a very serious fallacy. Therefore, the clinical diagnosis of the disease is a matter of the greatest importance. The difficulty of clinically diagnosing the disease in the dog lies first of all in the difficulty owing to the symptoms, as rabies resembles other diseases in the dog, and, secondly, there is great danger in keeping a mad dog alive. If, however, the dog can be isolated so that it cannot do any harm it would be wiser to do that than to kill it, even if it has bitten anyone, because under those circumstances, in two or three days, perhaps less, you will have very strong presumptive evidence of the existence of rabies, simply by the death of the animal with the characteristic symptoms of that disease.

In my next lecture I will consider the details of the diagnosis, both clinically and by post mortem examination, as well as the diagnosis by the experimental method, and I will more especially deal with the fallacies that are liable to occur in the experimental method.

The Arris and Gale Lectures

ON

THE ANATOMY AND PATHOLOGY OF THE RARER FORMS OF HERNIA.

Delivered at the Royal College of Surgeons of England on Feb. 19th, 21st, and 23rd, 1900,

BY B. G. A. MOYNIHAN, M.S. LOND.,
F.R.C.S. ENG.,
ASSISTANT SURGEON TO THE LEEDS GENERAL INFIRMARY, CONSULTING SURGEON TO THE SKIPTON AND DISTRICT HOSPITAL, ETC.

LECTURE III.[1]

Delivered on Feb. 23rd.

HERNIA OF THE BLADDER.

MR. VICE-PRESIDENT AND GENTLEMEN,—Hernia of the bladder is still regarded as a surgical curiosity. During the last decade the number of recorded cases has been steadily increasing. Up to the present time approximately 200 cases have been recorded. Of these only 38 were observed before the year 1890. In 1890 it may be supposed that Bassini's operation began to assert its claim to be considered as one of the most successful of the methods for the radical cure of inguinal hernia. One of the features of this operation is the necessity it imposes upon the surgeon of opening up the inguinal canal and exposing to view that portion of the sac, one and a-half inches or less in length, which lies between the internal and external abdominal rings. If a small process of the bladder lay externally in contact with, or internally as a content of, the sac, it would inevitably be exposed, if not at the moment accurately observed or appreciated, during this procedure. An examination of all the published cases elicits a fact of some interest in this regard. All the earlier cases contained a very large amount of the bladder; some of them, verified by post-mortem examination, contained the whole bladder, including in at least two cases the prostate also. It is more than likely that any small or medium-sized hernia containing probably only a very insignificant portion of the bladder, would pass unrecognised in the days when a hernia, unless strangled, was seldom or never submitted to operation.

DEFINITION.

Hernia of the bladder may be defined as the appearance of the bladder at any of the usual hernial orifices, whether in relation with the peritoneum or not This definition, though not scientifically exact, will probably best meet the exigencies of the case Strictly speaking, an abdominal "hernia" cannot exist without a sac; but as the clinical manifestations of a case of bladder hernia without sac are to all intents indistinguishable from those where the sac is partial or complete no good purpose could be served by separating, for academic purposes, the descriptions of the several conditions.

---

[1] Lectures I. and II. were published in THE LANCET of Feb. 24th, 1900.

HISTORY.

It is generally stated, upon the authority of T. Bartolin, that the first case of hernia of the bladder was recorded in 1520 by G D Sala In Verdier's monograph to be subsequently referred to, this statement is repeated in a quotation from Gunz *Giovanni Domenico Sala Professor of Medicine* at Padua, lived from 1579 to 1644 Thomas Bartolin lived from 1616 to 1680; in his 'Histor Anatomic, centur IV, hist 28," he remarks, giving no date, that a case of bladder hernia had been observed in Venice by Sala, "Preceptor olim et amicus noster" The date 1520 is therefore, without doubt, a misprint for 1620 The first person to record a case of hernia of this variety was Felix Plater, of Basle, who lived from 1536 to 1614 No date is given on the original, but Verdier fixes the date at 1550 The classic account of this disease was written by Verdier in 1753 From that year up to 1890 *practically no observations of any importance* were recorded Isolated cases of greater or less interest were recorded by Percival Pott (who removed a stone from an inguinal cystocele), John Hunter (a specimen, "Hunterian," of inguinal cystocele in a lion is in the Museum of the Royal College of Surgeons of England), Astley Cooper, and others In the last few years papers of importance have been written by Legard, Anslun, Lotheissen, Brunner, Berger, Jaboulay, Monod and Delagenière, and Sjövall.

FREQUENCY.

Inguinal hernia, much more frequently than crural, contains the bladder It is difficult to gauge with even remote accuracy the percentage occurrence of cystocele. From recently published statistics I select the following list, for in each of these instances all the cases of hernia submitted to operation are enumerated without selection —

Lucas-Championnière	in 475	operations found	2	bladder hernias
Krönlein	„ 278	„	1	„ hernia
Bassini	„ 262	„	1	„ „
Hahn	„ 250	„	1	„ „
Corazza	„ 103	„	1	„ „
Mousri (Novaro's cases)	„ 283	„	6	„ hernias
Montegnacco	„ 260	„	4	„ „
Von Hacker	„ 702	„	7	„ „
Total	2613 cases		23	bladder hernias

This would give, roughly, 1 per cent. of cystocele

Sealistschew, writing in 1897 gave the percentage as 5 88 One fact, which many surgeons attest, is worthy of remark A very large number of cases of hernia may be submitted to the operation for the radical cure without any case of bladder implication being observed Then, unexpectedly, during an operation a portion of the bladder, recognised and duly attested, is seen In subsequent operations special attention is paid to the point, and a careful search is made for any evidence of involvement of the bladder Consequent upon this several similar cases are noticed The rarity of recorded examples is due, it would seem rather to a want of pertinent observation than to the infrequent existence of the cases That a more intimate examination of the neck of the sac and of that portion of the sac lying within the abdominal wall results in the discovery of small bladder pouches is shown by the cases recorded prior to, and subsequent to, the introduction of Bassini's operation In the Innsbruck clinic 455 cases were operated upon by Von Hacker before a cystocele was observed After the occurrence of this case instruction was given that in all operations special emphasis was to be laid upon an examination of the neck of the sac In the next 187 cases operated upon by Bassini's method six cystoceles were laid bare In 60 cases of Kocher's operation no evidence of bladder descent was noticed By Kocher's method it would be almost impossible to recognise a cystocele limited to the inguinal canal The conclusion would seem to be inevitable that, as Lotheissen says, "the more exact the stripping of the sac, quite up to the deep epigastric artery, the more likely will cystocele especially in its earlier stages, be discovered"

Broadly speaking, it may be affirmed that hernia of the bladder is a disease of the aged and enfeebled Four cases only of inguinal cystocele have been recorded in children The first was recorded by Percival Pott in a child six years old The hernia was supposed to be a "tumour" and was incised; it was recognised as the bladder when a calculus was removed The second was recorded by Wyeth in a child, two and a half years old, with incarcerated hernia, the bladder was incised and stitched; a good recovery followed. The third was recorded by Kummer in a child five years old It was an omental hernia, recurring one year after a radical cure The fourth was recorded by Lotheissen in a boy 11 years old The average age of the males in all published cases was 51 years and of the females 44 years The majority of the cases occur between the ages of 50 and 60 years *The relative frequency on the right and left sides is* as 1 46 to 1 (Sjövall)

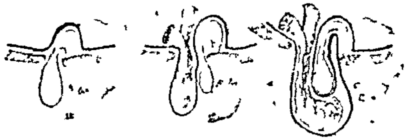
The following table arranged after the fashion of Brunner's, gives all the recorded cases I have found:—

Men 134	Inguinal 118	Right	61
		Left	41
		Double	4
		Not mentioned	11
	Crural 2	Right	1
		Left	1
	Perineal		2
	Other forms		2
Women 45	Inguinal 11	Right	3
		Left	6
		Double	1
		Not mentioned	1
	Crural 27	Right	22
		Left	5
	Perineal		4
	Other forms		3
Sex not stated 9	Inguinal		6
	Perineal		2
	Other forms		1

VARIETIES OF CYSTOCELE

There are three distinct forms of cystocele which may be most aptly described after the manner of Jaboulay and Villard as: (1) intra-peritoneal (Fig 11 *c*), (2) para-peritoneal (Fig 11 *b*), and (3) extra-peritoneal (Fig, 11 *a*)

FIG. 11.



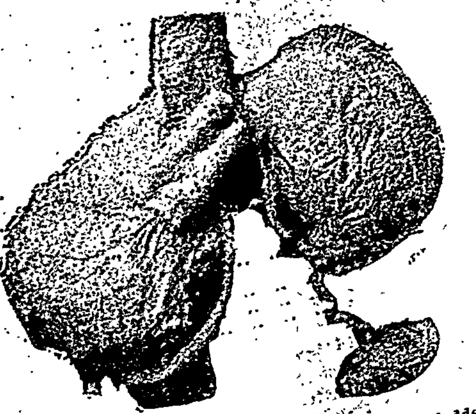
The three varieties of cystocele A Extra-peritoneal. B Para-peritoneal C. Intra peritoneal.

1 *Intra-peritoneal cystocele* (*Tumeur herniaire avec intussusception de la vessie* Duret · *Hernie par bascule*)— In this variety the conditions are as follows There is a complete hernial sac occupying the position of an oblique inguinal hernia, the neck of the sac, that is to say, is external to the deep epigastric artery. Into this sac a portion of the bladder *completely covered by peritoneum* descends That portion of the bladder implicated in the hernia is the upper part of the posterior surface This form of hernia is rare According to Lotheissen, probably only about 6 per cent of all cases of cystocele are of the intra peritoneal form. This estimate seems to me to be in excess of the truth Out of nearly 200 cases I can only discover four of the inguinal variety and one of the femoral (Gibson) in which the description leaves no doubt as to the exact nature of the hernia The hernia in all cases was very large and the hernial rings widely dilated It is always *secondary* in origin The sac may contain the bladder only or bladder with intestine or omentum On tracing the peritoneum of the inner wall of the sac inside the abdomen it is found to sweep round a little distance inside the internal abdominal ring in order to become continuous with that which clothes the bladder The viscus must therefore be twisted round on its vertical axis, a fact which is recognised by the description "*hernie par bascule*" of Leroux and others

2 *Para peritoneal cystocele* (Fig 12) (*Tumeur herniaire avec adossement de la vessie*)—In this form there is a hernial sac, either of the oblique or direct form On the inner side of the sac lies the bladder, in such manner that the peritoneum of the inner wall of the sac is the serous

covering of the outer wall of the bladder. The rest of the bladder outside the abdomen has no peritoneal covering. The viscus, therefore, is outside the sac; it is not a part of the contents of the hernia. The hernial sac may contain intestines, large or small omentum (Guterbock, Sorel, Berger), ovary (Guinard), or tube and ovary (Lejars, Reymond), or it may be found empty. This variety forms, according to Lotheissen, about 24 per cent. of all recorded cases. The estimate is probably far below the truth. Since accurate and exact records have been kept of these cases the proportion has been considerably greater. Sjövall gives 40 per cent. as correct, but even this is probably too small. In not a few cases believed at first to be extra-peritoneal a further and more careful examination has revealed a small and inconspicuous peritoneal descent on the outer side of the bladder. The relative size of peritoneal sac and bladder implicated in the hernia varies within considerable limits. On the one hand, the sac may be large and capacious and a mere fringe of bladder be present in the canal, or, on the other hand, the bladder involved may be large and bulky and the peritoneal descent quite trivial and inconspicuous. In about one half of the total cases, 51 per cent. (Sjövall), the bladder has been thickly covered with fat. When the sac has been stripped up after the reduction of its contents a thickening, more or less massive, of the upper and inner portion has been discovered. This thickening has been looked upon as a lipoma, a second sac, a cyst in connexion with the sac, or as mere indeterminate thickening. In two cases at least the position of the bladder was different from that which I have described. In one, an inguinal hernia, the relation of the bladder is thus described: "Outside the sac and lying external to it and slightly below it" a long process was found which on examination revealed the bladder. In a femoral hernia the bladder is described as lying "on the outer side."

FIG. 12.



Vesical hernia. Sir Astley Cooper's case. The bladder is covered by peritoneum except at the inner and posterior part. Para-peritoneal form. (Guy's Hospital Museum, No. 1170.)

3. *Extra-peritoneal cystocele.* (*Cystocele sans sac sereux, Duret.*)—This is a rare form. As has been mentioned, some cases apparently of this variety prove on examination to be "para-peritoneal." According to Brunner only six cases have been confirmed by post-mortem examination. It seems open to question whether any case of this form should be definitely accepted without the evidence of a careful dissection. The small peritoneal diverticulum converting an "extra-peritoneal" into a "para-peritoneal" example may be quite insignificant. Of the six cases four were of the inguinal variety and two were femoral. As a general rule the hernia is very small, of the size of a walnut or thereabouts. The largest tumour was "of the size of an orange." All extra-peritoneal herniæ are of the "direct" variety.

Of the three forms, then, the para-peritoneal is, beyond all question, the most frequent. It includes the smallest as well as the largest herniæ. The amount of the bladder engaged, too, in the hernia varies between the two extremes. In some cases, either para-peritoneal or extra-peritoneal, the merest "pinch" of the viscus may lie in the inguinal canal. In others, notably in one recorded and figured by Kronlein, the whole bladder, with the prostate, portions of both ureters and the vesiculæ, with the terminal portions of the vasa deferentia, may lie outside the abdomen. It is incidentally worth remark that Reichel has described as "inguinal hernia" which contained only a small dilated portion of the ureter on the right side. The bladder wall engaged in the hernia is, in about half the recorded cases, covered with fat—sometimes densely so. There is occasionally a slight thickening of the bladder, but more frequently there is thinning. To such an extent may this occur that the wall appears no thicker than the serous membrane over it. In a few cases the bladder has been recognised by the presence of muscular fibres.

On reading through the reports of cases one is struck by the constant repetition of the phrase "diverticulum" of the bladder. The pouch-like protrusion is said to be connected with the larger intra-pelvic portion of the bladder by a narrow neck. Percival Pott describes the size of the connecting channel in his case as "about the breadth of the largest wheat straw." Recent investigations, however, certainly tend to show that, speaking accurately, no diverticulum ever exists. A certain appearance of narrowing may be seen at the internal abdominal ring as a result of constriction there, but all that portion of the viscus contained in the canal or scrotum is nevertheless bladder, more or less altered and attenuated. So narrow may the neck of the sac be that urine finding its way in from an over-distended bladder is with difficulty returned. Inflammatory process may then develop and the urine retained undergoes decomposition. A phosphatic deposit on the walls may be thrown down, and to such a degree may this occur that a definite calculus may be formed. Stalpart van der Wiel makes mention of two cases in which inflammation resulted in abscess of the groin. On the abscesses bursting calculi were discharged. J. L. Petit records the case of a man, the subject of a vesical hernia, in whom it was possible to feel several small stones in the protruded viscus. The stones were small in size, could be made to pass to the intra-abdominal portion of the bladder, and eventually were voided with the urine. Gross, Percival Pott, and Imbert record similar examples.

Intra-peritoneal cystocele is always of the oblique form, para-peritoneal may be either oblique or direct, extra-peritoneal is direct. In addition to these forms of hernia of the bladder there are two other varieties which have been described by Hermes as "operative cystocele" (*cystocele opératoire*). In the first of these the bladder does not lie within the inguinal canal; but as a result of the stripping of the sac up to the internal abdominal ring and of the traction upon the sac before its transfixion a small tongue-shaped slip of the viscus is dragged down below the level of the internal abdominal ring. In such a condition the bladder may readily be pierced by the needle or included in the ligature. The more complete the stripping of the sac and the more vigorous the traction exerted the more likely is it that the bladder will be dragged downwards. In Bassini's and similar operations operative cystocele is therefore proportionally more frequent than in those procedures not involving a laying open of the canal. The second form of operative cystocele occurs in patients who have been subjected to the "radical cure" ineffectually (*cystocele post-opératoire*). The conditions of such a hernia are essentially different from those of the ordinary hernia and it is well to emphasise that difference by a separate classification.

ETIOLOGY.

The explanation of the existence of the bladder within a
hernial sac is a problem that has exercised the minds o
surgeons for over a couple of centuries. Felix Plater, wh
recorded the first example of this disease, was at a loss
understand how an organ usually so fixed in the true pel
could come to be outside the abdomen. Mery, who early
the last century recorded three cases, looked upon the her
as congenital in origin, and his view has been supported
Armands, Emmerts, and others. During the early year
life the bladder is an abdominal rather than a pelvic or
and any congenital defect would, one might t
be calculated rather to induce a hernia during
years than in later life when the bladder has s
in the pelvis. The number of bladder hernias re
in children (see above) is remarkably few

which
Urinar
and in

our cases being known. Investigations carried out by Eng-asch in 1877 suggest to him that an abnormal condition of be ligamenta vesico-umbilicalia lateralia, an ineffective or rregular development that is to say, may be responsible for he initial fault. The premature involution of the vessel ontained in this fold may lead to the formation of strong eritoneal folds which render the resistance to the backward listension of the bladder considerably greater than to the lateral. The bladder slowly widens out and reaches the internal abdominal ring more readily than under normal conditions. Peritoneal fossæ to the outer side of these folds are described by Waldeyer and Aschoff. Berger has remarked that "the predisposing causes of vesical hernia are those which lead to an increase in the capacity of the bladder and determine a thinning of its walls."

In order to permit of the engagement of the bladder in the internal abdominal ring the organ must have suffered some deviation from the normal. Its wall must in many cases have undergone such thinning as commonly results from frequent and long-continued over-distension. It is therefore probable, in the first place, that any disease or defect in the lower urinary tract would predispose to such pathological alteration. Stricture of the urethra, prostatic hypertrophy, with bladder atony, and the atony following acute cystitis, may be mentioned as not unlikely to cause the thinned, flaccid, degenerate bladder to approach the inguinal region. But prostatic hypertrophy is common, bladder hernia is rare, and although the association of the two is striking in its frequency it is natural to suppose that there are other factors at work.

It has already been mentioned that in cases of hernia of the bladder the viscus is more or less thickly covered with fat. This fact was, I believe, first noted by Verdier, and is also mentioned by Keate, "Cases of Hydrocele, with Observations on a Peculiar Method of Treating that Disease, to which are subjoined a Singular Case of Hernia Vesicæ Urinariæ, &c." This paper was published in London in 1788 and in it Keate remarks: "From the great abundance of fat all round the bladder it might be concluded that the fat had facilitated the descent of the bladder." Scarpa in his work remarks: "In another subject I found among the coverings of the testis a large quantity of fat, which extended up the cord through the canal and blended with the fat lying by the side of the bladder. When I pulled upon the fat between the testis and the neck of the sac I drew the bladder down so that at last it reached to the level of the testis." This "lipome pre-herniaire" has been accredited by Monod and Dalagenière with a considerable influence in the etiology of hernia of the bladder. "Occasionally soft, almost diffluent, this fat sometimes forms merely pellets of fat, at other times a thick stratum of fat which surrounds the bladder." An examination of a number of cases where the inguinal region and the pelvis may be considered normal reveals the following condition. Extending along the cord as it lies in the inguinal canal is, in the majority of cases, a certain amount of fat. Occasionally in small round granules, but more commonly in elongated strings, this fat is of a peculiar soft, succulent, oily, and homogeneous character. At the internal abdominal ring it turns inwards with the cord and is continuous with the fat surrounding the upper part of the bladder. Occasionally the fat is continuous with a more or less well-defined cord of fat extending upwards along the psoas muscle to the kidney. Lockwood has recently shown in his admirable little book on "Hernia, Hydrocele, &c.," that not a few cases diagnosed as inguinal hernia reveal, on the laying open of the inguinal canal, nothing more than a "lipoma of the spermatic cord," a condition, that is, in which the fat I am describing has undergone a considerable increase in bulk. A further interesting fact, to which both Andrewes and Lockwood have drawn attention, is that in this fat some remains of adrenal tissue have been found. In a case of my own a large lipoma extending from the scrotum up the cord, through the inguinal canal, filling the iliac fossa, and extending upwards almost to the pancreas, contained a fair number of epithelial cells in varying stages of degeneration. This fat, therefore, has, morphologically, a past, and clinically it probably has a future. An examination of the fat surrounding the bladder shows that it does not merely coat the wall, but that it insinuates itself to some degree between the muscle fibres themselves. Monod and Delagenière in a striking contribution to the study of this subject assert that the excessive development of this fat, its conversion into the "*lipome herniaire*," results in the fixing the bladder at or near the internal abdominal ring. Other causes, laxity of the abdominal wall, increase of intra-abdominal pressure from effort, and so forth, result in the forcible expulsion of the upper and outer portion of the viscus from the abdomen. Jaboulay, who confirms the experience of most surgeons as to the existence of this doughy cake of fat, considers that it acts not as a point of fixation, but that it favours the descent of the bladder "*par glissement*."

It has been generally overlooked that this supposed method of the formation of vesical hernia is nothing more than an old friend under a new name. German authors have for over a century considered the possibility of the formation of peritoneal sac by small masses of fat. The "Zug theorie" endeavours to explain the existence of hernial sacs by the dragging on the peritoneum by these small pellets of fat, local increases of the ordinary sub-peritoneal fatty tissue. Pelletan, who wrote in 1780, suggested that these fat nodules might induce the descent of a hernia. In these two conditions the over-distension due generally to prostatic diseases, with the associated loss of general muscular power, and the existence of the pre-vesical fat, we probably have the two chief factors which lead to the development of cystocele. In the various forms these factors do not, in all probability, act with equal effect. In extra-peritoneal cystocele are found distension of the bladder, feebleness of its muscular coat, strenuous efforts to empty the bladder, wasting, bulging, and laxity of the lower abdominal wall—the condition, in fact, which has been aptly and graphically described by Guyon under the term "prostatism." In para-peritoneal cystocele, as Jaboulay has pointed out, the hernia is generally voluminous. In such cases the cystocele is secondary and is due to the dragging down of, and further demands upon, the parietal peritoneum. If, on the other hand, the hernia is small, the sac quite inconsiderable and probably empty, while the bladder is of considerable bulk, densely hidden with fat, it is probable that the "*lipome herniaire*" of Monod and Delagenière may be largely responsible for the rupture. With regard to the rare form of intra-peritoneal cystocele two explanations have been offered. Gerard-Marchant writing in 1876 suggests that in an ordinary case of inguinal hernia the intestine or omentum normally present may, on an occasion of reduction, become in consequence of some trifling inflammatory condition adherent to the peritoneally clad posterior and superior part of the bladder. This adhesion may become firm and in the subsequent descent of the omentum or gut implicated the attached bladder may also be dragged down. Leroux quotes a case observed by him, where he attributed the vesical involvement to epiploic adhesions such as this. This theory, simple and fascinating though it is, is in certain cases inadmissible, for no adhesions are discovered. Such a case is recorded by Krönlein. In these later cases an unusually copious distension of the bladder has been noticed, and it is suggested by certain French authors (Duret, Jaboulay, Villard, and others) that in such cases the peritoneal traction causes the ballooned posterior part of the bladder to topple over to the affected side "*par bascule*" and to become in that way engaged in the hernial orifice. As so few cases have been recorded, it seems impossible at present to attempt any completely satisfactory explanation, but it is probable that one or other of the causes mentioned will account for the majority of the cases.

To sum up the causes leading to the development of a hernia of the bladder we may state the matter thus:—1. There must be a condition of *permanent vesical distension*. As a result of this enlargement the normal anatomical relations of the bladder undergo considerable modification. The increase is not merely in the vertical direction, but also in the transverse. The bladder is therefore brought into relationship with the inguinal fossæ. 2. There must be a condition of *motor insufficiency* of the bladder. The wall is thinned in certainly the great majority of cases. Szalistschew gives it as his experience that the bladder wall may be not only not thinned but actually thickened and the muscular fibres considerably hypertrophied. A glance through the recorded cases, however, is amply sufficient to show that the atrophy of the muscular coat is incomparably more frequent. 3. There must be a condition of *laxity of the abdominal wall*, especially in the lower half, or of undue patency of the inguinal canal and unusual size of the abdominal rings. A bulging of the lower abdominal wall is very common in cases of hernia occurring in middle or old age. It has been described and figured by Glenard, Macready, and others.

4. As supplementary to these three there is also necessary the *increase of intra-abdominal pressure, the "effort"* upon which Nélaton in 1857 was the first to lay definite emphasis.

Undoubtedly these essential conditions find themselves represented to perfection in the case of prostatic enlargement. In an enlargement of the middle lobe of the prostate, of such kind that the lobe acts as a ball-valve, they would be more clearly defined than in other forms of prostatic enlargement. In those cases where prostatic hypertrophy is not a factor, and to some, at present uncertain, extent even in these, we must allow some share as a causative factor to the "*lipome herniaire*" of Monod. The occurrence of this massive deposit of fat is much too frequent to be merely a coincidence. It is only right, however, to state that its influence is strenuously denied by many observers, among whom Lejars and Imbert are the most emphatic.

It will be seen from this description that cystocele is both primary and secondary. *Primary cystocele* results from two conditions: (1) in which the bladder through persistent over-distension, associated with muscular atony, laxity of the abdominal wall, and "effort," is forced into the inguinal canal; and (2) in which the traction or fixation of a lipoma causes the descent of the organ. *Secondary cystocele* results from (1) the traction of a pre-existing hernia; and (2) the protrusion of the peritoneally clad portion of a lax, distended bladder into a hernial sac of old standing. This may be spontaneous or the result of omental adhesion. The omentum in a hernia may, as a result of injury, temporary strangulation, or other cause, suffer inflammation. On reduction it may be in contact with, and adhere to, the bladder, and thus be responsible for the hernial descent of that organ.

SYMPTOMS AND SIGNS.

At the outset it must be admitted that any special signs and symptoms of the implication of the bladder in a hernia may be entirely absent. The number of cases that have been diagnosed before operation does not amount, at a generous estimate, to more than 5 per cent. of the whole. A reference to the table which follows shows that in a remarkably large number of the recorded cases the first appreciation of the implication of the bladder came after its wounding during the operation. In some few cases a diagnosis before operation has been made, and in these, of which my own first case is a striking example, the symptoms do not admit of misconstruction. The signs of a bladder hernia of moderate or large size are those of a hernia which at times contains fluid. The tumour is generally rounded, smooth, soft, and fluctuating. The fluid is capable of reduction under pressure, and in a few cases it has been recorded that the patient has become expert in assuming a certain posture in order to facilitate the return of the urine. The size of the hernia is liable to rapid and considerable alteration. Within a couple of hours it may alter from the bulk of a lemon to the size of an average water-melon. On percussion such a tumour is almost wholly dull. The tumour in whole or in part, except in the rare intra-peritoneal form, is irreducible. The portion left behind after reduction has been carried out as far as is possible, is thick and doughy in consistence, being made up of the "*lipome herniaire*." As Sir Astley Cooper pointed out, the scrotal swelling is distinguished from hydrocele by the fact that it is not translucent.

The functional characteristics are striking. The chief of these is the "*miction en deux temps*," the divided micturition. A patient so affected voids urine and empties the portion of the bladder in the pelvis. Then on pressure being applied to the hernia the urine it contains is returned within the pelvic portion of the bladder and thence passes by the urethra. Micturition is in two stages and is associated with a simultaneous lessening of the hernial swelling. If the bladder, after being naturally emptied, is filled by the injection of lotion the fluid will pass through the canal and distend the hernial tumour. In some cases it has been possible to pass a sound or a catheter through the urethra into the bladder and out by the inguinal canal, so that the beak could be felt in the hernia. Pressure upon the hernial swelling produces a desire, which with increasing pressure becomes irresistible, to micturate and a few drops of urine may be involuntarily passed. In a few of the cases it has been remarked that there was considerable difficulty in emptying the scrotal portion of the bladder into the pelvic portion on account of the narrowness or compression of the joining isthmus. Guterbock emphasises the importance of a rectal examination, asserting that the normal bulging of a distended bladder towards the rectum is absent.

Hernia of the bladder is very rarely strangulated, but not infrequently there have been symptoms simulating and suggesting strangulation. Such are nausea and vomiting, abdominal distension, obstruction of fæces, and flatus. They, however, have never had the acuteness of those present in true strangulation. The most distressing symptom in a case under my care was hiccough, which was persistent and exhausting. In two cases recorded by Hermes where symptoms suggesting strangulation were present no gut was found in the sac on operation. In the severer cases the general aspect of the case would suggest omental rather than intestinal strangulation. The following table based upon one prepared by Brunner, and including, so far as I am aware, all the recorded cases, shows almost at a glance the chief features of the cases.

HERNIA OF THE BLADDER

Total recorded cases, 171.

Cystocele diagnosed; no operation				13 cases.
(In three of these diagnosis was confirmed after death.)				
Cystocele diagnosed; operation				6 cases.
Bladder wounded (resection)	1	6		
Bladder not wounded	5			
Cystocele found; after wrong diagnosis				4 cases.
(3 diagnosed as abscess, 1 as sarcocele)				
Cystocele, first discovered at operation				107 cases.
Bladder recognised and not wounded			49	
wounded and recognised			58	
As follows:—				
Wounded accidentally, though recognised			2	58*
Unexpectedly wounded			26	
Intentionally incised			23	
Being mistaken for:—				
The sac	3	23		
A second sac	8			
Tumour	4			
Cyst	1			
Omentum	2			
Lipoma	2			
Not mentioned	3			
Incised for diagnostic purposes			5	
" to confirm diagnosis			2	
Cystocele, first recognised after operation because of wounding of bladder				22 cases
Wound not noticed at operation	6	22		
Supposed to be sac	9			
" " second sac	5			
" " lipoma	2			
Cystocele, found post-mortem				19 cases

* Bladder wounded and recognised .. 58

The cases were dealt with as follows:—

	No. of cases.	Result: Healing without fistula.	Result: Fistula.	Result: Death.
Bladder simply left open	2	0	2	0
" stitched to skin	4	0	3	1
" drained by tube	1	0	0	1
" ligatured	3	0	1	2
Fastened in ordinary suprapubic incision made for the purpose	1	0	0	1
Suture of bladder—simple	10	5	2	3
" double layer	15	13	2	0
" triple layer	12	6	5	1
Suture; no details	10	4	5	1
Total	58	28	20	10

DIFFERENTIAL DIAGNOSIS.

Brunner makes the apt remark that there is "scarcely any province in surgery where so many mistaken diagnoses are made" as in hernia of the bladder. A reference to the preceding table shows that out of 171 cases which are given in some detail only nineteen cases were diagnosed and in only nine of these are we certain that cystocele existed; six were proved by operation and three by post-mortem examination. In my own three cases a diagnosis was made in one, in the second the herniated portion of the bladde had a capacity only equal to that of a walnut and therefo caused no symptoms, and the third was an "operati cystocele." My own first case had before I saw t patient been treated as hydrocele and tapped on t occasions. The false diagnosis of hydrocele, indeed, is t most commonly indulged in, and in cases where a la portion of the bladder is implicated, and where the wa thin and the communicating neck is no wider than " largest wheat straw," one can readily understand tha physical conditions in the two cases are apt to be conf A cystocele of any bulk can, however, be distingu by the following differences: it is opaque, is flu reducible, reduction is attended with the desire to u and micturition is effected in two stages. The pr of fat in a hernial [illegible] with a [illegible] lateral bladder. On the reduction of the [illegible] which is [illegible] there is not usually that [illegible] the thickening of the inner and posterior part of the sac to be felt [illegible] diagnosis [illegible]. A case illustrating the difficulty of diagnosis is related by [illegible]. At the [illegible] of an operation for a strangulated hernia [illegible] to notice that [illegible] the external [illegible] the bladder had [illegible] subsequent [illegible]. From a clinical point of view we should describe two classes of cystocele, the "manifest" and the "latent." The "manifest" would include [illegible] owing to the large portion of the bladder involved the signs and symptoms are unmistakable, and the "latent" those where only a trace of the viscus is involved and [illegible] signs or symptoms are all [illegible] entirely wanting.

TREATMENT

It is, of course, quite impossible for a patient suffering from a hernia of the bladder [illegible] the intraperitoneal [illegible] operation is [illegible] to wear a truss. So much [illegible] the inconvenience and the danger of the case. In [illegible] there is decided objection upon [illegible] operation should be performed. The frequency with which the bladder has been wounded during operation makes it a matter of considerable importance that the surgeon should be able to recognise the bladder when it exists as a hernial content. There are two chief considerations which facilitate this recognition: (1) a thickening or a deposit of fat at the inner and back part of the sac, and (2) the presence of interlacing muscular bundles in a similar position. Any thickening of the upper part of the sac, especially on the inner side, should be treated with the profoundest respect. An examination of the recorded errors shows that in many cases even where the thickening has been noticed sufficient care has not been exercised in investigating its nature and harm has followed. Unless the neck of the stripped sac is perfectly free and is normal in appearance and to the touch it should not be transfixed, ligatured, or twisted. I am aware that in many cases the bladder has been wounded because it was not seen. The importance, therefore, of a clean stripping of the sac and of a minute examination of its neck can hardly be over-emphasised. The advantage which operations like Bassini's, Halsted's, and Lockwood's exhibit in this regard need not be enlarged upon. If a fairly large area of the sac is involved as a covering of the bladder it must not be stripped up. The peritoneum must be entered [illegible] bladder and on the other side *close up to the ring*, and the circular wound stitched up by continuous or interrupted *sutures*. The bladder loosened gently from its surroundings (it has been torn even when recognised and therefore requires delicate handling) is returned into the abdomen, and the rings and canal are stitched up in such manner as is considered most satisfactory. In the great majority of, if not in all, cases it will be necessary for the patient after operation to wear a truss. The operation may be said to have for its object the rendering of the condition of the inguinal region such that a *truss can be readily and safely worn*.

When the bladder is wounded and recognised the best plan undoubtedly is to stitch up the wound with stitches which do not include the mucous membrane. A single layer, or even double or triple layers of sutures have been employed. Probably two layers are ample. In some cases the bladder has been wounded and not recognised until some time after the operation. Within 12, 24, or 48 hours it may be noticed in such a case that the dressings are soiled with a more or less copious discharge of thin yellow fluid, or blood may be present in the urine voided after recovery from the anæsthetic. In such cases the wound must be re-opened, and if possible the bladder wound should be accurately stitched up. A urinary *fistula* may result and may persist for an indefinite period or it may *gradually* close up and the wound heal soundly. Monod and Delagenière suggest that when the bladder is wounded that portion of it which is *implicated in the hernia* should be resected and the wound left in the bladder stitched up. Lanz advises the turning up of the peritoneal flap before resection, so that the line of sutures in the bladder may be covered in by the flap when replaced. I can conceive no possible advantage from resection unless gangrene of the wall of the bladder were present, and as this is an exceedingly unlikely complication the method is not one to be advocated. If it is ever justifiable this procedure of Lanz would certainly add a measure of safety.

PROGNOSIS

The really serious part of hernia of the bladder results from the attendant [illegible]. There is nothing in the bladder involvement as such that is untoward. The bodily feebleness, the prostatic enlargement with its secondary effects on the bladder, kidneys, or general health, and the not infrequent *wounding of the viscus during operation are the circumstances* that tend to add to the seriousness of the case. When the presence of the bladder in a hernial sac is merely an incident without any bearing upon the case the dangers are those merely of an ordinary hernia.

CRURAL CYSTOCELE

What has been written of inguinal cystocele applies almost equally to the femoral variety. 33 cases are recorded by [illegible] in a recent pamphlet; of these 20 occurred in women. The part played by the prostate in the production of hernia of the bladder in men is assumed very [illegible] its attendant conditions in women. According to the records of these cases, which in some respects are not sufficiently detailed, 20 cases are extraperitoneal, eight are paraperitoneal and one is intraperitoneal; of the rest it is impossible to speak with accuracy. Only three patients presented symptoms sufficiently definite to render a diagnosis possible. These cases are recorded by [illegible] and Guinard. During operation the bladder was wounded seven times, being mistaken for the *sac* or [illegible] (Hahn) for a second sac.

TUBERCULOUS DISEASE OF THE KIDNEY: ITS ETIOLOGY, PATHOLOGY, AND SURGICAL TREATMENT.

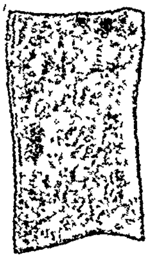
By DAVID NEWMAN, M.D. GLASG.,
SURGEON TO THE ROYAL INFIRMARY, GLASGOW.

(Continued from p. 531.)

ASSOCIATED with tuberculous disease of the kidney there are usually more or less specific inflammatory changes in the mucous membrane of the pelvis, the ureter, and the bladder. The lesions in these parts generally follow the disease of the kidney. The affection of the conducting and collecting portions of the urinary tract is brought about in the following way. If the primary focus be situated in the medulla of the kidney the disease spreads into the renal substance and the tuberculous material breaks down and discharges by bursting into the pelvis and infects the mucous membrane secondarily. Or, if the pelvis is primarily involved the debris flowing into the bladder in its course infects that viscus.

Infection by invasion along the lymphatics of the kidney from foci in the lower urinary tract.—Ascending renal tuberculosis is by no means an uncommon malady. By injecting the ureter of living animals or by studying the course of events of the disease in the human subject we can easily follow the course of events. The experiment performed by Albarran throws considerable light upon this subject. By injecting the ureter with pure cultures of tubercle bacilli and ligaturing it below the point of puncture he was able to study the process by which infection proceeded along the duct and the morbid lesions associated therewith. The infection extends upwards from the bladder to the kidney. The bladder is usually contracted, its muscular coat is hypertrophied, and the mucous membrane is indurated. In the ureters and the bladder the tuberculous process begins by the formation of tubercles in the mucous membrane, and these breaking down form in a typical manner the so-called lenticular ulcers (Fig. 8) which are characterised by a flat base covered by caseous matter and sharp rugged borders within which little miliary nodules are situated. The ulcers are at first circular, usually superficial, their edges are slightly raised and are surrounded by a pale anæmic zone set in a deeply hyperæmic mucous membrane. In the bladder these ulcers frequently coalesce, forming larger ones of variously irregular forms. Their favourite seat is—probably on account of the mode of infection—the trigone and fundus of the viscus. In this form of the disease the kidney may be rapidly destroyed by hydronephrosis and the swelling may attain an enormous size through dilatation of the kidney by its fluid contents, and at the same time the surface of the distended pelvis and the renal parenchyma may become occupied by tuberculous foci. The infection of the kidney through the pelvis has been already described. In ascending renal tuberculosis the course of events is so different from that which is seen in the descending variety of the disease that clinically they can be distinguished easily from one another. The former is characterised by the early obstruction of the escape of urine from the pelvis, hence the most prominent features of the disease are symptoms and signs indicative of hydronephrosis or pyonephrosis. But the contents of the dilated pelvis differ in tuberculous disease from that observed in a purely septic lesion. They may be purulent but not necessarily so; indeed, they may be quite aseptic and may consist of broken-down renal tissue and tuberculous débris, or they may present the appearance of very soft, putty-like material. The renal sac in such instances is usually unilocular but it is divided more or less by deep septa which represent all that remains of the calices. These pouches generally correspond with the prominences, while the septa mark the depressions, on the surface of the kidney, and sometimes the latter are so deep that they give the kidney a distinctly lobulated appearance on its external surface. In some instances the obstruction to the ureter is complete only occasionally, and then the retention causes renal colic, while in the intervals the contents of the kidney escape and appear in the urine. The urine in such cases is usually clear for some days, during which time the subjective symptoms are aggravated; then suddenly the urine becomes turbulent, a sudden escape of tuberculous débris takes place, and for a time the patient is relieved.

FIG. 8.



Tuberculous ulceration of the ureter.

Extension by contagion along the lumina of the excretory ducts.—This method of extension is seen in cases of ascending tuberculous lesions and the progress is much the same as that which is observed in the conveyance of septic infection. In some cases the whole route of infection may be traced in the walls or on the surface of the bladder, the ureters, and the pelvis, right into the uriniferous tubules of the pyramids. These tubules are found in many instances to be blocked by colonies of tubercle bacilli alone, but more frequently they are mixed with other organisms The aggregations of microbes are surrounded by areas of inflamed tissue the exact character of which depends upon the age of the lesion. The foci are limited to the medullary portion of the kidney at first. In the early stage the specific inflammatory changes are slight and consist chiefly of degenerative processes in the epithelium and infiltration of leucocytes around and between the tubules, but gradually as the disease extends from the original centre disintegration of the renal parenchyma occurs and small cavities or abscesses form. The organisms may by plugging the lumina keep back the excretion and dilate the tubules. In this way the vitality of the epithelium and of the basement membrane becomes impaired and ultimately rupture occurs and the contents of the tubule is permitted to escape into the lymphatic spaces. Then the organisms rapidly spread and very soon excite fresh lesions in more distant parts of the organ.

Infection by the extension of the disease from other organs by continuity.—The isolated position of the kidneys protects them from infection by this process. Their deep situation in the lumbar region, far away from external influences, except through the lower urinary tract and the blood-stream, shut off from the abdominal cavity and surrounded by a firm fibrous capsule, make contagion by continuity difficult. But as we find in septic lesion of the kidney so also in tuberculous lesion, it must be recognised that contagion by this means does occur. The extension of tuberculous infection through the capsule is the least common channel of invasion of the renal substance, so that even in cases where the suprarenal bodies are involved in the tuberculous process the corresponding kidney is rarely affected. I have met with only one such case; in that case the kidney became infected by continuity from a tuberculous empyema. The patient was under the care of Dr. Wood Smith while he was physician in the Glasgow Royal Infirmary. The case was one of chronic phthisis pulmonalis, in which perforation from a cavity in the lung into the pleura occurred at the left base; this led to an empyema between the diaphragm and the base of the left lung extending upwards to as high as the seventh rib. The empyema was known to exist for one month. Ultimately it perforated through the diaphragm and surrounded the left kidney. At the post-mortem examination there were found in the substance of the kidney numerous small tuberculous foci but there was no evidence of extension of the disease to the pelvis, the ureter, or the bladder. The infection evidently spread from the subcapsular lymphatic space to the lymphatics surrounding the capillaries and the uriniferous tubules.

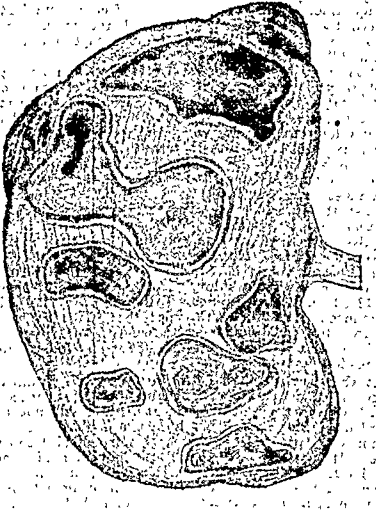
The comparative frequency of tuberculous disease of the kidney may be judged by the following statistics quoted by Roberts: "Embracing both primary and secondary deposits, the latter being, especially in children, by far the most frequent, out of 1317 tuberculous subjects examined in the Pathological Institute of Prague (out of a total of 6000 bodies) tubercle in the kidney was found 74 times, or in the proportion of 5·6 per cent., of tuberculous subjects[1] Among 315 tuberculous children Rilliet and Barthez found tubercle in the kidneys 49 times, or in the proportion of 15·7 per cent." Dickinson also alludes to the relative frequency of renal tuberculosis in children and in adults, and in a table compiled from the post-mortem records of St. George's Hospital and the Hospital for Sick Children, Great Ormond-street, he shows the frequency of tuberculous formations in the kidney and other organs in 600 post-mortem examinations, the subjects of 300 being under the age of 12 years and those of the other 300 of the age of 12 years and upwards. Of the former group 49, and of the latter group 17, suffered from tubercle in the kidney. These results correspond so closely with those of Rilliet and Barthez that there can be little doubt that renal tuberculosis in one form or another is specially a disease of early life, but whether the renal lesion is a primary or a secondary one is not shown in the statistics just referred to. Dickinson does not distinguish between the two forms, miliary and caseous; for "the miliary," he says, "become caseous as they enlarge, so that although in some cases there may be only one or only the other, yet they are continually intermixed and inseparable, as different results of the same process" From the surgeon's standpoint it must appear, however, very important to distinguish between a disease which involves the whole system and another which primarily attacks an individual organ or part of an organ, even although they are histologically the same pathological process. With the distinction just referred to in view Morris shows, by an examination of the records of the Middlesex Hospital, that of the 40 cases of tuberculous kidney met with in 2610 necropsies, 29 were miliary (secondary) and 15 were strumous (primary). Of the 29 cases of miliary tuberculosis 18 were males and 11 were females, and in 28 out of the 29 cases both kidneys were diseased, while in the 15 cases of primary renal tuberculosis (nine males and six females) both kidneys were diseased in eight patients Another point worthy of note is the different periods of life at which the two forms of disease occur. In the miliary (secondary) tuberculosis 12 cases occurred in persons under 10 years of age, eight in persons between the ages of 10 and 30 years, six in persons over 30 years of age, and three in persons whose ages are not stated. In the scrofulous (primary) tuberculosis no cases occurred in persons under 11 years of age, five occurred in persons between the ages of 11 and 30 years, seven in persons over 30 years of age, and three in persons whose ages are not stated.

---

[1] Prager Vierteljahrsschrift, Band i., p. 1, 1856.

Symptomatology.—In all cases of pyuria with the renal symptoms in men a careful examination should be made of the genital organs and of the prostate for tuberculous disease, as very often a clue which is of value in diagnosis may be thus obtained. If the symptoms are associated with rapid emaciation, anæmia, elevated evening temperature, and rapidly progressing marasmus tuberculous disease should be suspected. When the disease is limited to the parenchyma of the kidney the symptoms may be insignificant and ill-defined. When the bladder, ureter, and pelvis are not involved—that is to say, when the infection is purely tuberculous and localised to the kidney—there is seldom much pyrexia. The urine is acid and the quantity of pus is small. There is not generally much pain in the affected organ nor is the kidney much enlarged. The severity of the symptoms varies according to the form of the tuberculosis. In many cases it is a noteworthy fact that marked and advanced disease of the kidney, and even of the pelvis and ureter, may exist for long periods with total absence of symptoms pointing to a lesion in the urinary tract; hence the disease may destroy one kidney and block its ureter without being recognised. The only indications of departure from health may be impairment of the general nutrition, indicated by anæmia and emaciation, so that only late in the history of the case the attention of the physician may be directed to tuberculous disease. But when the mucous membrane of the pelvis or calices becomes involved, or when abscesses of the kidney burst into them, renal pain becomes marked. It is difficult to make any general statement as to the constitutional symptoms of tuberculosis of the urinary tract: their characteristics depend not only upon the extent of the disease and the locality involved but also upon the health or disease of other organs. In many cases emaciation and anæmia are marked, especially when there is mixed infection and the temperature is high or variable. Instances are met with, however, where tuberculous disease has existed in one kidney for a long period without any perceptible loss in weight or increase in temperature. In instances where the tuberculous lesion is small in size and localised a careful record of the temperature may reveal a slight afternoon rise of half a degree or of a degree. This slight variation in temperature in renal tuberculosis distinguishes it from a septic kidney. In the latter the variations are much greater. The fever arises in each from the action of the microbes and the amount or virulence of toxin produced by them, and consequently the pyrexia is to some extent a gauge of the activity of the morbid process. In the great majority of cases the thermometer is of much assistance, but it must be borne in mind that the pyrexia may depend more upon septic lesions in other parts than upon the aseptic renal malady. The temperature of the patient is generally from two to three or even four degrees higher in the evening than in the morning, or there may be intermittent periods of fever lasting for several consecutive days. Pain in renal tuberculosis depends upon whether the pelvis and ureter are involved in the disease. When the kidney parenchyma alone is implicated severe pain is seldom complained of and the patient only experiences a dull, dragging sensation in the loin. In cases of ascending tuberculous disease, or in advanced cases of primary renal tuberculosis where the pelvis, ureter, and bladder have become implicated, pain is often a distressing symptom. The pain sometimes simulates that of stone in the bladder. Occasionally, however, it is limited to the lumbar region or it may extend down the thighs. Frequent micturition is invariably accompanied by pain, which commences to be severe about *the middle of the flow, increases towards* the termination, and then subsides almost immediately the bladder is emptied. There is seldom an escape of blood with the last drops of urine and the pain and frequency are as marked during the night as in the day. In these respects the strangury of tuberculous disease differs from that met with in vesical calculus. Vesical irritation, shown by *incessant and painful micturition,* is a frequent and almost characteristic symptom of tuberculous disease, and this symptom may be present to a marked degree without the bladder being diseased. It is often the first symptom which attracts the patient's attention and makes him seek advice. Strangury is met with in all varieties of the disease, from the earliest to the latest stages, but it is generally most marked in the ascending lesions. It may, however, disappear or become much abated for considerable periods. In many cases swelling in the renal region is not pronounced. Sometimes, however, the kidney attains considerable dimensions and occupies the greater part of one side of the abdomen. Renal swelling sufficiently large to be made out by palpation may be produced by extensive disease of the cortex alone. (Fig. 9 shows a very good example of enormously enlarged tuberculous kidney, where the increase in bulk was due to infiltration of the parenchyma of the kidney rather than to any great distension of the pelvis or calices. The kidney weighed 28 ounces and contained a large number of irregular-walled cavities lined by greyish-white pultaceous material.) When this is so the swelling is found to be uniform in size when examined from time to time. On the other hand, when the renal swelling is due to obstruction of the urinary tract, giving rise to hydronephrosis or pyonephrosis from time to time, great variation in the size of the kidney may be observed. In about one-fifth of the cases recorded, and in the majority of those operated upon for strumous disease, the tuberculous pyonephrosis was discovered by palpation during life. Increase in the bulk of the kidney, while it must be regarded as an important sign of disease, is one which when present in connexion with the tuberculous lesion usually indicates that the disease has so far advanced as to cause diminution of the lumen of the ureter or other obstruction to the flow of urine. It is important also to ascertain whether or not the swelling is limited to one side; this may be done by palpation and percussion in some cases, while in others the only reliable mode of testing the extent of the disease is by catheterising the ureters. In tuberculous disease the renal swelling may form the centre from which the pain starts and from it the pain may extend down the line of the ureter to the bladder and testicle, across the abdomen to the opposite kidney, to the spine, down the groin, or along the outside of the thigh.

FIG. 9.



Enlarged kidney (weighing 28 ounces) due to tuberculous nephritis and the formation of cavities in the renal substance. (Royal Infirmary Museum, Series VII., M 10.)

It is to the diagnosis of tuberculosis in the early stage that we must especially direct attention, seeing that in its later development the aid of the surgeon is of little avail. The urine furnishes important information, and in all cases of s pected tuberculous disease careful analysis and microsco examination of it should be made previously to th ployment of any instrumental examination. One first indications of a tuberculous lesion in the kidney is polyuria, due, probably, to hyperæmia of the organs produced by the presence of tubercle bacilli or their toxins. It is a symptom which is very apt to be overlooked, unless when associated with albuminuria. The presence or absence of albumin seems to depend upon whether or not the tuberculous lesion freely communicates with the urinary tract. If the disease is located in the kidney substance all inflammatory products are kept shut off and do not mix with the excretion. At the same time the portion of the kidney not implicated in the disease continues to excrete healthy urine. If, however, there is a free communication between the active diseased area and the urinary tract, serum, blood-corpuscles, and leucocytes escape and give the urine an albuminous reaction.

Hæmaturia is seldom profuse, but it may occur as a premonitory symptom long antecedent to the development of a gross renal lesion. It is by no means uncommon to meet with cases of profuse and frequent hæmoptyses long prior to the development of any recognisable physical signs of pulmonary phthisis; so also in renal tuberculosis hæmaturia may be present as a premonitory symptom of the disease. Those who have had much experience in the post-mortem room must have seen cases of chronic phthisis pulmonalis where shortly before death hæmorrhages have occurred and blood has escaped into the parenchyma of one kidney or into the pelvis and where on minute examination the renal tissue or even the effused blood was found to be occupied by tubercle bacilli, yet on microscopical examination the histological structure of the kidney was little altered and beyond the blood infiltration presented the same microscopical appearance as its fellow on the opposite side. In such cases numerous tubercle bacilli may be found in the thrombosed vessels of the Malpighian tufts without any inflammatory changes having taken place.

But while hæmoptysis has been looked upon as a valuable danger-signal of phthisis pulmonalis, even when unaccompanied by other physical signs, hæmaturia has not been regarded in the same light, although doubtless in some instances it carried with it the same warning of trouble to come. Hæmaturia is often the first indication of danger that induces the patient to seek advice, and in many instances unless repeated and most minute examinations are made the medical adviser may find it difficult to arrive at a satisfactory explanation of the symptoms. In tuberculous disease the urine presents very marked variations in the different stages of the malady; in the initial phases of the affection the presence of the virus induces a congested condition of the organ, and hæmorrhages occur which are analogous to the early hæmoptysis of pulmonary tuberculosis and are probably due to a local interference with the circulation arising directly from the intimate relationship of the tuberculous deposit with the vascular supply.

CASE 6. *Profuse hæmaturia with slight pain in the left kidney recurring thrice; no other deposit in the urine and no swelling in the lumbar region; apparent recovery for two years followed by a relapse of the symptoms and a swelling in the left lumbar region; muco-purulent deposit in the urine and tubercle bacilli; no vesical irritation.*—A young woman, aged 18 years, consulted me in September, 1893, on account of a profuse hæmaturia which had occurred a fortnight previously. No reason could be assigned for the onset of the bleeding, and it was unaccompanied by any pain over and above a sense of fulness and weight in the left renal region. A careful examination of the urine failed to reveal any abnormal constituents beyond a small trace of blood, but the hæmaturia had practically disappeared at the time I saw the patient. Three months after this first hæmorrhage a second attack, not so profuse or so prolonged as the first, occurred and two months thereafter a third attack, all without any concomitant symptoms. On account of the difficulty in forming a diagnosis an examination of the bladder was made during the last attack and blood was seen issuing from the left ureter in a distinct cloud. It was therefore evident that the hæmorrhage was of renal origin, but as there were no symptoms pointing to the nature of the malady complete rest in bed was enjoined and the patient made what was regarded at the time as a complete recovery. Two years after the first hæmorrhage a fourth hæmorrhage occurred; this was associated with considerable pain in the left lumbar region and a distinct swelling could be made out by palpation. Examination of the urine two weeks after the hæmorrhage occurred showed it to contain a deposit of muco-purulent material as well as blood corpuscles, and on microscopical examination tubercle bacilli were discovered. Still, there were no symptoms present indicating any irritation of the bladder. The temperature was now elevated for the first time and the patient suffered from night-sweats, but there was no emaciation, loss of appetite, or serious constitutional disturbance.

CASE 7. *Hæmaturia 13 years previously to admission, and again nine years after the first bleeding; large tuberculous pyonephrosis.*—A man, aged 39 years, was admitted to the Glasgow Royal Infirmary on April 28th, 1896, complaining of pain in the region of the right kidney. The patient's first trouble in connexion with the urine dated back 13 years, when he had a slight attack of hæmaturia accompanied by pain over the right kidney, but these symptoms passed off in a few days. The patient had been in the infirmary in February, 1892, suffering from hæmaturia. He first noticed blood regularly present in his urine in November, 1895. He, however, was able to continue at work until the end of January, 1896, when he came into the hospital. At that time the hæmaturia was very considerable. He said that it was only three weeks previously to admission that he noticed anything like severe pain in the right side, and since the pain came on he had not noticed any blood in the urine. On examination a very distinct fulness was found in the right lumbar region. The whole space between the liver and the crest of the ilium was dull on percussion, and on pressure considerable tenderness was produced. The thoracic organs and the other abdominal organs were normal, so also was the bladder. The urine contained a considerable quantity of pus and some blood, and tubercle bacilli were present. The left kidney was healthy. On operation a large tuberculous kidney was discovered on the right side; it was scraped and evacuated.

In early hæmaturia the urine contains blood, but is free from tuberculous deposits such as can be recognised by the naked eye or even by the microscope. Cultivation observations and inoculation experiments may, however, detect the presence of tubercle bacilli.

Late hæmaturia from destructive tuberculous processes in the pelvis and renal parenchyma.—When the kidney parenchyma and the calices become more seriously involved the characteristics of the urine are more distinct, but this is not always the case. The physical characters of the urine are in some instances such that one can with certainty state that the urinary tract is the seat of a tuberculous lesion, while in other cases the excretion may be to no appreciable extent altered from the normal. Before destructive processes commence within the renal pelvis or substance traces of albumin and small quantities of blood may be detected, but when the tuberculous deposit has commenced to break down and to evacuate into the ureter the quantity of albumin is increased, the urine is liable after a time to become alkaline, and along with greater or less quantities of débris of renal tissue pus appears in considerable quantity. The albuminuria differs from that of Bright's disease in that the urine is not clear, but contains much mucus; it is viscid, cloudy, and opaque, and it does not contain tube-casts. The deposit contains small caseous masses mixed with renal débris, and on standing, although a considerable amount of pus may be precipitated, a certain quantity remains suspended and imparts a cloudy appearance to the fluid.

It is only in rare instances that profuse hæmaturia occurs in renal tuberculosis. Trautenroth[1] records a case of a woman, aged 24 years, who was the subject of pulmonary tuberculosis in its early stage but who also suffered from profuse hæmorrhage from a tuberculous kidney which necessitated nephrectomy. The pelvis of the kidney was filled with coagulated blood and upon one of the papillæ a considerable ulcer was discovered. The parenchyma of the kidney was the seat of a diffuse tuberculosis. The urine before the operation was found to contain tubercle bacilli. The patient made a good recovery. Routier[2] records a somewhat similar case where the right kidney was the seat of a large tuberculous ulceration. Severe hæmorrhage occurred and continued during 17 days associated with renal colic. On making pressure over the right kidney blood was seen to escape from the right ureter by the cystoscope. The kidney was removed and the patient made a good recovery.

CASE 8. *Occasional slight hæmaturia followed by one profuse bleeding in advanced renal phthisis.*—The only case worthy of note where severe hæmaturia occurred in advanced tuberculous disease was that of a man, aged 37 years, who was admitted to the Glasgow Royal Infirmary on June 16th, 1895. The patient was under treatment for a long period for tuberculous disease of the right kidney, and whilst occasional slight hæmaturia was observed from time to time it was not until March, 1897, that a large amount of blood escaped and at that time a very considerable hæmorrhage, amounting as the patient thought "to about a pint of blood and blood clot," escaped, but as far as is known no recurrence of bleeding of such dimensions occurred. Although tuberculous bacilli are classified as non-pyogenic, and properly so, in many cases of tuberculous disease before mixed infection has occurred large numbers of leucocytes not distinguishable by the microscope from pus may be found. In pure tuberculous disease the urine is acid and sterile from pyogenic microbes. For diagnostic purposes it is therefore necessary to draw off through a sterilised catheter a quantity of urine and to make cultures. The presence of pyogenic micro-organisms does not exclude the possibility of the disease being tuberculous, but their absence greatly strengthens the presumption.

---

[1] Centralblatt fur Chirurgie, 1896, No. 16.

[2] Bulletin et Mémoires de la Société de Chirurgie de Paris, vol. xxi., p. 148.

As the disease advances the odour of the urine as a rule becomes more and more offensive; the fluid deposits large quantities of mucus and triple phosphates and on examination it is found to be highly albuminous. Occasionally while the urine is pale and of low specific gravity there may be evidence of retention on the diseased side, as shown by, increase in the renal swelling, with perhaps indistinct fluctuation and pain, accompanied by general constitutional disturbance, or there may be complete suppression, death being ushered in by uræmic symptoms.

In addition to the diagnostic points already indicated the detection of the tubercle bacillus in the urinary débris is of great value. It is when tuberculous lesions begin to break down that tubercle bacilli are most abundant, and sometimes their number is very large. Several examinations are required before it can be concluded from negative results that the case is not tuberculous. It is more difficult to obtain the bacilli from urine than from sputum; they are less numerous in proportion to the medium in which they lie. decomposition destroys them more rapidly, and smegma bacilli are apt to be mistaken for them. The method is as follows Allow a quantity of urine to stand in a conical glass in a cold place for not more than six hours and from the deposit select a small quantity of débris and place it in a glass of ¾ per cent. salt solution. It is more rapid and more reliable, however, to obtain separation of bacilli by the employment of the centrifuge. This method should always be resorted to when the numbers are small or when the urine contains much mucus or blood. When large quantities of mucus are present it may be necessary to render the urine slightly alkaline before using the centrifuge Having placed a small fragment of the débris on a clean cover-glass it should be spread out into a thin layer by pressing another cover-glass against it between the finger and thumb. On separating the cover-glasses a thin film of débris will be found adhering to each The glasses must be air-dried, and then the films may be more firmly fixed by drying over a spirit-lamp or in front of a fire. The cover-glasses are then placed in or, still better, floated upon (with the film side downwards) a solution of aniline magenta or a staining fluid of gentian violet. When the film has become sufficiently stained the colour may be abstracted from all structures other than the tubercle bacilli by passing the cover-glass through a 25 per cent. solution of nitric acid. The action of the acid may be arrested by carefully washing the specimen in pure water. When examining the urinary débris for tubercle bacilli it is necessary in most cases to prepare at least half a dozen specimens. Should bacilli be present they will be recognised by a magnifying power of 750 diameters as minute rod-shaped bodies, coloured according to the nature of the staining fluid employed. They are from three to seven micro-millimetres long; they may be straight, but are more frequently curved or bent upon themselves at an obtuse angle; they are frequently beaded and they occur in bundles or singly From the urine the micro organisms are not easily cultivated, as putrefactive bacteria contaminate the culture and destroy the specific bacilli. Koch, however, states that he has succeeded in cultivating tubercle bacilli from cases of tuberculous pyelitis. In some instances the bacilli in the urine are so few in number that it is difficult or almost impossible to discover them simply by the microscope; in such instances inoculation experiments may help to clear up the diagnosis. Tuberculosis can be communicated artificially to animals in many different ways—in fact, through any of the channels of access to the body: by inhalation, by feeding animals on tuberculous products, or by injection into the serous cavities beneath the skin, or into the anterior chamber of the eye, or into veins. When tuberculous urine is injected subcutaneously into guinea-pigs or into rabbits it produces a typical tuberculosis within 10 or 12 days. The local swelling may break down, caseate, and ulcerate, while the lymphatic glands related to the part become enlarged and firm, and after a time may also caseate and the disease passes on to another group. When injected into the peritoneal cavity tuberculous urine produces an extensive tuberculous infiltration of the omentum and acute tuberculous peritonitis. Normal urine when aseptic becomes absorbed without producing any evil effect or when septic it may produce a suppurative peritonitis. If, however, the experiment is performed with care healthy urine produces a negative result, but if the urine contains tubercle bacilli or their spores acute miliary tuberculosis is developed in the course of a few weeks when the injection is made into the peritoneum, or if the urine is placed underneath the skin a hard tuberculous nodule is formed.

Besides the detection of the tubercle bacillus it is necessary to determine whether the disease is on one or on both sides. I have several times had occasion to examine by ureteral catheterisation cases of tuberculous pyelitis in which it was considered of importance to determine the extent to which the disease had involved one or both kidneys. Catheterisation can only determine the organ to which the tuberculous disease is limited; it cannot indicate the extent of the tuberculous lesion in the affected organ, but to make sure that one kidney is free from disease is a point of importance. The first time I succeeded in doing this was in 1886, when a case was examined and it was clearly shown that the tuberculous lesion was limited to one kidney.

Diagnosis.—The diagnosis of tuberculous disease from other renal lesions is generally easy, but in some instances it is extremely difficult. The most important features which distinguish the disease have already been referred to, so that little requires to be added. The diseases with which tuberculous lesions are most likely to be confounded are renal tumours, septic pyelitis, and pyonephrosis, and changes in the kidney consequent upon the presence of a calculus In calculous pyelitis the purulent stage is slowly developed and is usually preceded by occasional attacks of slight hæmaturia. Indeed, in many cases of renal calculus the appearance of blood in the urine is the first circumstance which attracts the attention and alarms the patient. In calculus the urine passes through a stage during which there is an increase in the quantity of mucus, and this stage is succeeded by the appearance of pus, the quantity of which slowly increases. While these changes are taking place, even through a protracted period, it is remarkable how well the general nutrition of the body is maintained. In tuberculous disease, on the other hand, the purulent stage often develops early; the pus is constantly present, but is not generally in large amount. The pyuria is accompanied from the beginning by a degree of emaciation, by a careworn expression, by evening exacerbations of fever, and by rigors, by drenching night-sweats, and an interference with appetite seldom witnessed in calculous pyelitis.

Tuberculous disease is readily distinguished from malignant tumours of the kidney or renal pelvis by the circumstance that in these diseases the urine seldom contains much pus or débris, and if abnormal at all it is from the presence of blood, which when it once appears continues and may be found in large quantities

The extension of the inflammatory process to the ureter, bladder, and lower urinary tract is strong if not unequivocal evidence of its tuberculous nature. In inflammation arising in the course of calculous pyelitis or pyonephrosis the conducting and collecting portions of the urinary system are seldom seriously implicated, whereas in strumous disease not only are those structures involved, but by a process of infection the generative organs may become invaded also—in the male the vesiculæ seminales, the vas deferens, the epididymis, or the testicle, and in the female the vagina and the ovaries. An examination, therefore, of these parts may assist the diagnosis in doubtful cases.

The diagnosis of the various stages of tuberculous disease is also especially important when operative interference contemplated. In miliary renal tuberculosis secondary to lesions in other organs there may be only slight disturbance of function, the secondary urinary troubles being marked by the symptoms of the primary lesions Sometimes, however, incontinence of urine may demand attention and on examination the condition of the urinary organs may be ascertained.

In chronic nephritis and in tuberculous pyelitis the symptoms are generally well marked and differ materially according to the course of events as regulated by the channel along which infection has taken place. As already indicated, in the descending variety the kidney parenchyma is first involved, and the renal trouble, although it may be primary, is generally secondary to some easily recognised tuberculous lesion elsewhere. There is not usually much increase in the size of the organ to begin with, but sooner or later the lower urinary tract becomes involved in a way and with a degree of certainty not seen in other inflammatory diseases When a mixed infection has taken place and tuberculous abscesses have formed and ruptured into the pelvis pyuria becomes constant, except when the flow from the ureter is retarded by an obstruction, which, however, is usually temporary. At times, therefore, the urine may be almost clear, while at others it is loaded with pus and tuberculous débris. In the ascending form of tuberculous disease vesical symptoms appear early in the course of the disease and are often associated with evidence of tuberculous lesions in the prostate, &c. The ureter becomes involved before the kidney, hence symptoms arising from obstruction, such as renal colic, transitory pyonephrosis, or increase in the size of the kidney from the dilatation of its pelvis, are observed early in the course of the disease.

(To be continued.)

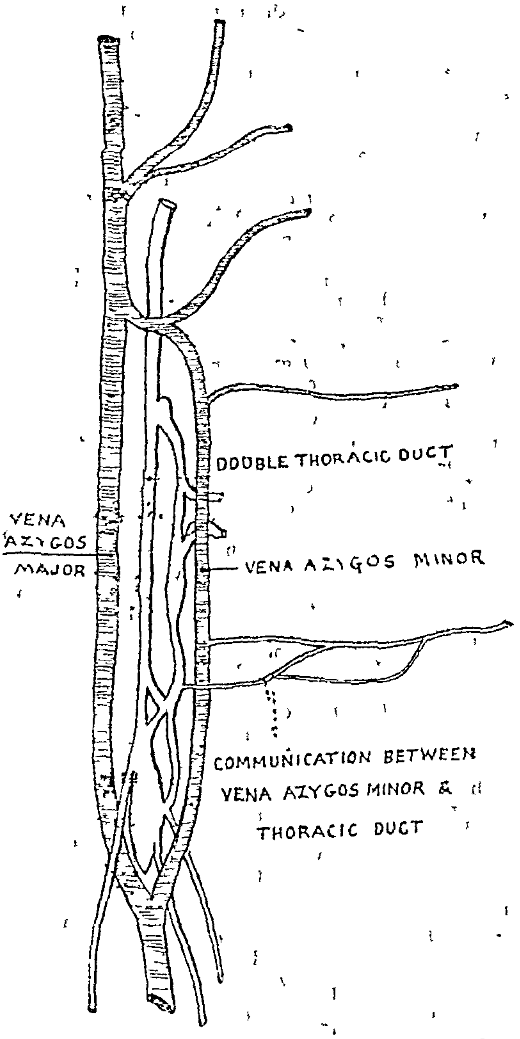
ON THE RELATION OF BLOOD TO LYMPHATIC VESSELS.

BY CECIL H. LEAF, M.A., M.B. CANTAB., F.R.C.S. ENG.,
ASSISTANT SURGEON TO THE GORDON AND CANCER HOSPITALS;
LATE ASSISTANT DEMONSTRATOR OF ANATOMY AT
THE LONDON HOSPITAL.

IN THE LANCET of June 18th, 1898 (p 1680), in an article entitled "A Method of Injecting the Lymphatic Vessels," I described a communication which I had observed in the inguinal region of the human subject between a lymphatic vessel on the one hand and a vein on the other. Since that time I have made dissections in the thoracic region in three subjects to determine whether this communication was at all constant and in all these instances have I found it to exist. The following illustrations are drawn from dissections made in these subjects which were hardened by formalin. In Fig. 1 the thoracic duct is double. One of the lower left intercostal veins is seen to terminate not only into the vena azygos minor, but to be connected by a small communicating branch with the left half of the double thoracic duct. In Fig. 4 a large lymphatic trunk is found to terminate directly into the vena azygos major and in the same figure an intercostal lymphatic vessel is seen to terminate in the lowest intercostal vein of the right side. These and other directions show that in the thorax the communication between these two sets of vessels is of no uncommon occurrence and I am inclined to regard it as a normal one. It is frequently found that some of the intercostal lymphatics pour their contents into some of the intercostal veins or into one or both of the azygos veins or that some large lymphatic trunks in the neighbourhood of the receptaculum chyli empty into the vena azygos major. Lippi of Florence in 1825 was the first to maintain that communications between the lymphatic vessels on the one hand and the portal, internal jugular, renal, inferior cava, and azygos veins on the other hand actually existed, but these conclusions were not generally accepted. Recent work would tend, however, to confirm Lippi's contentions. Thus MacAlister[1] says: "The chief communications of lymphatics with veins are at the junctions of the jugular and subclavian veins on each side, but a few communications of smaller size occur elsewhere, as into the internal iliac and posterior tibial veins."

Richard Boddaert[2] experimented on the rabbit, and after ligaturing the thoracic duct and then feeding the animal on a sufficient quantity of fat introduced into the stomach for four hours before its death found that in nearly a third of his experiments (five out of 16) there was a communication between the lymph vessels and the azygos veins. He found, moreover, that by applying forceps near the junction of the azygos vein and the right vena cava superior, and exercising pressure on the lumbar lymphatic vessels, with each pressure the azygos vein became distended, while its contents owing to the admixture of lymph then became much paler. Conversely by pressing on the azygos veins the vessels of communication became distended and their contents from being milky became red. Boddaert has also noticed a large lymphatic trunk pass directly into the external iliac vein. It is always taken for granted that the flow of lymph is from the lymphatic vessel into the vein, and in the great majority of cases, of course, this is the case, but whether it is invariably so along some of these communicating vessels I think there is good reason to doubt In Fig. 1, for instance, the blood is obviously passing from the intercostal vein into the vena azygos minor, and from the direction of the communicating vessel probably through this into the left half of the thoracic duct, or, in other words, it would seem, judging by the direction and relative sizes of the vessels, as though the thoracic duct was here receiving a small venous tributary. In the superior mediastinum I have seen small veins coming from the thyroid gland empty themselves directly into the large lymphatic

FIG. 1.



---

[1] A Text book of Human Anatomy, p 89.

[2] Étude sur une Communication exceptionnelle entre le canal thoracique et la veine azygos chez le lapin Extrait des Annales de la Société de Médecine de Gand.

unks in this region. By some of the smaller veins emptying hemselves into the larger lymphatic trunks it would seem hat the somewhat sluggish movements of the lymph current ould be thereby quickened. Not only are the veins but lso small arteries in the thorax brought more immediately nto relation with lymphatic vessels than hitherto supposed.

In the specimen from which Fig. 3 was drawn the ymphatic vessels were well marked and at one point, X, I raced from one of them a vessel which at first I took to be vein. On tracing it further, however, it was proved to be branch of an intercostal artery. As far as could be seen ith the aid of a strong magnifying glass this vessel passed irectly at the point X into the lymphatic vessel. In the diagram the other terminal branch of the same artery also appeared to end in a lymphatic, but though represented as doing so in the diagram I could not be absolutely certain on the point; however, another branch of the same artery could be easily seen with a magnifying lens to end in a vessel which from the translucency and beaded appearance was obviously lymphatic. Again, in Fig. 2 an intercostal artery is seen to give off two small parallel branches which end in a dilatation into which a lymphatic vessel passes in at one extremity and emerges at the other; from this dilatation a short branch passes to another lymphatic vessel. In Fig. 4, again, one of the lower intercostal arteries on the right side is seen to give off three branches which unite together and form a loop from the convexity of which a branch passes off which communicates directly with a lymphatic vessel; from this branch, again, another vessel passes off which terminates in the lowest right intercostal vein; in this case there is a direct communication between an artery and a lymphatic vessel and an indirect one with the lowest right intercostal vein.

FIG. 2.

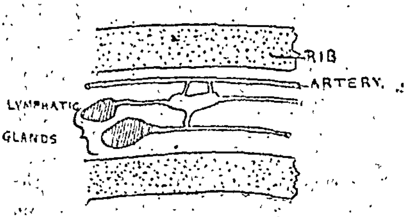


FIG. 3.

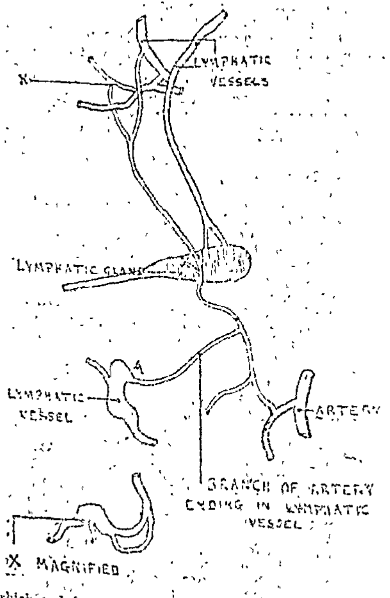
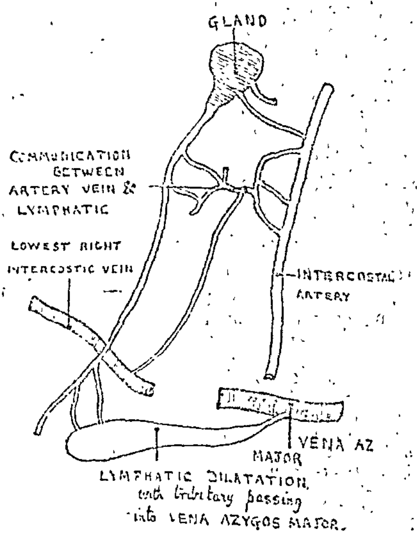


FIG. 4.



It has been known for some time that the lymph often assumes a pink or reddish hue, and the colour has been shown[3] to be due to the presence of red blood corpuscles. How do the corpuscles pass into the lymphatic vessels? If the fact already mentioned is admitted—viz., that a certain number of small arteries pour their contents directly into lymphatic vessels—the presence of these corpuscles is readily explained, and another factor is present which would materially quicken the movements of the lymph; however, it is only right to add that the arteries apparently do not communicate directly with the lymphatics nearly so frequently as do the veins.

If the communications between the veins and lymphatics can be shown beyond a doubt to take place all over the body—and already they have been observed to exist to a very considerable extent—it follows that we ought to regard the venous system as a part, and that no inconsiderable part, of the absorbent system. We shall then have a ready explanation of certain facts usually regarded as peculiarities in connexion with dissemination of the sarcomata and the carcinomata. It is known that the former usually spread by the veins but sometimes involve the lymphatic glands. The latter invade the lymphatic glands and where secondary deposits are found in the liver, for instance, after carcinoma of the rectum the veins and not the lymphatics are probably the channels through which the cells have passed to reach the liver. It is a fact also that some of the carcinomata, though affecting the lymphatic glands to a slight extent only, yet disseminate rapidly; in such cases it seems hard to believe that the cells have had to traverse innumerable chains of lymphatic glands which, as all admit, act as most efficient barriers before they could pass into the general circulation. A more ready explanation, I would suggest, and one in accord with the facts, would be that the cells had taken, as it were, a short cut into the circulation either by passing along these communicating vessels into the veins or else had passed into the veins by means of the direct continuity which Frohmann pointed out exists between them and the lymphatic vessels in the substance of the lymphatic gland itself.

---

[3] Cyclopædia of Anatomy and Physiology: Lymphatic System by E. Lane, vol. iii., p. 220.

In conclusion, then, I would urge the following considerations. 1. The azygos veins normally receive a great many lymphatic vessels. 2. Some of the smaller arteries in the thoracic region open directly into lymphatic vessels; some of the smaller veins open directly into the large lymphatic trunks; and these two factors help to quicken the movements of the lymph. 3. Direct communications are found to exist between arteries, lymphatic vessels, and veins. 4. The communications between veins and lymphatic vessels have been observed to take place in a great many regions in the body. 5. Owing to the presence of these communications the cells of a malignant growth can pass either from the lymphatics into the veins or *vice versâ*, and hence not only in the sarcomata but also in the carcinomata the veins, as well as the lymphatics, should always be regarded as channels along which the cells may at any moment be conveyed to distant parts of the body.

Wimpole-street, W.

A CONTRIBUTION TO THE SURGERY OF THE KIDNEY.

BY LEONARD W. BICKLE, F.R.C.S. EDIN.,
HONORARY SURGEON TO THE ADELAIDE HOSPITAL, SOUTH AUSTRALIA.

THE interest in Case 1 is of a twofold character. First, as another instance of the toleration of the pregnant uterus to abdominal section; and secondly, the smoothness of the case for the first week and then the febrile disturbance due to the recurrence of a dermatitis to which the patient was subject. The dermatitis in this attack was evidently due to the altered excretory conditions, as dermatitis and temperature alike fell when the urine from the remaining kidney reached a normal amount.

CASE 1. *Nephrectomy during the third month of pregnancy; recovery; subsequent normal delivery of a healthy infant at term.*—The patient, a married woman, aged 29 years, the mother of four children, was admitted into Adelaide Hospital on March 7th, 1898, complaining of pain and swelling in the left side of two years' duration, which commenced with aching pain in the left side and the lower part of the back. A lump was first noticed about three months previously; the pain had increased much and was of a throbbing, burning character, but was not present every day. At times she passed a very large quantity of urine and then the lump or swelling got larger (?). The patient's father had died in hospital from "swollen knee" and her mother had died from "dropsy" after confinement. The patient had been married 11 years and had had four children. She had had one miscarriage two and a half years previously at about the sixth week. She had lost flesh of late. Her appetite was fairly good but she was unable to take food. Resonance and fremitus were normal. The breath-sounds were harsh and dry. The heart was normal and the arteries were healthy. The skin of the abdomen was flaccid, the lineæ albicantes were well-marked. On the left side a tumour which varied in size was to be felt. The patient had dragging pains when she tried to lie on the right side, but none when lying on the left side. The tumour was not to be differentiated from the left lobe of the liver. It was situated under the left costal arch, and though it was not moveable yet it came down with respiration. It measured about four and a half inches vertically and four inches transversely, it was not painful to touch, and was apparently cystic in character. The urine was of specific gravity 1020; it was clear, acid, and contained no sugar or albumin. The skin was very [illegible] and dry and was usually so, especially in wint[illegible]rch 14th the patient complained of much pain. On [illegible] the urine was turbid and contained a small amount [illegible] albumin. The urine had been measured daily, but had not varied much in amount. On the 17th a consultation was held; further observation was advised before operating. On the 27th the tumour had increased in size and could be pushed into the loin; the patient's distress was greater. On the 29th, in view of the increasing size of the tumour and pain and the probability of the patient being pregnant, in further consultation a laparotomy was agreed upon and carried out forthwith. Chloroform was given by Dr. Kinmont. I started my incision from the costal arch at the linea semilunaris and continued it somewhat down and out for two and a half inches. On the abdomen being opened the cyst was found to be retroperitoneal. The incision was extended about one inch. The posterior layer of the peritoneum was cut through and the cyst was exposed. The cyst was tapped and a small amount of clear fluid with a faint urinous smell was drawn off. *Whilst this was being tested the cyst suddenly ruptured.* The fact that the cyst contained no mother or daughter cyst negatived a possible origin—viz, hydatid of the kidney. The thin walls of the cyst and the ready rupturing showed what would have happened later if the tumour had been left and the pregnancy had progressed. *Having thus* a hydronephrosis to deal with it was decided to remove the cyst and kidney rather than to leave a permanent urinary fistula. Accordingly the kidney was brought out and the pedicle was transfixed with a blunt needle and tied with a Staffordshire knot. The vessels and the ureter were re-tied on the face of the stump. No other vessels required tying during the whole operation. The abdomen was then flushed out with boric solution and the wound was closed with silkworm-gut sutures, a glass drainage-tube with a rubber drain being left in the lower part. The upper part of the wound was sealed with Whitehead's paint. The temperature after the operation was 96 8°F. The afternoon temperature of reaction was 101°. There was no sickness for over 12 hours. A small amount of fluid was drawn off. On the 30th sickness and flatulence were a little troublesome and the temperature was 99 2°. The drainage-tube was removed and the stitch which had been left loose was tied. Three grains of subchloride of mercury were given and one ounce of haustus albus in the morning. The urine measured 8 + 6 ounces. On the 31st there was less sickness. The urine measured 8 + 9 ounces = 17 ounces. On April 4th the patient's condition was good, all going well. The wound when dressed was found to be quite healed. On the 7th the patient was not quite so well, complaining of pain in the left side; the temperature was 100°. On the 8th her general condition was about the same; there was some exudation about the stump. On the 10th she was better; her skin was harsh and dry, and there was some dermatitis. On the 12th she had pains in nearly all of her joints and the dermatitis was *very troublesome, preventing sleep. The temperature* was 98·4° in the morning and 100 4 in the evening. Sodium salicylate and sodium bicarbonate were given. On the 16th the temperature was 98 4° in the morning and 103° in the evening. On the 18th the temperature was 99° in the morning and 102·4° in the evening; there was much irritation; the urine measured 21 ounces. The patient was sleepless. It was probable that the whole irritation and trouble were due to want of compensation by the right kidney. One-twentieth of a grain of pilocarpine was given every four hours. On the 19th the temperature was 98° in the morning and 100·6° in the evening. On the 20th the urine measured 43 ounces; the dermatitis was almost gone. The cicatrix was firm and sound. The temperature was 98 4° in the morning and 99 4° in the evening. The uterine enlargement steadily increased. There was no further trouble.

In due course the patient was delivered of a healthy child, the labour being normal in every way. She came to see me some weeks later to show her child who was the picture of health. There was no vestige of ventral hernia. In August, 1899, I heard that the patient was quite well.

CASE 2. *Nephro-lithotomy.*—The patient was a man, 56 years of age, who first consulted me in September, 1891, complaining of pain in his left side of over 12 years duration. In the earliest onset once or twice he had passed blood in his urine, but none since. The pain was aggravated by exertion and at times it was severe. He also complained of localised sweating This was curiously marked The under vest would be quite wet for an inch or two in width round the zone of this pain which was that of the left renal region. The sweating was a great source of discomfort. I have noticed the same localised sweating since then in kidney cases. The urine was clear and pale, giving just a faint ring of albumin with cold nitric acid. Microscopically a few blood corpuscles, leucocytes, and crystals of oxalate of lime were seen. The diagnosis arrived at was stone of the oxalate variety in the left kidney The patient was very loth to accept the diagnosis as he had consulted several other medical men who had not suggested it He was a very bad subject for surgical interference, and as he refused to hear of it a temporising policy was pursued Belladonna locally and lithia citrate internally with an occasional opiate at night until the end of the year rendered life tolerable during 1892 and 1893 He always had the dragging pain, but as he expressed himself, it was bearable, occasionally he came to see me In October, 1894 he had profuse hæmaturia so free that the question of cutting down on to the kidney was discussed By rest and astringents it abated The hæmaturia clinched the diagnosis After this he was occasionally worse and better, still preferring to temporise although told that an operation was the only course In August, 1896 he came saying that life was unendurable He was directed to go home and to bed, and two days later, with the kind assistance of Mr J C Weld and Mr C D G Morier, I cut down on the kidney by the usual lumbar incision No stone could be felt by the finger, but after the systematic use of the searcher a stone was struck, the kidney was incised, and with some difficulty the large stone here figured was removed The hæmorrhage was very profuse, so the wound was closely packed and the patient was made comfortable A few days after the operation a small nucleus of oxalate was passed Convalescence was a little retarded by some infiltration of urine into the tissue of the back, necessitating free incisions From the tenth to the seventeenth day after the operation his mental condition was very serious (an afebrile delirium) but after the seventeenth day he recovered rapidly On the twenty seventh day urine ceased to come from the wound, he had then been up in a chair for some few days

His recovery has been complete and from being a man prematurely aged, of slow, bent gait and generally depressed condition he is now (three years after the operation) a fairly brisk, cheerful man to whom life has ceased to be a burden

The accompanying illustrations give a good idea of the stone and of its actual size It was clearly an oxalate with some deposit of phosphates, it weighed rather over 240 grains It is not a little remarkable that so large a stone should only have produced one serious attack of hæmaturia, that attack occurring two years before the removal

Two aspects of the stone

Adelaide

HALLUX VALGUS AND HALLUX VARUS[1]

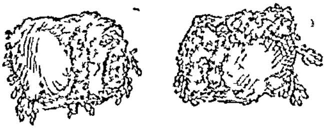
BY J JACKSON CLARKE M B LOND, F R C S ENG,

SURGEON TO OUT-PATIENTS AT THE NORTH-WEST LONDON AND CITY ORTHOPÆDIC HOSPITALS

Definition of terms —The fact that in Latin the terms "valgus" and "varus" were used inversely to the manner in which we use them need hardly be made the subject of discussion, since their misuse has become so well established that their meaning is never in doubt When it is desired to express accurately the nature of the deformity some careful consideration of the meaning of words is desirable In different languages the terms "abduction" and "adduction" as applied to the great toe are used in opposite ways thus Hoffa defines hallux valgus as an "Abductionstellung" of the great toe Redard terms it "outward deviation" of the great toe but uses the terms "adduction" and "abduction" in the same sense as Hoffa—that is, conversely to their employment by English anatomists Perhaps it will be simpler to follow the continental fashion in this matter and make the meaning of the term "abduction" clear by adding the qualifying phrase "from the median sagittal plane of the body" There is in hallux valgus something more than this and I should be inclined to suggest as the complete definition the following —Hallux valgus is a deformity in which the great toe, when the foot is at rest, assumes a position of abduction from the mesial sagittal plane of the body and at the same time is, to a greater or less extent subluxated outwards, it being understood that normally the great toe lies in the same plane as the first metatarsal bone Hallux varus is the condition converse to hallux valgus

Anatomy —The internal lateral ligament is elongated sometimes thicker, sometimes thinner, than normal With the outward displacement of the base of the first phalanx there is a corresponding outward displacement of the sesamoid bones and the flexor, extensor and other tendons The cartilage of the inner part of the head of the first metatarsal bone tends to undergo fibrous metaplasia, and an adventitious bursa to form between the internal lateral ligament and the skin over the exposed inner part of the head of the metatarsal bone In persons suffering from rheumatoid arthritis or gout the anatomical changes of these conditions, separately or combined, are present In rheumatoid arthritis there is I believe, constantly a groove denuded of cartilage and lined by rarified bone, the groove is caused by the pressure of the inner margin of the base of the first phalanx Extensive villous overgrowth of the synovial membrane may be present in the same class of case, and I have also observed both in operating and in making post-mortem dissections that in rheumatoid cases the internal lateral ligament is usually thin and often allows the adventitious bursa to communicate with the joint cavity The changes in the heads of the metatarsal bones as seen in a case which I have previously reported to the British Orthopædic Society are shown in Fig 1.

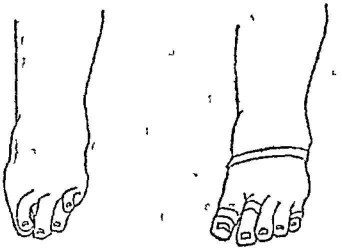
FIG 1



The anterior surfaces of the heads of the metatarsal bones removed for hallux valgus in a case of rheumatoid arthritis

Causation —Congenital hallux valgus, though far less common than acquired is met with from time to time I can recall three instances that have come to my notice in the past three years One was that of an infant a few days old In this case there were about 40 degrees of hallux valgus, the second toe was displaced upwards above the great toe, and the little toe was displaced inwards upon the dorsum of the foot, as shown in Fig 2 The toes were

FIG 2



The left foot of an infant with congenital hallux valgus &c and (to the right) the same foot with the deformities corrected by strips of adhesive plaster readily replaced and retained in their normal positions by strips of strapping. The second case in which the deformity was said to have been present at birth came to my notice when the patient was 14 years of age. The second toe was a hammer-toe of the common type and the little toe was deformed in the same way as in the first case. The third case was admitted into the City Orthopædic Hospital under the care of Mr. Poland, who operated, and who, I hope, will record the nature and result of his operations. I have no doubt that these cases are of mechanical origin and, like congenital club-foot, are due to accidental cramping in utero.

---

[1] Introduction to a discussion at the meeting of the British Orthopædic Society held on Feb. 17th, 1 00.

ACQUIRED HALLUX VALGUS.

Much has been written about this very common deformity and various categories of causes have been adduced. Thus, according to Redard, we have the following theories:—1. The muscular theory—e.g., Nélaton attributes it to contraction of the extensor proprius hallucis; Duchenne to paralysis of the adductor (*Anglice*, abductor) hallucis; and Dubreuil to predominance of the abductors over the adductors. 2. The ligamentous theory. According to Malgaigne the deformity should be regarded as the effect of softening of the internal lateral ligament of the joint. 3. The mechanical theory. Broca appears to have been the first to recognise the part played by badly shaped boots and shoes in the causation of hallux valgus; I believe that tight socks will sometimes occasion the condition in young children. Redard on this head observes: "I admit that boot pressure, though not an efficient, is an occasional cause. How, in fact, can we explain the occurrence of hallux valgus in persons who have never worn boots or at any rate tight ones?" 4. The osteo-articular theory. Verneuil counts everyone who has hallux valgus to belong *ipso facto* to the arthritic class. He found that 50 per cent of the patients had rheumatoid arthritis. My own investigations which were made when I was pathologist at St. Mary's Hospital upon some hundreds of such joints would give a still larger percentage. On closer examination these theories resolve themselves into a simpler statement. Paralysis of the adductor (*Anglice*, abductor) hallucis apart from that of the other muscles I have not observed, but it may occur and would give rise to hallux valgus. Of the remaining theories the second becomes part of the fourth, for softening of ligaments apart from traumatism or extension of inflammation from the superficial tissues is only seen in some bone and joint affections. Thus the case may, I would submit, be stated thus:—Hallux valgus acquisitus is usually due to certain predisposing causes acting together with an exciting cause. The predisposing causes are such as cause weakness of muscles and softening of ligament and bone—e g, gout, rheumatoid arthritis, traumatism, and rickets. The commonest exciting cause is badly-shaped boots or shoes

Sex incidence—Women are more commonly affected than men, probably, I would suggest, because they are more often influenced by stupid fashion in boots and their muscles are less powerful to oppose the deforming effect of boot-pressure

Symptoms—Lameness arises when the deformity is pronounced and is due to pain in the first metatarso-phalangeal joint, to the loss of the action of the great toe in walking, and to concomitant deformities. The latter deserve separate notice.

Concomitant deformities—Ordinary flat-foot and transverse flat-foot with or without metatarsalgia are naturally common because the same predisposing causes contribute to them as to hallux valgus. The outward displacement of the long flexor of the great toe and of the transversus pedis muscle may also help in producing the two forms of flat-foot in cases where the hallux valgus precedes the other deformities in point of time. Some of the concomitant deformities follow the outward wheeling of the great toe as direct results; all four remaining toes may be displaced outwards, their abduction being usually accompanied by some extension of their metatarso-phalangeal and flexion of their interphalangeal joints. This may attain such a degree that they have the characters of hammer-toes The second toe is most commonly affected to this more severe extent. In severe cases of hallux valgus the second, third, and fourth toes may lie upon the great toe Less commonly the second and third toes lie beneath the displaced hallux. Davies-Colley has expressed the opinion that many cases of hallux rigidus become converted into hallux valgus. I have not as yet observed this myself.

Treatment.—General treatment is often of the first importance and the aid of the physician is required. Careful regulation of the diet and the use of guaiacum and internally are most frequently called for. The treatment the surgical accidents—e.g., suppuration—hardly concerns us in the present discussion. Prophylactic treatment includes allowing children to walk with bare feet as much as possible and providing them with roomy socks and properly boots. I need not here go into detail on the latter point; but I may say that I think the rules laid down by von Meyer may always be followed. Gymnastic treatment, active adduction exercises, and Ellis's tip-toe exercise are all useful; passive manipulations, douching, and massage, are also of use. As to mechanical treatment, in slight cases bandages made on the plan described by Sayre, together with the foregoing measures, may suffice. I find that many patients can be taught to make efficient bandages of webbing for themselves. The septate boot treatment is an idea which originated with von Meyer and which has been well worked out by G. R. Fowler The "toe-post" has recently somewhat displaced it in this country. I have tried this latter device in a fair number of cases but save in slight degrees it has proved unsatisfactory. Mr. Luke Freer's instrument, which I think might be termed a "toe lever," certainly promises better things and we shall hope to hear his further experience of it. A simple device ascribed by Hoffa to Mr. Noble Smith consists in surrounding the great toe by a leather band to the inner side of which is attached a string which is passed through an aperture in the inner border of a correctly shaped boot-sole. Beely has so arranged the same device that the aperture in the sole does not communicate with the exterior. Sole-plates, whether of leather or metal, are often of use. Some are designed to be worn inside the boot, the toes being fixed to the plate by tapes. This method amounts to wearing a sandal inside a boot. Where the hallux valgus is complicated by the presence of deformities in other toes this plan is sometimes required, but when the deformity of the great toe is the only condition requiring treatment the sole-plate may, in my opinion, be conveniently dispensed with in favour of a lever as described below. For use at night, especially after operations, a well-made sole-plate with a good heel-piece, ankle- and instep-straps, as well as toe-straps is often to be recommended. This appliance, like all other instruments, should be carefully designed by the surgeon. The familiar "bunion spring" of the late Mr. Heather Bigg, sen., is so well known that I need not here describe it. Springs may also be added to the metal sole-plate. I think that the simpler rigid apparatus is preferable to springs. The mechanical device of the lever is the one I most commonly use. The instrument consists of a thin, flat band of steel shaped to lie under the great toe, to curve outwards to avoid the head of the first metatarsal bone, and to end in a second straight piece which lies under the hollow of the arch of the foot. The fulcrum is a padded metal projection jointed to the front of the hinder straight piece and working on the inner side of the metatarsal bone just behind the head. A strap is attached to the posterior end of the lever to pass in a figure of 8 round the ankle and to be fastened off at the fulcrum. A second strap may be added passing round the forepart of the waist of the foot. The toe is attached to the front arm of the lever by a leather loop. This arrangement can be worn inside the boot and most patients can also bear it at night. In some, however, the pressure of the fulcrum interferes with sleep and in such cases I recommend a sole-plate for night use.

Operative treatment.—Tenotomy, syndesmotomy, osteotomy, partial and complete excision of the head of the metatarsal bone, and excision of the base of the first phalanx have all been employed My own experience is limited to partial excision and complete excision of the head of the metatarsal bone. Of these two operations I now usually adopt the latter; firstly, because there is less pain immediately after the operation, and secondly the shortening of the great toe diminishes the tendency to return of the deformity. The incision which I have used is a longitudinal one at the supero-internal aspect of the joint. The head of the bone is readily removed either by a chisel or a Gighli's saw. The internal lateral ligament can be shortened and fixed by one or two cat-gut stitches and the *bursa*, villous growth, and synovial membrane generally can be removed. Hæmophilia, diabetes, defective kidneys, and broken-down constitution are the chief contra-indications to operative interference.

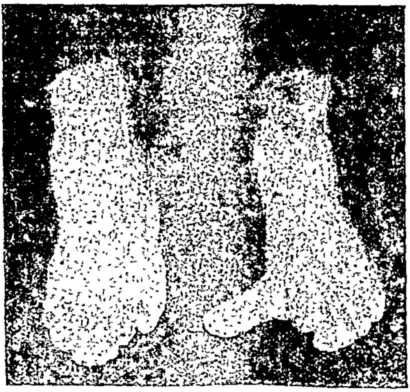
HALLUX VARUS.

Hallux varus, as already stated, is the converse of hallux valgus. Some confusion has arisen by certain authors using the term "hallux malleus" as a synonym. The chief characteristic of hallux malleus is pronounced flexion at the metatarso-phalangeal joint and such flexion is combined with adduction of the great toe in some cases of hallux varus; when this is the case it would, perhaps, best be described as "hallux varus et malleus." The congenital hallux malleus observed by Nicoladoni to become complicated in after-life by flat foot may in some cases present a certain degree of hallux varus in the original deformity.

Hallux varus may occur congenitally either alone or as part of the deformity of congenital equino-varus. In the latter condition if treatment is begun at the proper time—i.e., soon after birth—the deformity is always cured. Hallux varus has been noted in cases of congenital absence of the fibula. No case of pure congenital hallux varus has come to my notice, but I should anticipate that persistent careful bandaging would remedy the condition.

Hallux varus in dichotomy of the great toe.—A set of four casts in the museum of the City Orthopædic Hospital were taken from a patient under the care of the late E. J. Chance. The feet before operation had each six digits, as in Fig. 3 to the right, the innermost being in the position of hallux varus. In such cases removal of the innermost toe is all that is required, and Chance's case shows that the result is highly satisfactory.

FIG. 3.



To the right a cast of a foot with dichotomous hallux, the innermost digit being in a state of hallux varus; to the left a cast of the same foot after amputation of the innermost digit.

Acquired hallux varus.—The records are very scanty on this head and I must confess that I have no personal experience to give. It occurs in some cases of severe genu valgum. In certain paralytic and traumatic cases this deformity would probably arise.

In conclusion I would venture to state my opinion that every case of hallux valgus is curable. The most troublesome cases are those in which a second hammer-toe has been (quite unnecessarily) removed previously to the patient being seen.

Old Cavendish-street, W.

A CASE OF LEPROSY.

BY JOHN D. GIMLETTE, M.R.C.S. ENG., L.R.C.P. LOND.,
RESIDENCY SURGEON, PAHANG, MALAY PENINSULA.

MANY clinical cases of leprosy have been published, but the simple example here recorded is of general interest. The patient was an unmarried Eurasian, aged 27 years. He was born in Singapore but had lived for some time in the Malay Native States. He was a clerk and interpreter in the police-court at Pekan. There was no case of phthisis in the family as far as was known. One sister suffered from "fits." His father and brother were alive and well. The mother had died in child-bed. The patient had had the ordinary ailments of childhood, but otherwise had been in fairly good health until about Christmas, 1894. He was then treated at Pekan for "simple rheumatic inflammation of the tendon sheaths with some degree of high temperature and glandular swellings." In March, 1896, this illness recurred and was accompanied by a curious bilateral purpuric eruption on the legs fugitive in character. There was again acute inflammation of the tendon sheaths of both feet and of the right hand. He was sent to Singapore, where he was found to be suffering from a peripheral neuritis which was diagnosed as beri-beri. About this time the legs were swollen and he was unable to walk. At the end of June, 1896, he returned to duty. He said that he had squandered his money ever since in the purchase of useless, empiric drugs, but that he had never felt himself again. During the last two years he had had attacks of dysenteric diarrhœa and had been gradually losing heart and strength.

When I saw the patient he complained greatly of weakness and said that his legs often felt useless, especially after walking. He had a rash which came and went. It was on the face, the legs, and the arms. It was not painful and did not itch. About six months previously sores broke out on his fingers, which healed up from time to time of their own accord. Four or five months previously he felt a small lump on the nose. It had given little or no inconvenience and had remained about the same size. He noted that he fumbled in dressing himself and could not button his clothes with ordinary precision For some time he had had a chronic cold and had snuffled, but he had had no cough. The appetite was indifferent, the teeth were decayed, and the bowels were irregular. On examination he was found to be a tall, thin, sad-looking man with an unnatural aspect. The skin of the face was coarse, with a livid flush on each cheek. The ears were enlarged, projecting, and deformed and were wrinkled and nodular. At the bridge of the nose there was a small broad tubercle. The eyebrows were scanty. The hands were wasted as if from paralysis of the ulnar nerve and the fingers showed clearly some trophic lesions in the skin. They were covered with dry sores, especially on the back of the phalangeal joints. Otherwise the skin here was smooth and glossy as if it had been varnished. There was impairment of sensation in the skin of the fingers and forearms and in places there was anæsthesia. The muscles of the arm and especially those of the forearms were wasted. The interossei muscles were atrophied and doubtless an application of the Roentgen rays would already demonstrate atrophy of the metacarpal bones. The body generally was covered with large patches of brownish pigmentary stains. The chest was ill-developed, but the heart and lungs appeared to be normal. On the outer side of each leg there were patches of anæsthesia with purplish eruptions on the shins. A distinct nodule, among others, of about the size of a split pea could be felt on the extensor aspect of the right leg. The patient was sent to Singapore where he was seen by Dr. M. F. Simon, in consultation with Dr. J. T. Leask and Dr. W. G. Ellis. They found the bacilli of leprosy in large numbers in the discharge from a sore on the finger and in serum taken from a nodule on the ear.

I have much pleasure in expressing my thanks to the Principal Civil Medical Officer (Dr. Simon) for his kindness in confirming the diagnosis. There were no other cases of leprosy in Pekan at the time. The disease, in fact, is not common in Pahang, where it is usually met with among the poor of the native population. In this case, however, the patient was an intelligent member of the community following a public occupation and leading a more or less healthy life. It is an instance of the mystery which still surrounds the origin of isolated cases of leprosy. The history is of special interest now that the compulsory segregation of lepers is under the consideration of the Government.

It is agreed that leprosy is a contagious disease. All observers, however, who are not influenced by any theory and who have no desire to fit the facts of their cases to any favourite doctrine will, I think, admit that a certain number of cases appear to militate against a very widely received opinion as to the advisability of compulsory segregation. Ample as the reason for legal measures may be in the colonies, they will, I think, allow that under certain circumstances voluntary isolation is a sufficient safeguard. I refer especially to those periods of latency which may occur during the course of the disease.

In the case given above the patient had given up his occupation and had made no attempt to trifle with his affliction. If any inquisitorial interference with his home had been instituted there would not have been wanting critics to designate it as a grave offence against the public liberty. Doubtless if the disease had been found out earlier he would have been discharged from his office long before. It may be fairly presumed, however, that until the open sores had developed he had not been an immediate source of danger to the crowds in the police courts. After that time the danger from inoculation would have been great. In this particular case the difficulties in diagnosis of the early stages of leprosy were well exemplified. It was at first confounded with an infective form of rheumatism and then with the peripheral neuritis of beri-beri. Later the patient was popularly supposed to be suffering from tertiary syphilis. Like hydrophobia and diphtheria leprosy is most deadly when it forms a focus, and although the bacillus so closely resembles that of tuberculosis the resisting power of man to the bacillus lepræ is probably not as great as that to the tubercle bacillus. In both cases isolation as a preventive measure affords the best and only protection for the public health, and although the hygienic treatment of tuberculosis in sanatoria seems likely to repay at last the persevering quest of modern scientists the cure of the individual leper seems more likely to be brought about by the inoculation of some antitoxin.

Kuala Lipis, Pahang, Malay Peninsula.

A CASE OF SUPPRESSION OF URINE OF 60 HOURS' DURATION TREATED BY OPERATION.[1]

BY FRANCIS JAFFREY, F.R.C.S. ENG.,
ASSISTANT SURGEON TO ST. GEORGE'S HOSPITAL.

A MAN, aged 53 years, was admitted into St. George's Hospital on Dec. 3rd, 1899, complaining that he had not felt well for several weeks. During the last week of November he suffered from pain in the left loin and a dragging sensation in the region of the left kidney. Micturition was frequent, his urine appeared natural in colour, and he had never seen any blood. On Dec. 1st he was unable to pass any urine whatever and complained of acute tearing pains in the left groin and lumbar regions with frequent vomiting. He was seen by a physician, under whose directions hot fomentations were applied to the loin and diuretics given internally, but with no good result. The suppression persisted during the next two days A catheter was passed, but only a little blood-stained mucus was drawn off. No definite tumour could be felt at first, no doubt owing partly to the thickness of the abdominal walls and to their rigidity, but on the 3rd a very definite tumour could be felt which was thought to be a distended kidney, probably hydronephrosis. He had never had any trouble with his urinary tract and apparently his only illness was an attack of congestion of the lungs when he was much younger.

On his admission to the hospital, when I saw him on the evening of Dec. 3rd, 60 hours from the onset of the total suppression of urine, he appeared to be healthy. He was a somewhat stout man. His expression was anxious and he was restless. There was marked perspiration, especially of the hands, and the tongue was fairly moist. The pulse was rapid (124) and intermittent, dropping a beat about every seventh beat, and the respirations were 24. He complained of considerable pain and tenderness over the region of the left kidney There was marked resistance of the abdominal walls on the left side, but by careful palpation a large rounded swelling could be felt, about as large as a cocoanut, soft, though no actual fluctuation could be made out. The manipulation appeared to cause much pain, so it was not continued. A catheter was now passed, but only a little blood-stained mucus was removed; I therefore recommended an exploratory operation by a lumbar incision and draining the supposed hydronephrosis.

Gas and ether were given and an oblique incision six inches long was made in the left lumbar region. Upon opening the swelling it was found not to contain urine, but blood-clot and serum to the quantity of rather more than a pint, which was situated between the perinephritic fat and the kidney, and on incising the capsule blood was found between the capsule and the cortex. The capsule being stripped off the kidney over a considerable area the kidney appeared to be larger than normal, and on incision it was much congested and bled very slightly. The pelvis of the kidney was full of blood-clot. No calculus was felt. A sound was carefully passed into the upper part of the ureter but nothing was felt. The pelvis of the kidney and the space outside the kidney were freely irrigated with warm water at a temperature of 102° F. A large-sized drainage-tube was passed into the pelvis of the kidney and the wound was sewn up with silkworm-gut sutures and dressed with cyanide gauze and wool. Two hours later the dressings had to be changed as it was found that urine was being freely secreted and passing from the drainage-tube. During the night the drainage-tube slipped out of the pelvis of the kidney and I did not think it necessary to replace it.

Thirty-six hours later practically all the urine was passed by the urethra. The first urine passed contained blood but not in any great quantity, the following day it was only slightly turbid, and before the end of the week there was no blood. The urine was pale in colour, of a specific gravity of 1015, it was faintly acid, and there was no albumin. The quantity passed in 24 hours was 65 ounces, and the quantity increased daily during the next fortnight till it reached 100 ounces in the 24 hours and the following week it gradually diminished to 70 ounces. The intermittent condition of the pulse disappeared during the patient's stay in the hospital. The stitches were removed on the sixth day and on the sixteenth day he was allowed to get up He left the hospital just three weeks after admission, quite well.

This case is one of considerable interest—firstly, as to the cause of suppression; secondly, as to the question of operation in similar cases; and, thirdly, with regard to the question which has recently arisen regarding the insurance of the lives of patients after operation.

As to the cause of suppression of urine it may be placed under two heads (1) obstructive suppression due to some mechanical cause, and (2) non-obstructive suppression due to a pathological cause. It is difficult to know in which class to place this case In obstructive suppression the usual cause is an impacted calculus either in the pelvis of the kidney or in some part of the ureter, the other kidney not being functionally active or being so diseased that it is unable to carry on the increased amount of work. I can recall a case very much resembling the above. Some years ago I was called to see a case of total suppression of urine, but when I saw the sufferer operative interference was out of question, the patient being already moribund. At the post-mortem examination the capsule of the kidney was completely stripped off up to the hilum and contained a pint of blood-clot, the kidney was enlarged, and on cutting into the pelvis of the kidney a scale-like piece of calculus was blocking up the ureter. The very slightest manipulation would have displaced it. The opposite kidney was totally obliterated and its place was taken by a large branched calculus covered by only the capsule. It is quite possible that the present case was of a similar nature and that the irrigation displaced the calculus thereby allowing the free passage by the ureter. Of course, it is quite possible that the suppression was due to kinking or pressure of the ureter by the blood surrounding the kidney. Of likely causes of non-obstructive suppression the only one is congestion of the kidney. The patient admitted that he had been dieting himself with the view of reducing his weight—in other words, he had been "Banting"—and in a patient over 50 years of age this might easily have caused marked congestion and thereby suppression.

As to the question of operation in these cases I am of opinion that if one is certain of the diagnosis the sooner the kidney is explored the better. There is a difficulty in many cases of ascertaining which kidney is affected Laparotomy and the examination of both kidneys have been recommended followed by a lumbar incision and the removal of the stone, but there are many cases recorded which have been operated upon and in which no stone has been found. Some authors place the number as high as one case in every five where no stone is found but after the operation all the symptoms of stone disappear. Is not this due to relief of tension? Mr Reginald Harrison[2] in his address before the Medical Society of London and in THE LANCET[3] advocates renal puncture in cases of kidney tension, and he quotes several cases which were benefited by operation after which the hæmaturia, the albuminuria and the severe pain disappeared Dr David Newman of Glasgow[4] has published a very interesting series of cases of occasional suppression of urine treated by operation with complete recovery from all the symptoms and he also is of opinion that these cases were due to increased vascular tension in the kidney The case which I have now brought forward is much more severe than any case quoted by either of these authors, both as to the length of time of the total suppression and of the condition of the kidney and the parts around it I certainly feel inclined to recommend operation where the ordinary medical treatment has failed after a reasonable trial

---

[1] A paper read before the Harveian Society of London on Feb 15th, 1900.

Now, as to my last point that of insurance of patients after an operation on the kidney This patient applied to an insurance company but was told to wait three months Apparently his only trouble was an intermittent pulse, but before the three months were up he developed suppression of urine and when he recovered he again re applied but they refused to insure him at any price I should like to know whether this man's life is less valuable now than it was before the operation? I am inclined to doubt it The same question might and probably does, occur with much younger patients

Bentinck-street W

A Mirror

OF

HOSPITAL PRACTICE,

BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via nisi quamplurimas et morborum et dissectionum historias tum aliorum tum proprias collectas habere et inter se comparare —MORGAGNI *De Sed. et Caus Morb*, lib iv Prœmium

MIDDLESEX HOSPITAL

A CASE OF PREGNANCY COMPLICATED BY FIBROUS TUMOUR OF THE SUPRA AND INFRA VAGINAL CERVIX, ABDOMINAL HYSTERECTOMY, OPERATION, RECOVERY

(Under the care of Dr WILLIAM DUNCAN)

A MARRIED woman, aged 38 years, was admitted into Prudhoe Ward of the Middlesex Hospital on June 1st 1899, complaining of excessive loss of blood and of a lump in the abdomen There was nothing to note in the family history of the patient The catamenia began when she was 12½ years of age they were regular every three weeks, lasted for three days and were always accompanied by pain and headache until after the birth of her first child The last period had ended seven days before admission She was married 19 years previously and had had 10 children, four of them were alive and healthy and six had died from convulsions between the ages of three weeks and 12 months She had had three miscarriages at three months the cause of which was not known The patient had had a miscarriage 18 months previously and since then the periods had been excessive, sometimes lasting three or four weeks and being accompanied by clots The patient said that at times she had lost a large quantity of blood She had noticed a lump in the right side of the abdomen for the previous two years and thought that it had only got slightly larger Micturition had been frequent but not difficult or painful and the bowels had been regular She thought that she had been getting thinner for the previous two years

On admission the patient was found to be a fairly healthy looking woman The cardiac respiratory, and urinary systems were healthy Her appetite was bad, she had no pain after taking food, and she occasionally felt sick (but did not vomit) at no particular time of the day The tongue was furred Examination showed that the abdomen was somewhat distended by a smooth, firm, elastic tumour reaching up to the umbilicus and inclining more to the right side The tumour was fairly mobile but movement caused pain, no intermittent contractions could be felt It was dull on percussion and both flanks were resonant Auscultation revealed a loud uterine souffle but no fœtal heart sound The breasts were not enlarged but the veins crossing over the chest were prominent and the areolæ were somewhat deeply pigmented Some secretion could be squeezed out of the right nipple Vaginal examination under anæsthesia revealed a soft round red tumour filling the upper half of the vagina and apparently springing from the posterior and left side of the cervix on which sides it was closely adherent to the vaginal wall, indeed, it seemed to be growing in the vaginal wall, in front, high up, the finger tip could just reach the os uteri The tumour was continuous with the abdominal tumour and moved with it The sound was not passed The tumour was so soft that a volsellum forceps tore it and caused free bleeding, this was controlled by a silk suture and iodoform gauze packing

Dr Duncan said that the case was evidently one of a soft fibroid (possibly sarcomatous) growing from the supra vaginal cervix down into the vagina and involving the vaginal wall He thought that the patient was pregnant and that the uterine body was probably also myomatous It was evident that the only way of dealing with the growth was by performing total abdominal hysterectomy The operation was performed on June 22nd Gas and ether having been administered an incision extending from the umbilicus to the pubes was made and the abdomen was opened A bluish red tumour presented which was evidently a gravid uterus as the fœtus could be felt floating in the liquor amnii The tumour (which corresponded to about a five months gestation) was drawn out of the abdomen Then the right broad ligament was transfixed, tied in two places and divided, next the divided layers of the broad ligament on the uterine side were separated by the finger down to the cervix until the uterine artery was felt pulsating An aneurysm needle armed with silk was carried round the vessel, then after withdrawal of the needle the silk was firmly tied and thus both the uterine and ovarian vessels were secured on the right side By a similar procedure the vessels were secured on the left side Next a scalpel carried right round the uterus (about two inches above the attachment of the bladder) made two flaps of peritoneum only, these were stripped off right down to the cervix The anterior flap was carefully dissected down close to the uterus until the finger of an assistant, which was pushing up the anterior fornix per vaginam, was laid bare The vaginal roof was next transfixed piece by piece tied with silk and divided close to the uterus right round until the mass was free As the tumour was intimately adherent to the vagina on one side some of it had to be cut away during removal All bleeding points were next secured then the ligatures (one end of each having been left long) were pushed down into the vagina and this cavity was stuffed with iodoform gauze the cut surfaces of the vaginal roof were then brought together with fine silk, and lastly the peritoneal flaps were brought accurately together by a continuous Lembert's suture During the whole of the operation the intestines were covered up by a large flat sponge which was inserted after the abdominal cavity had been opened This sponge was now removed and the opening was closed in the usual way—(*a*) by continuous fine silk suture for the peritoneal edges, (*b*) by interrupted silk sutures for the edges of the rectal sheaths, and (*c*) by continuous silk suture for the skin The wound was dressed with a strip of iodoform gauze, then a pad of blue wool which was held in place by a many tailed flannel binder The patient stood the operation well, her pulse being of good volume and 100 per minute

The subsequent progress was good The bowels were opened by an enema on the seventh day and the superficial stitches were removed, the wound being perfectly healed There was a rigor of 10 minutes duration on the fourth seventh and eighth days but the temperature and pulse only increased slightly, there was nothing to account for the rigors and the patient said that she had been subject to similar attacks for seven or eight years On July 14th (the twenty second day after the operation) there was a good deal of purulent vaginal discharge and several ligatures were removed from the vagina On the 29th there was very little discharge. All the ligatures except one had come away; the patient was able to get up and said that she felt well. On August 14th, as the remaining ligature showed no signs of coming away, it was removed under anæsthesia. On the 21st the patient was discharged well.

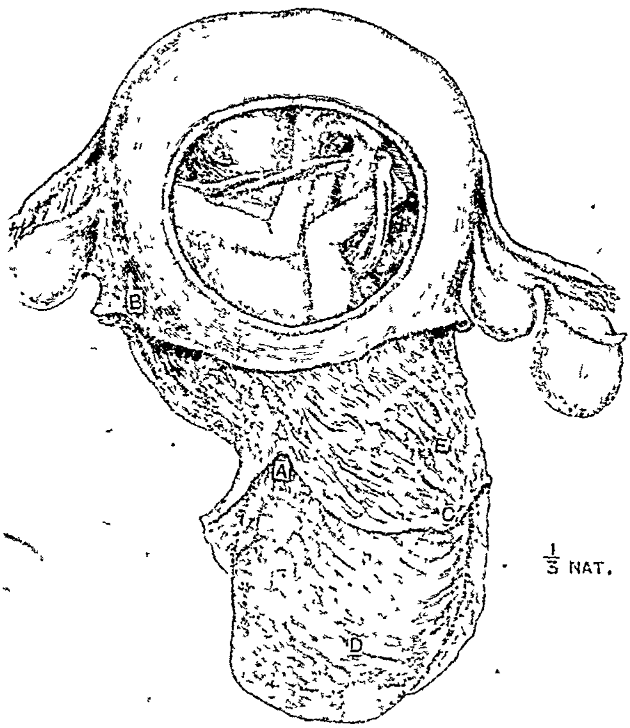
---

[2] Transactions of the Medical Society of London 1897 vol xx

[3] THE LANCET Jan 4th 1896 p 18

[4] Renal Cases Maclehose and Sons.

Remarks by DR. DUNCAN.—This case is a most interesting and unusual one. In the first place, although fibroids of the cervix uteri are not very uncommon it is in my experience extremely rare to find the growth as it fills the vagina being intimately adherent to the vaginal wall. On a cursory examination the tumour might have been mistaken for a fibroid polypus which had been extruded through the os uteri—indeed, I believe the case was sent into the hospital as such—but careful examination under anæsthesia revealed its true nature. Then with regard to the abdominal tumour one might well be excused for diagnosing it as being a soft myoma of the uterine body, especially as the patient had noticed a lump in her abdomen for a couple of years. On palpation, however, the feel of the mass was more like that of a gravid uterus, and although the patient had metrorrhagia instead of amenorrhœa and there was no morning sickness nor were intermittent contractions felt, still I came to the conclusion from the state of the breasts and the feel of the mass that it was a case of pregnancy complicated by fibroids of the body and cervix uteri.



A, Os uteri externum B, Cut edge of peritoneum on anterior uterine wall. C, Cut edge of vaginal reflection pushed down. D, Vaginal portion of tumour E, Supra-vaginal portion of tumour.

The treatment clearly resolved itself into that of total abdominal hysterectomy even if (as proved to be the case after operation) the fibroid was limited to the cervix, as on most careful examination under anæsthesia I could not satisfy myself that it was feasible to remove the mass per vaginam with safety to the patient. As regarded the proper time to operate the question arose, Should the pregnancy be allowed to go on to near full term, as then at the time of operation the child's life could be saved? I decided against this and in favour of immediate operation on three grounds: (1) at the end of pregnancy a woman is in a most unfavourable state of health for recovery after what would necessarily be a prolonged operation; (2) she would have continued to lose blood for several months before the operation; and (3) the possibility of the tumour being of a sarcomatous nature (this happily proved not to be the case). At the time of the operation the only difficulty experienced was in separating the tumour from the vaginal wall, as one had to be extra careful not to include the ureter in one of the ligatures. To my mind, total abdominal hysterectomy (so-called panhysterectomy) can never be so easy or anything like so safe an operation as abdominal hysterectomy with intra-peritoneal treatment of the stump of the cervix. In the case just recorded, however, there was no alternative but to remove the entire uterus.

The whole subject of "the modern treatment of uterine fibroids" is so extremely important and as such erroneous views as to the mortality of hysterectomy for fibroids have been recently promulgated it is my intention (with the kind permission of the Editors of THE LANCET) to publish in a week or two a paper with the above title. I may here mention that in 1897 I published in THE LANCET[1] a paper giving 18 consecutive cases of abdominal hysterectomy for fibroids, being all the cases which I had operated on up to then, with one death which occurred suddenly from pulmonary embolism 18 days after operation when the patient was convalescent and about to leave the hospital, so that I think the death might fairly be put down as *not* due to hysterectomy. Since the publication of my paper I have performed the operation 50 times with three deaths, so that my results up to now are as follows: in private practice, 21 cases with no death; in the Chelsea Hospital for Women, 22 cases with no death; and in Middlesex Hospital, 25 cases with four deaths; which gives a mortality (if I exclude the death from embolism) of about 4½ per cent. It is to be noted that my four fatal cases occurred in a general hospital. As a matter of fact I have not had a single fatal case *from any operation* in my private practice since August 11th, 1895 (four years and six months), or in the Chelsea Hospital for Women since Oct. 8th, 1897 (two years and four months).

The only correct method of arriving at the true mortality of any operation is to take the results of those who have performed the particular operation a good many times and not to lump together the results of numerous operators, some of whom with only one or two operations may have a mortality of 100 per cent. In an interesting address entitled "Some Points in the Natural History of Uterine Fibroids"[2] Dr. F. H. Champneys has fallen into this error and makes the average mortality from abdominal hysterectomy for fibroids to be 17 per cent. At St. Bartholomew's Hospital the mortality was 27 per cent, or if he had only included the cases up to the end of 1898 (as at the Samaritan and Chelsea Hospitals) the mortality at St. Bartholomew's Hospital would be actually over 31 per cent.—a truly dreadful mortality and one which would render the operation of abdominal hysterectomy absolutely unjustifiable except in the rarest cases. Like Dr. Champneys, I made exactly the same mistake in 1885 when I read a paper before the Obstetrical Society of London on extirpation of the uterus for cancer. With misguided zeal I collected all the cases I could find which had been published both in our own and foreign countries in which the uterus had been removed either through the abdomen or per vaginam, and in my statistics the mortality for abdominal hysterectomy worked out at 72 per cent. and that for vaginal hysterectomy at 28 6 per cent. Doubtless the percentage was altogether wrong; at the present time I suppose most observers would agree that the mortality from vaginal hysterectomy does not exceed 5 per cent., and in my opinion the average mortality from abdominal hysterectomy for fibroids is not more—possibly less—than this.

ERRATA.—In the case of bubonic plague treated with large doses of carbolic acid, as described in THE LANCET of Dec. 9th, 1899, p. 1589, the words "six ounces" on line 50 should be "one ounce"; 12 grains of carbolic acid were given for a dose, not two grains.

---

[1] THE LANCET, May 15th, 1897, p 1323.
[2] THE LANCET, Jan. 20th, 1900, p. 147.

TORQUAY HOSPITAL.—The annual meeting of this institution was held on Feb. 15th under the presidency of Mr. R. Mallock. The medical report showed that 359 in-patients had been admitted, against 366 in 1898. The expenditure amounted to £2127 and there was an adverse balance of £382. The committee decided that the honorary medical staff should form a council for the consideration of all professional subjects connected with the hospital and that all by-laws, &c., proposed by them should be subject to revision and confirmation by the board of management.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Acute Ménière's Symptoms in Leucocythæmia.

A MEETING of this society was held on Feb. 27th, Dr. G. FIELDING BLANDFORD, the Vice-President, being in the chair.

Dr. F. PARKES WEBER read a paper on Acute Ménière's Symptoms in Spleno medullary Leucocythæmia, with special reference to the Anatomical Changes found in Acute Leucocythæmic Affections of the Ear (a pathological report on the internal ears being supplied by Mr. Richard Lake). The patient was a man, aged 31 years, suffering from advanced leucocythæmia (this term being used as synonymous with leukæmia). He was admitted on March 31st, 1898, to the German Hospital with great enlargement of the spleen and liver. He had had malaria six years previously. He died on Oct. 1st, 1898, from collapse following internal hæmorrhage. During life the ophthalmoscope showed the presence of the so-called "leukæmic retinitis." About six months before his death he was attacked with acute ear symptoms (headache, vertigo, and vomiting). Examination of the patient's hearing, &c., pointed to the symptoms being probably due to a leucocythæmic affection of the internal ears; and in a very short time the man became quite deaf. Post-mortem examination of the ears proved that a portion of the scala tympani (one side only examined) and the perilymphatic spaces of the semicircular canals (both sides examined) were filled up with newly formed fibroid and bony tissue. The scala vestibuli, canalis cochleæ, and vestibule showed only comparatively slight changes. Transverse sections of the nerve trunks showed no obvious change. A short account was given of similar cases which had been published. From a comparison of the various cases it was concluded that the pathological appearances presented by the internal ears after death differed in different cases, partly in accordance with the length of time which had elapsed between the onset of the acute aural symptoms and the death of the patient. In most cases of acute leucocythæmic affection of the internal ears post mortem investigation suggested that the following was the sequence of events: the commencement of the aural symptoms (vertigo, headache, vomiting, and deafness) marked the occurrence of more or less extensive extravasations of blood in the semicircular canals and the cochlea, the process being doubtless nearly always more or less symmetrical and simultaneous in the two ears. In such cases, though apparently lymphocytic infiltration and hæmorrhages might be found in various parts of the ears after death, the labyrinthine hæmorrhage was probably the essential lesion which gave rise to the acute aural phenomena in question. Subsequently vascularisation and organisation proceeded in the usual manner, with the result that the clot became gradually replaced by newly formed connective tissue, closely connected by its blood-vessels with the endosteum of the bony labyrinth. In process of time (if the patient lived long enough) more or less ossification occurred in the newly formed tissue, and irregular processes of bone projected inwards from the walls of the bony labyrinth. At this stage of the pathological process transverse sections of the bony semicircular canals mostly showed the membranous canals surrounded by a meshwork, or by irregular masses of newly-formed bone and fibroid tissue, completely filling up the perilymphatic spaces. Besides the striking cases in which acute (apoplectiform) Ménière's symptoms occurred there were also leucocythæmic patients, as pointed out by Schwabach, who presented aural troubles of a less severe or less sudden nature. These lesser symptoms might be in part altogether independent of the leucocythæmia, but in part due to small hæmorrhages and patches of lymphocytic (leucocythæmic) infiltration in various part of the auditory apparatus. Dr. Weber drew attention to the light thrown by leucocythæmic cases of Ménière's symptom-complex on cases associated with constitutional disorders other than leucocythæmia (such as arterio sclerosis, syphilis, chronic gout, renal fibrosis, and the various cachectic conditions in which hæmorrhages often occur). He sketched a rough pathological and clinical classification of such cases; the exact nature, however, of the pathological condition in the ear could not often be determined with certainty merely from the symptoms observed during life.

Dr. F. W. MOTT narrated particulars of a case resembling that of Dr. Weber's in some respects, though differing in others. The patient was a man, aged 38 years, who was admitted into Charing-cross Hospital on Nov. 10th, 1899. He was said to have had a severe attack of "influenza" two years before, since which date he had been in bad health. Six months before admission he was seized with sudden pain in the left side of the abdomen, and a little later with pain in the head and deafness, with loss of power of maintaining his equilibrium. The deafness came on suddenly, first in the left and then in the right ear. On admission he looked dull and was a little cyanosed, the temperature being 97° F. He gave his answers very slowly. The abdomen was distended, and the liver and spleen were very large. The lymphatic glands were also enlarged. The blood contained only 54 per cent. of hæmoglobin, but the main change was an enormous increase in leucocytes, of which there were almost as many as red corpuscles. There were large numbers of multipartite nucleated white cells, very few lymphocytes, and a good many myelocytes (with big nuclei). The muscular power of the patient was good; there was no loss of coordination in the arms, but he could not balance himself in walking and could not stand at all with his eyes shut. He was at first thought to have hæmorrhage into the cerebellum. The knee-jerks were absent on both sides. Vision was very imperfect. Accommodation was good, but the right reflex was sluggish. The fundi showed slight changes. The hearing improved considerably. Taste and smell were normal. He responded to questions in a drowsy manner. Seven days after admission he was found to be stone deaf in both ears on waking in the morning. Three days later he died comatose. At the necropsy the liver weighed five and a half kilogrammes and the spleen 1·8 kilogrammes. The blood was of a dirty brick-red colour; there were hæmorrhages into the brain which was congested. Both the petrous bones were soft and friable from rarefaction of the bone. The spinal cord and nerves showed no degeneration. There was hæmorrhage into the posterior spinal roots and hæmorrhage into the cochlea. The hæmorrhage into the semicircular canals accounted for the loss of equilibrium. This and the deafness were accounted for by hæmorrhage into the cochlea and labyrinth. Dr. Mott's paper was illustrated by lantern slides.

Mr. RICHARD LAKE, in replying, remarked that the ligamentum spirale had not previously been described as being ossified, but this lesion existed in Dr. Weber's case. It was the perilymphatic spaces in the semicircular canal which had been nearly filled up with newly-formed fibroid and bony tissue (microscopic specimens were exhibited). In Dr. Mott's case there was wanting any new formation of bone; but the hæmorrhage had produced the same symptoms. He would like to ask what the porosity of the bone was to be attributed to.

Dr. MOTT, in replying, said that his case resembled myelogenic leukæmia. The proliferation of the bone cells was probably in some way connected with the fragility of the bones.

Dr WEBER remarked that in Dr. Mott's interesting case the three distinct attacks differed from most cases. The fact that the organ of Corti was preserved accounted for the recovery of hearing. The penis was an organ liable to be early attacked in leukæmia and priapism was sometimes the first symptom of the disease to attract attention.

MEDICAL SOCIETY OF LONDON.

Adjourned Discussion on the Pathology and Treatment of Appendicitis.

A MEETING of this society was held on Feb. 26th, Dr. F. T. ROBERTS, the President, being in the chair.

The discussion on the Pathology and Treatment of Appendicitis was resumed, the PRESIDENT remarking that speakers were invited to discuss the subject under four headings: (1) the non operative treatment; (2) the indications for operation; (3) the nature of the operation advised; and (4) the after-treatment of the case.

Mr. MARMADUKE SHEILD congratulated Mr Lockwood on his success in explaining or associating pathological conditions with clinical manifestations. His contributions on the subject constituted a distinct step forward. Bacteriological invasion of the coats of the appendix was at the bottom of most of the symptoms. First, as to non-operative treatment it would never be found that all would agree. In his opinion this expectant plan of treatment was only justifiable in very mild cases. In general terms the more severe the case the more urgent the necessity for operation. Great pain and vomiting and quickness of pulse were certainly indications for operation. In mild cases he would watch and do very little, avoid opium (except in very small doses), and give mild aperients. The great difficulty in such cases was to tell what was going on in the appendix. For example, he remembered a patient, aged 16 years, attacked for the first time with slight pain in the iliac fossa, and very mild symptoms, though the pulse was over 120. The symptoms did not call far immediate operation. However, an exploratory operation was done and in removing the appendix it burst and a lot of pus poured out. Secondly, turning to the indications for operation, most would agree that fulminating and recurrent cases should be operated on without hesitation. But in slight cases there would be much difference of opinion. It was a common error to suppose that if no lump could be felt cases could wait and *vice versâ*. The fact was that if a lump could be felt cases could wait with less danger than if no mass could be felt. In the latter condition, if the symptoms, and especially the pulse (which should be taken every hour), indicated progression, these were the very cases on which operation—at any rate, an exploratory operation—should be performed. In the third place, as to the details of the operation, he thought, as a rule, that the incision should be as small a one as possible, and his plan was to split the muscles, not to cut them across. But in cases of difficulty the opening should be as large as necessary for manipulation and exploration. Stitch-abscesses in the abdominal wall might be avoided by the use of kangaroo tendon. Silk should not be used in muscles and the stitches need not be drawn too tight. Finally, as regards the after-treatment, powerful salines by the mouth and turpentine enemata were the only hints he could offer. No two men could ever quite agree as to the procedure and he thought that physician and surgeon should consult in most cases. The higher the rank of the patient in life the less chance he would seem to have of recovery from appendicitis, and he had witnessed several tragedies among the better class of patients from the desire on the part of the patient, and even his medical advisers, to avoid the risks of an operation which, after all, were *nil*.

Dr. H. A. Caley wished in the first place to reply to the criticism that cases of appendicitis which in a recent paper he had classed as "recovered" could not be regarded as "cured" because they might subsequently relapse. He pointed out that care had been taken to exclude all cases—some 30 per cent. of the total—in which recurrence subsequently occurred from the 99 of his illustrative series of 200 cases referred to as having recovered from the attack. A small proportion of these cases might have had relapses and have been treated elsewhere, but any such source of error could not detract from the general conclusion that a larger proportion of cases of the milder forms of appendicitis did recover from the attack and did not experience recurrence. This was of much importance in relation to treatment. It involved the inference that there was a large class of cases in which operative treatment could not be regarded as necessary. The all-important consideration in relation to treatment in the first instance was whether operative measures were or were not called for. He regarded as unequivocal indications for operation conditions which corresponded with any one of the three following groups: (1) appendicitis with diffuse peritonitis, actual or threatened, including the acute fulminating cases of perforative or gangrenous appendicitis; (2) appendicitis with local suppuration; and (3) relapsing and chronic cases. Practically, however, if the case were seen early it might be quite impossible to determine to which category it belonged, though the prospect of recovery turned upon anticipating a generalised peritonitis. He therefore considered that to the above three groups, in which on definite pathological grounds operation was advocated, there should be added a fourth group of borderland cases—(4) acute cases of appendicitis other than those associated with diffuse peritonitis, in which the suddenness of the onset, the severity of the initial symptoms, and the clinical conditions as a whole pointed to a severe lesion. Under such circumstances an exploratory operation was preferable to the delay involved by waiting for the further development of symptoms. In this connexion a frequent, and more especially an increasing, pulse-rate was highly significant. If the above four groups were treated by operation a large proportion of all cases still remained for non-operative treatment. In reference to the administration of opium Dr. Caley considered that judiciously employed it was of great value. Two important provisos should be borne in mind: first, opium or morphine should, if possible, not be given, certainly not continuously, until the case had been carefully investigated with a view to deciding as to the question of immediate operation; and secondly, it should not be given as a routine measure, but only to meet certain definite indications, such as pain, and should be discontinued as soon as the particular indications had been met.

Mr. Harrison Cripps agreed with Mr. Sheild's eulogy of Mr. Lockwood's paper. Cases of appendicitis fell naturally into two categories: (1) comparatively mild attacks of intermittent inflammation; and (2) severe cases. In the first if the patient had one attack only, and that a mild one, he would not advise interference; but if he had a second or third then it showed that there was some abiding cause and operation was indicated. The risk to life was much less from operation than from letting the patient alone. He, like others, had had no fatal cases. Some surgeons had operated on 130 cases consecutively without one fatal issue. As to the symptoms, the absence of swelling and local tenderness were not indications that nothing was going on. The swelling and tenderness depended on the position of the appendix and the thickness of the abdominal walls. Mr. Cripps mentioned a case in which he had found a swelling in Douglas's pouch which was thought to be an inflamed ovary. It was operated on and found to be quite nine inches away from the usual position of the appendix which constituted the swelling. As regards the fulminating cases, he was not so sure what was the best course to advise. The risk of operation was considerable, but the risk of leaving them alone was greater. He thought that operation should be done at once in such cases except in those instances where it was evident that an abscess was forming but not yet completely formed; then a day or two's waiting was perhaps advisable. As to the details of the operation he thought the incision should be of good size. He did not approve of a pad being worn afterwards; it increased the tendency to prolapse and was not necessary if the patient kept quite quiet after operation.

Dr. William Hunter said it must not be lost sight of that 70 per cent. of the cases recovered without the surgeon ever seeing them, a fact which surgeons were too apt to forget. It was customary to make three pathological types of the disease—the catarrhal, the ulcerative (with concretions), and the fulminating (necrosis of the appendix). But the important point was that no distinction could be drawn between these as regards infectivity. A so-called catarrhal appendicitis infected the whole thickness of the wall of the bowel, as might be seen from some of the specimens which he had exhibited. As regards the indications for operation he thought that if the temperature rose after the first attack a surgeon should be called in. He believed that some advocated waiting until pus formed, but he did not agree with this. All cases were undoubtedly bacterial and infective, and the whole question was one between the amount, on the one hand, of resistance of the appendix and the constitution on the other. It was not possible to lay down absolute rules for decision, but it was best to regard all cases as potentially suppurative. It was generally considered imperative to clear out the lower bowel, but how could this influence the pathological process of the lesion? Was it not more important to keep the patient as quiet as possible? And, again, to this end small doses of opium, short of causing narcosis, with calomel, or some other intestinal disinfectant, were valuable remedies.

Mr. Macadam Eccles considered the successful surgical treatment of acute appendicitis depended chiefly on two conditions. The first was the virulence of the bacteria and the second the rapidity with which the diagnosis of the certainty of inflammation could be arrived at. The facility with which they invaded not only the walls of the structure but also the tissues of the meso-appendix had been clearly proved by Mr. Lockwood's sections. Mr. Eccles was at the present time investigating the bacteriology of what would be termed the normal appendicitis and had been greatly struck with some facts which he hoped to bring forward on a future occa- The diagnosis within the first 36 hours was not easy and vas ample time for the bacteria to migrate far beyond men of the appendix. Supposing the case was left un- ed the natural course would be either for the inflamma- to diminish, possibly to disappear, or suppuration to or in comparatively few instances perforation and al peritonitis. If the inflammation subsides the ndix could be subsequently removed with less than tesimal risk. If an abscess formed this could be dealt , as statistics abundantly proved, with comparative y. He therefore considered that unless it was possible al with the case within a few hours of the onset it was rally wiser and the result likely to be more successful he operator waited a few days; but each case must be n on its own merits.

r. MANSELL MOULLIN quite agreed with the last speaker in every case they had to do with infection. Turning to he cases in which suppuration occurred he thought they e much commoner than was usually believed, and where symptoms suddenly subsided he thought it might possibly explained by sudden bursting of the pus into the intestinal al. What medical measures, he asked, were there, which re really capable of controlling the diseased process? ile, on the other hand, the operation was a perfectly e one. If at the end of 24 hours the pulse was still going and the symptoms were progressing, and if they were still ng so at the end of 36 hours, he thought that an exploratory eration was the only justifiable course. When there was usion into the right iliac fossa the case would in any case obably relapse, and he did not altogether agree with Dr. lchin. He thought in general terms that physicians and neral practitioners did not call the surgeon in to see the ses early enough.

Mr. LYNN THOMAS (Cardiff) had operated on 41 cases, which two had died. Much profit might be derived, he ought, from cases of mistaken diagnosis. For instance, ne case was sent in as a case of typhoid fever. Another ase of appendicitis turned out to be gonorrhœal salpingitis. third case with typical symptoms turned out to be abscess f the right ovary with pyosalpinx. A fourth case turned out to be duodenal ulcer, and in a fifth case occurring in a hysterical young lady the appendix was found to be absolutely healthy, and the patient was cured by Weir-Mitchell treatment. In the last 13 cases he had operated on he closed the wound with silk and with buried sutures, and he preferred this method because he believed it prevented hernia.

Mr. JAMES BERRY, referring in the first place to chronic relapsing cases, remarked that the operation was never fatal if done in the quiet intervals. As regards the operation itself the incision should be free and through the sheath of the rectus. He preferred silk and buried sutures. He had never had an after hernia with this method. The peritoneum should be sponged, not washed. He had had an excellent opportunity of comparing different methods of treating the peritoneum, and this point came out very clearly. He did not think cases of first attack should be operated on too early. It was a curious circumstance that if ever a surgeon suffered from appendicitis he almost invariably sent for a physician, but perhaps they were only affected with the milder cases which tended to spontaneous recovery.

The PRESIDENT remarked on the difficulties which might arise in connexion with the social position of the patient. He thought the best way to deal with these cases was by consultation between the physician, surgeon, and family practitioner.

Dr. W. H. ALLCHIN wished to urge the fact that there was a very large proportion of cases which needed no operation. No doubt all the cases were really infective in character. He felt that they were much indebted to Mr. Lockwood for his valuable contributions in this direction. The chief contra-indication to operation was undoubtedly the slow or moderate pulse, especially if the other features were not progressive. Any localised swelling was certainly of itself not a definite indication for operation. The administration of opium enabled the surgeon to make much better and truer observations on the pulse by relieving the restlessness and pain.

Mr. C. B. LOCKWOOD, in reply, was not surprised at the line the discussion had taken. But as regards the making of rules it was clearly impossible when even diagnosis was uncertain. He remembered one case which was variously diagnosed gall-stones, appendicitis, and (by himself) as some renal affection. Again, how could rules be formulated when the nature of the lesion was so uncertain and variable from day to day? A case of ulceration of the appendicitis one day might be gangrenous the next and perforative the next. The question what constituted a rapid pulse was a reasonable one, though anything over 100 indicated danger. Many speakers had spoken casually of appendicular abscess, but it was a most difficult thing to diagnose. But here, again, why not ascertain for certain by means of exploratory operation? He would like to know what was meant by a mild lesion and what were the symptoms which corresponded with it. Was it ulceration? As regards so-called cures he still thought this treatment should not be used. A patient left the hospital, it was true, but if he were watched and followed up a recurrence was always possible. The appendix might even appear quite normal to the naked eye and yet be diseased, and for his own part he would always choose a surgeon who would remove the appendix and not leave it behind.

CLINICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Feb. 23rd, Dr. LEONARD SEDGWICK, the Vice-President, being in the chair.

Dr. STCLAIR THOMSON exhibited a case of Primary Tuberculosis of the Nasal Septum. The patient was a young woman who had already been shown before the society in October, 1897. In July, 1896, a growth of the size of a filbert was removed from the right side of the septum, diagnosed as tuberculous, though no bacilli were present. Three months later the base of the growth broke through the septum. She had active local treatment and three injections of Koch's tuberculin, to which she reacted. There were several other reasons in support of the diagnosis. When recently examined it was seen that the perforation had increased in size, but the condition in other respects was better. Sections showed giant cells and caseation but no bacilli. The treatment was painting with Mandl's solution of iodine and iodide of potassium and, later, guaiacol and olive oil. The progress had not been very satisfactory and Dr. Thomson said that he would be glad of suggestions for treatment.—Mr. ARTHUR BARKER referred to a case of very extensive tuberculosis of the nose which had involved the lacrymal sac and had perforated the soft palate. Treatment by painting with the perchloride of iron and copious dusting with iodoform had proved very successful.—Dr. PERCY KIDD agreed that the lesion was probably tuberculous, although the microscopical appearances were not conclusive. The sputum did not pass this way and that was probably why tuberculosis was so rare in this position.—Dr. THOMSON, in reply, remarked that there was no part of the respiratory tract so rarely attacked. He had been unable to find a record of any other observation of primary nasal tuberculosis by a British observer. Even as a secondary affection it was rare, although the larynx was so frequent a seat.

Mr. JACKSON CLARKE showed a female infant, aged one year and five months, with well-marked Lateral Curvature, probably due to rickets. The deformity was first observed at the age of 13 months. Such cases required, in addition to general treatment (diet, cod-liver oil, &c.) and daily manipulations, the use of an effective instrument. If left to themselves the patients became too often severely deformed and from the alteration of form of the thorax they suffered from respiratory and circulatory embarrassment, the cardiac and respiration rhythm being frequently doubled when adult life was reached. The form of support that was, in his experience, the most serviceable was the simpler form of Chance's splint. Poroplastic and other corsets and recumbency caused loss of muscular strength and general depression of physiological activity, and they were on this account to be avoided.

Mr. W. H. BATTLE exhibited a case of Operation for Traumatic Dislocation of the Knee. The patient was a woman aged 50 years. She was admitted for an injury to the right knee sustained during an attempt to enter a train while in motion. There were considerable bruising and displacement of the knee, and upon examination of the joint three of the ligaments (internal lateral and both crucial) were found to be ruptured. It was examined with the x rays and this revealed extensive injuries to the joint surfaces. No improvement having followed manipulation it was decided to open the joint. On August 5th a free incision was made across the front of the joint. On opening the joint the anterior crucial ligament was seen to be torn away from the femur and the posterior crucial ligament lacerated. These were sutured and the internal lateral ligament was repaired. The case did well except for a little suppuration on the inner side of the wound and the patient could now walk normally. The patient had for all practical purposes recovered the use of the joint.

Mr. T. H. KELLOCK showed a case of Achondroplasia in a boy, aged four and a half years, the second of a family of four, the other children being normal. He was born easily at term, but had a "queer shape" even then. He was breast-fed until ten months; he began to crawl at six months, but did not walk until two years old. He was only 30½ inches in height (39½ inches being the normal), the deficiency bearing on the lower limbs, the bones whereof were shorter than usual and the epiphyses abnormally large. The head had a large vault and a narrow base and the patient presented the usual lordosis, prominent abdomen, genu retrorsum, waddling gait, and spreading fingers, all features characteristic of such cases, in addition to the peculiar manner of raising himself. The child was intelligent and had had good general health.

Dr. CHARLES W. CHAPMAN showed a father and son presenting a Peculiar Congenital Deformity of the Hands, with, in the child, Absence of the Radius. The right hand of the father exhibited the peculiarity in respect of the three phalanges that the second was flexed at a right angle on the first and the third on the second. The thenar eminence was almost entirely absent and abduction and adduction were non-existent. In the left hand the terminal portion, representing the thumb, was united for two-thirds of its extent with the index finger, and there was a wide cleft between the first and second fingers. The man used the index finger like a thumb and the hand served for most purposes. The son, an intelligent boy, aged three years, exhibited the following deformities. On the right, the thumb at its terminal part resembled a finger. It had three phalanges, the second and third being permanently flexed on the first. On the left there was an entire absence of the radius with a club hand of the radio-palmar variety.

Dr. LEONARD GUTHRIE showed a case of Asthenic Bulbar Paralysis (Strümpell's) occurring in a female, aged 23 years. She had been a waitress accustomed to long hours. Two years ago she noticed difficulty of articulation occurring only when she was tired. In July, 1899, deglutition and mastication became affected and she was unable to close her eyes fully. There was no history of sore throat. At the present time she showed paresis of the orbicularis oculi and oris, of the tongue, pharynx, and soft palate, but of no other muscles. The eyelids could not be completely closed and there was no resistance to passive elevation of the upper lids. There was no ptosis or paralysis of the ocular muscles, intrinsic or extrinsic. The optic discs were normal. The mouth was flabby and the labial fissure was widened. She could not whistle or blow out a candle and had difficulty in emptying a spoon with her lips. Food collected in the right side of her cheek and she had some loss of control over the movements of the tongue during the first act of deglutition. The tongue could not be curled transversely, thus demonstrating the association between the action of the lingual muscle and the orbicularis oris. The movement of the soft palate was deficient. Fluids regurgitated through the nose and she choked in trying to swallow solids. The voice was nasal and the explosive labials B P and gutturals were indistinctly sounded. The vocal cords acted normally. All the symptoms varied from day to day in degree and were much more pronounced after fatigue or using the voice. She could swallow and speak well in the early morning after a night's rest. The only other symptom was occasional weakness of the fingers of the right hand which prevented her from sewing. The case was held to belong to the class called by Strümpell "asthenic bulbar paralysis." Patients suffering from similar symptoms were apt to die suddenly from respiratory failure, but hitherto no pathological changes had been found after death, thus supporting the view that a toxic influence was at work in the bulbar centres rather than a degeneration of the nuclei or the peripheral nerves. The patient had improved considerably under treatment by rest and the administration of strychnia.

Dr. C. E. BEEVOR showed a case of Paralysis of the Seventh, Eighth, Ninth, Tenth, and Eleventh Cranial Nerves in a woman, aged 32 years, who six years ago contracted syphilis. The present symptoms had come on during the last two and a half years, most of them within six months. The symptoms now present consisted of right optic neuritis (partial), absolute deafness of the left ear, taste lost in the left side of the tongue front and back, complete left facial paralysis, including the platysma, paralysis of the soft palate (left side), difficulty in swallowing, some anæsthesia on the posterior wall of the pharynx, paralysis of the left vocal cord, wasting of the left side of the tongue, with fibrillar tremors and protrusion to the left, the left sterno-mastoid completely and the left trapezius partially paralysed. None of the paralysed muscles reacted to faradaism. The most probable diagnosis was syphilitic meningitis affecting the nerves of the medulla.

Dr. J. S. COLLIER (for Dr. HUGHLINGS JACKSON) showed a case of Unilateral Lesion of the Pons. The patient was a man, aged 40 years, with no pathological history, whose illness began gradually with giddiness, deafness of the left ear, alteration of speech, difficulty in guiding the left arm, diplopia, difficulty of swallowing and mastication, and loss of feeling on the left side of the face. There had been no headache, vomiting, or dysuria. The optic discs were pale and there was paralysis of the fifth, sixth, seventh, and eighth cranial nerves on the left side, with weakness of the ninth, tenth, and eleventh. He held his head in the right cerebellar position. There was a spastic condition of the right arm and leg, and the speech resembled that often met with in cases of disseminated sclerosis. Dr. Jackson had met with cases of that disease which had begun in that way.

Mr. A. E. BARKER showed a girl who first came to him 13 years ago with Macroglossia, when he removed a wedge-shaped portion of the organ, bringing the sides together. The case is recorded in vol. xli. of the Transactions of the Pathological Society. She had returned last year with recurrence, the growth this time being in the direction of the hard palate, and on this occasion he had removed a wedge-shaped piece in a horizontal plane, bringing the upper and lower flaps together. Sections of the first growth showed a preponderance of lympho-angiomatous tissue, but the recurrent growth was more of a nævoid character.

Mr. F. C. WALLIS showed the following cases:—1. A case of Tuberculous Disease of the Knee-joint in a child, aged three years, which was treated by division of the patella, free exposure of the joint, removal of the affected synovial membrane with scissors and spoon, and finally swabbing the whole surface with pure carbolic. The patella was united by silk-worm gut and the skin wound was closed except for a gauze drain which was removed after 24 hours. The child was now able to walk about and had a limited movement of the joint which was improving. Mr. Wallis mentioned another case of erasion and one of excision of the knee-joint, both treated with carbolic, and they had done well. 2. A case of Acute Infective Osteomyelitis in a child, aged 12 years, with necrosis of the whole of the shaft of the humerus. The large sequestrum was removed (this was shown with the patient). The periosteum was much thickened all round the sequestrum, forming a good scaffolding. The arm, which before the operation was useless, was rapidly regaining power, especially since massage had been begun. 3. A case of Osteitis and Periosteitis in a child, aged 11 years, which had been treated by cutting down on the tibia, elevating the periosteum, and cutting a deep groove through both the epiphysis and the diaphyses. Since the operation the pain had disappeared and the child could stand. The case was originally thought to be tuberculous.

EDINBURGH OBSTETRICAL SOCIETY.

Exhibition of Specimens.—Eclampsia.—Basilysis.—The Use of Levurine.

A MEETING of this society was held on Feb. 14th, Dr. J. W. BALLANTYNE, the Vice-President, being in the chair.

Professor A. R. SIMPSON showed: (1) A Hydatid Mole; (2) a bottle of Levurine; (3) the Head of a Child delivered by Basilysis; and (4) two Uteri Removed by Pan-hysterectomy for Fibroids.

Dr. J. W. BALLANTYNE showed: (1) A Fœtus with Absence of the Radii and Deformity of the Thumbs, which was the third monstrosity with the mother out of six or seven pregnancies; (2) a Fœtus with Anencephaly; and (3) Photographs of Historical Teratological Phenomena.

Dr. KEPPIE PATERSON showed a Myxomatous Mole.

Dr. MACVIE read a paper on a case of Eclampsia having a Peculiar Puerperal History, with Observations on Coma. The patient was a woman of neurotic disposition and anticipated her labour with helpless timidity and dread. Her first labour was easy with a slow recovery. Her second labour was easy and she did well till the end of the first week when a gradual stupor set in, which deepened and became profound in the next few days. The pulse was slow and soft, the breathing was quiet and shallow with intermittent sighs, and the temperature was normal. The bowels acted fairly well with drugs. The urine was scanty and deposited urates, but was otherwise normal. The treatment was mainly nutritive and designed to keep the heart going. When death seemed imminent consciousness gradually returned and in a week the patient was well except for debility. She regained her strength but slowly. Her third labour was favourable, but on the seventh day she became listless and apathetic, her look became vacant, and stupor gradually intervened, though not so profound as in the previous puerperium. At her fourth confinement she was found to have œdema of the ankles and the urine on boiling deposited about one-half albumin. The presentation was by the face. The membranes were ruptured and the child was easily delivered by forceps under chloroform. Six hours afterwards a fit occurred, followed rapidly by eight or nine others, and in two hours she had become unconscious with stertorous and laboured breathing. Venesection was performed and about nine ounces of blood were withdrawn. Improvement in the breathing and colour of the patient was almost immediate and deglutition power returned. Hot water was given freely. Consciousness soon returned and steady progress occurred during the next few days. The urine then only contained a trace of albumin. She continued well for three or four days when apathy began, which gradually deepened into a profound stupor. From this she never rallied and death occurred on the tenth day of the puerperium. In discussing the case and the treatment of eclampsia Dr. Macvie advocated chloroform in the stage of convulsions to narcotise the brain centres and to allay peripheral irritation. He believed that the state of coma was mostly induced by the venous congestion of the brain during the tonic spasm of the chest in the convulsion. This stage was therefore best met by inhalation of oxygen and venesection. Elimination of the poison causing the fit was helped mainly by the administration of warm fluids, either by the mouth, subcutaneously, or by the rectum.—Professor SIMPSON, Dr. F. W. N. HAULTAIN, and Dr. FREELAND BARBOUR made remarks on the paper.

Professor A. R SIMPSON read a paper on Basilysis. He said that improvements in the construction of the forceps and a better appreciation of the conditions under which turning, Cæsarean section, and symphysiotomy could be safely carried out had in recent years greatly restricted the group of cases in which the obstetrician felt called upon to deliver by cephalic embryotomy. There was still, however, a not inconsiderable field for the employment of embryotomy procedures, as might be gathered from the papers written on the subject. The basilyst was used first for perforating the cranial vault and it was then bored into the cranial base and broke it up. The chief drawback to the cranioclast was that in some cases it did not fracture enough of the base of the skull to allow of the perfectly easy extraction of the head. The point of the basilyst was conical, with a double-threaded screw thread on it. This was applied to the vault and by twisting the handle it was easily screwed through the bone; by pressing the blades of the handle a segment of the point was opened out and the perforation was enlarged in all directions. After washing out the brain the screw-point was applied to the base of the cranium, the sella turcica, or ethmoid, and these bones were broken up. The head then collapsed very readily. A fenestrated blade for application outside the skull could be locked on to the basilyst and extraction was thus made easier in difficult cases. The whole instrument had been recently improved and made much lighter. An illustrative case was given and the head was shown.—Dr. BALLANTYNE, Dr. BARBOUR, Dr. HAIG FERGUSON, Dr. FORDYCE, and Dr. HAULTAIN made remarks on the paper.

Professor SIMPSON read some Notes on the Use of Levurine. Levurine was a dried extract of beer yeast (*levures de bière*) which was prepared by Dr. Aragon and M. Couturieux of Paris. They were stimulated to the preparation of this drug by a paper on the use of barm in diabetes mellitus. Levurine had also been found to be of value in furunculosis. It was therefore not a new drug, but was the yeast of beer so prepared that it was concentrated in powder form. It was always fresh, constant in its action, and was prepared in an easily administrable form. It might be taken in beer or in aerated water, or in cachet form. The dose was a tea-spoonful three times daily until the desired effect—viz., arrest of suppuration or reduction of temperature—was attained. Dr. Aragon and M. Couturieux suggest that its effect was produced by counteracting a latent glycæmia or by acting as a germicide to streptococci and staphylococci or as an antagonist to their toxins. Professor Simpson reported a case of appendicitis where each time the temperature rose to 100° F. a dose of levurine brought it down to about normal. It also gave good results in a case of tuberculous ulceration and the drug was administered to a septic puerperal patient with evident advantage. It had also been stated to have been beneficial in furunculosis, tonsillitis, and pneumonia.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF ANATOMY AND PHYSIOLOGY.

Protamines and their Cleavage Products.—Model of Viscera.—Mucous Glands.—Epiphyses of Human Bones.—Form and Position of the Stomach.—Viscera of the Gibbon.

A MEETING of this section was held on Feb. 2nd, Professor W. H. THOMPSON, the President, being in the chair.

The PRESIDENT read a paper on Protamines and their Cleavage Products. Protamines, hitherto obtained only from the ripe milt of various species of fishes, are believed by Kossel to be the simplest proteids. On hydrolytic cleavage they yield mainly hexone bases—viz., arginine, with histidin and lysine in some cases. These bases have recently been shown to exist largely in antipeptone. It appeared desirable, therefore, that their physiological properties, as well as those of the protamines, should be examined. The experiments were performed on anæsthetised dogs in the Physiological Institute, Marburg, and yielded the following results. The protamines were found to be very poisonous, the maximum non-lethal dose being one-fifth of a gramme. Their effects in many ways resembled those of the albumoses; blood-pressure was rapidly and profoundly lowered, but with a moderate dose returned to normal in half an hour. Coagulation was greatly retarded and the number of leucocytes in circulation were largely reduced. These effects were also temporary. Respiration was peculiarly influenced; the movements were at first greatly accelerated and exaggerated; then came a gradual decline, ending in complete cessation. After a few seconds diaphragmatic respiration returned and gradually became deeper and deeper, the movements of the thoracic walls during this period being wholly passive. Subsequently (after the lapse of an hour or more) active thoracic respiratory movements reappeared and the function gradually became normal. Other muscles—viz., those of the trunk and limbs—were also temporarily paralysed. None of the cleavage products showed these effects, nor did a trace of residue, which splits off in addition to the hexone bases, during the process of hydrolysis. Histon, a substance obtained from lymphoid organs, which had considerable chemical resemblance to the protamines, produced almost identical physiological effects. Antipeptone had very little effect on blood-pressure and blood coagulation. It raised blood-pressure slightly and hastened coagulation. Arginine hastened blood coagulation, while its effect upon blood-pressure was practically *nil*—i.e., its effects coincided with those of antipeptone. These substances reduced enormously the number of leucocytes in the circulation, but the leucocytes reappeared in about three-quarters of an hour; they could not, therefore, have been destroyed nor have wandered out of the blood vessels.—Professor COFFEY, Dr. WALTER SMITH, and Dr. DAWSON discussed the paper.

Dr. C. J. PATTEN, in the unavoidable absence of Professor Cunningham, exhibited for him a model of the Thoracic and Abdominal Viscera from behind which had been prepared primarily to exhibit the form and relations of the spleen.

Professor COFFEY showed sections which illustrated the Formation and Manner of Development of the small Racemose Glands of Mucous Membranes. The specimens were taken from the œsophagus of snakes. The earlier stage was seen in the simple alveolus or sac opening without a duct on the surface.

Dr. KNOTT exhibited a large series of Human Bones, all of which presented non-united or partially united Epiphyses. The series illustrated the development of the limb bones, the pelvis, scapula, sternum, clavicle, metacarpals, metatarsals, phalanges, vertebræ, ribs, and a large number of cranial bones. Amongst the specially interesting items were an atlas which was obtained in process of ossification from at least nine centres and an ulna which presented a small epiphysis on top of the ordinary epiphysis for the upper end of the olecranon process, a centre of ossification which, up to this, seems to have completely escaped the notice of anatomists. When the elbow-joint was bent this supernumerary epiphysis presented a striking resemblance to a diminutive patella turned upside down.—Professor BIRMINGHAM said that many of Dr. Knott's series were of the greatest interest, particularly those of the atlas and ulna. He was not satisfied, however, that the additional centre for the olecranon was constant.

Professor BIRMINGHAM gave a lantern demonstration of the Form, Position, and Relations of the Stomach as seen in bodies which have been hardened by intravascular injections of formalin. The chief points upon which he dwelt were that the empty stomach was contracted, not collapsed, its pyloric portion resembling thick-walled small intestine; its cardiac portion was rounded but attenuated; its surfaces looking, the one up, the other down, and its long axis nearly horizontal. In this condition it rested on the "stomach bed," occupying only the lower part of the "stomach chamber," the upper part of this space being occupied by the great omentum and the transverse colon, which doubled up over the empty stomach and lay between it and the diaphragm. The large, flattened, and collapsed stomach, with anterior and posterior walls in contact, usually described and pictured, was not found in the hardened body. Three stages were recognised in passing from the empty to the distended condition. In the first the fundus and cardiac portions were expanded, the pyloric portion remained contracted, and the lesser curve sharply bent as in the empty state; in this stage the stomach resembled a Florence flask, strongly bent at the junction of the neck and the body. In the second stage the cardiac portion was further expanded, and the pyloric portion opened out, but the junction between the two was distinctly marked. In the third stage there was an enlargement of all the axes of the organ; the distinction between pyloric and cardiac parts was almost lost; the pylorus was carried an inch or two to the left of the middle line and the antrum pylori was developed. But in all these changes there was no rotation around the long axis of the organ, with a raising up of the great curvature, &c., as commonly described. The distended stomach lay obliquely, its long axis running from the fundus, not vertically, as had been taught in recent times, but inwards and downwards, making an angle of from 40° to 45° with both the horizontal and mesial planes. In a female subject with a very constricted waist the stomach lay almost vertically on the left side of the vertebral column. Régarding the question of the existence of a valve at the cardiac orifice, he thought that little reliance could be placed on observations made on dried specimens. The return of food from the stomach into the œsophagus would be amply guarded against by the contraction of the muscular fibres of the œsophagus and the crura of the diaphragm, as illustrated by a specimen exhibited.—Dr. PATTEN and Mr. TAYLOR discussed the paper.

Dr. PATTEN brought forward a communication dealing with the form and position of the Thoracic and Abdominal Organs of the Gibbon. The lungs, heart, stomach, and spleen very closely resembled those of the human subject, as one might anticipate in such a highly developed anthropomorphous ape. The specimen was first hardened in formalin to ensure the contour of the viscera.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this institution was held on Feb. 22nd, Mr. W. T. Thomas, the Vice-President, being in the chair.—Mr. R. W. Murray showed a patient upon whom he had performed the operation of Tarsectomy for Double Club Foot.—Dr. W. Alexander related two cases in which he had removed Foreign Bodies from Viscera and showed specimens of these bodies—(1) pieces of coal and pebbles removed from the vagina; and (2) a piece of slate pencil removed from the male urethra.—Mr. Rushton Parker read a paper on Recent Operations on the Stomach, comprising 15 cases, of which eight occurred in the last six months and 12 in the year. Four of the operations were gastrostomies in men for carcinoma of the œsophagus, the operation being that known by the names of Hahn, Frank, and Albert. Two of the patients died within six months from acute phthisis, one in six days from bronchitis, and one in three months suddenly from syncope. He considered the procedure in suitably selected cases of value, but probably it was the least satisfactory of the temporary operations on the stomach. Four were gastro-enterostomies, three in men and one in a woman. The symptoms in all of the cases pointed to carcinoma, and although a tumour was felt only in two cases, in all a growth was found which was either too firmly fixed or surrounded by secondary deposit to permit of removal. Two of the patients were still doing well; the others were getting worse; in one the tumour was increasing and there was undoubtedly cancer, whilst in the others no microscopical verification had been made, and between carcinoma and gumma there was no means of being certain in the examination by eye and hand alone. The operations were well borne and the healing was rapid. No adventitious appliances were used. The nearest piece of jejunum was attached to the lower part of the stomach, an incision three inches in length being made in the axis of each viscus, and continuous silk sutures being used, one set through the mucous membrane and another through the peritoneum. The operation quickly admitted of satisfactory feeding, and although it was only required for temporary purposes it might now and then give permanent relief in the event of suspected carcinoma proving to be non-malignant. Two cases of excision were shown, one being that of a woman, aged 37 years, for malignant disease (ascertained microscopically) to the left of the pylorus who was still in good health and without any sign of recurrence after two years, and the other that of a man, aged 49 years, upon whom pylorectomy was performed a year previously for a tumour, which was thought to be malignant, but which at the operation was regarded as gummatous and which proved microscopically to be so. Three cases of pyloroplasty were discussed, two for contracted pylorus due to gastric ulcer and the other for ulceration (probably syphilitic) contracting the right half of the stomach. Two patients were shown after perforation of gastric ulcer. One was a chronic perforation with limiting adhesions to the liver necessitating complete section of the stomach near the cardiac end before suturing and the other was a perforation operated upon within six hours of the accident; hour-glass contraction of the stomach existed to the diameter of an inch, with the perforation in front of it. Free incision of the contraction right and left was made, the edges of the perforation were cut away, and the wound in the stomach was drawn together end to end and separated in the middle as in pyloroplasty. Both of the patients were in good health.—Mr. F. T. Paul agreed that Frank's modification of Hahn's operation of gastrostomy was the best, but unless a diverticulum of from two inches to two and a half inches in length could be withdrawn to form the fistulous passage in the abdominal wall it was better to do Senn's operation, which he thought the more efficient but not so easily recovered from as Frank's. He had ceased to use all mechanical appliances except Murphy's button, and this he believed might generally be dispensed with. In gastro-enterostomy he considered there was a danger of the intestinal juices escaping into the stomach and of the anastomosis proving only temporary; the former trouble was more common in the posterior operation and was rarely met with when the opening was made in front. This operation could not compare with either pylorectomy or pyloroplasty in the benefit afforded to the patient. Pylorectomy was never likely to be a frequent method of operation in cancer of the pylorus, owing to the fact that by the time the diagnosis was made the extent of the growth, fixation, &c., might render it unfeasable. Pyloroplasty had given him the best results in practice. With reference to the suture of perforated gastric ulcer he considered that drying out the peritoneal cavity was better than flushing. He always washed viscera that were withdrawn from the abdomen, but he limited the internal flushing to localised septic tracts that were isolated by adhesions or otherwise.—Mr. Robert Jones referred to a patient with a

Large Nodular Mass at the Pylorus which was so fixed that after opening the abdomen pylorectomy was considered undesirable; now, three years later, the patient was nearly well and the tumour had disappeared. This was of interest in view of reported cases of gastro-enterostomy for malignant disease when years had passed and the patient lived. A microscopic examination was necessary before malignancy could be pronounced.—Mr. W. Thelwall Thomas drew attention to the unsatisfactory state of our knowledge as regarded the pathology of the stomach, two of the cases referred to in the paper being due to syphilis—a cause rarely mentioned.

EPIDEMIOLOGICAL SOCIETY.—A meeting of this society was held on Feb. 16th, Dr. Franklin Parsons, the President, being in the chair.—Dr. Hope, medical officer of health of Liverpool, read a paper on the Housing of the Working Classes in Liverpool, illustrated by a large number of coloured plans, sections, and elevations. The problem of the housing of these classes, including the skilled artizans, the unskilled labourers, and the "submerged tenth," was one, he said, which at the present time the sanitary authorities of every large town in Europe and America had to face. It was rendered the more difficult by the facts that a large proportion of these men, as dock labourers, market porters, and others, must live near their work and that the greater part of the houses occupied by them were erected before any building regulations came into existence, massed together without open spaces or sanitary conveniences and falling into decay. The area covered by these might be, and often had been, cleared, but the substitution of sanitary dwellings fulfilling present-day requirements, with open spaces, baths, and wash-houses, &c., at rentals such as the classes in question could afford was no easy matter. It was worse than useless to attempt to provide decent accommodation for the idle, drunken, and criminal class; their dispersal was best for themselves and for the community: but few places could show such satisfactory results from the improvement of the dwellings of the poor as could Liverpool, to which city was due the honour of having been the first to initiate legislation in this direction. During the last 15 years nearly 4500 "court houses" had been demolished, their sites having been covered by buildings such as he was about to describe; but there still remained over 3000, more than three-fourths of which were in the courts, the rest facing the streets, but back to back with the former. The width of the courts was on an average eight feet and of the approaches from the street from two to three feet; each court contained from eight to ten houses, of three rooms one above the other, each reached by stairs or ladder from the one below, all back to back and side to side, without any sanitary conveniences whatever; water-closets, used in common, were placed at one end of the court and dust bins at the other, the water-supply being from a hydrant in the middle. It was in such areas that fevers were endemic, that epidemics of cholera and typhus fever did havoc, and that notwithstanding the palliative efforts of the authorities, scavenging twice daily, unlimited water-supply, prompt removal of the sick, and practicable prevention of over-crowding, the (crude) death-rate ranged from 40 to 60, even reaching at times 75, per 1000. These three-roomed houses being so numerous, and their insanitary character not recognised, no attempts were made until recently to put up cottages with fewer than from four to five or six rooms except that from time to time since 1863 three- and four-storeyed blocks had been erected by private enterprise; but while each tenement was beyond the needs and means of the very poor the owners were of opinion that the rentals of from 1*s.* 3*d.* to 1*s.* 6*d.* per room did not give a return for the capital invested. Those erected by the corporation dated from 1868, when six large blocks, from three to five storeys in height, each containing four-, three-, and two-roomed tenements, were put up and let at about 1*s.* 5*d* per room, and included Victoria-square, opened in 1885; Juvenal-dwellings, opened in 1895; and Arley-street and Gildart's gardens, opened in 1897. They were controlled by a resident superintendent and an assistant, who also collected the rents, the management of the entire property being vested in sub-committees of the corporation. Dr. Hope gave full details of the numbers of tenements with one, two, and three or four rooms respectively, the rental of each, and the dimensions of the several rooms, as well as the returns of original cost and annual income and expenditure on each estate, which might be summed up by the statement that 90 three-roomed, 300 two-roomed, and 70 single roomed tenements, at rents from 2*s.* to 3*s.* for the last, from 3*s.* to 5*s.* for the two-roomed, and from 4*s.* 6*d.* to 5*s.* 6*d.* for the largest, gave a net profit of from 2½ to 4½ per cent. on the outlay. Another property was in course of development to comprise 132 and ultimately 182 tenements, mostly two-roomed, but in some respects an improvement on those already described, for while they were provided with water-closets on the landings, one to each two or three families, every one of the new tenements would have its own, and hot water would be laid on to the sinks for which 6*d.* per week would be added to the rent, gas would be supplied through automatic meters, and provision made for storage of fuel and of food in a locker ventilated from the outer air. There would be a large recreation and reading room for the tenants.—Mr. Shirley Murphy, referring to Dr. Hope's statement that the death-rate in the new buildings did not exceed 21 or 22, remarked that the death-rate was determined far more by the habits of the occupants than by the sanitary conditions of the house. Water-closets within the dwelling, though harmless in themselves, might be dangerous nuisances if dirty and neglected or out of repair.—Dr. E. F. Willoughby deprecated the position of the water-closets in some of Dr. Hope's plans in the interior of a small tenement, and he also objected to any arrangement that necessitated crossing a backyard at all hours and in all weathers. He strongly recommended an arrangement adopted in some blocks of placing the closets in pairs, one above the other, from the ground floor to the topmost storey, one on each side of an addition built out in the rear.—Dr. Bulstrode, Dr. Newsholme, and the President also took part in the discussion.

BRITISH ORTHOPÆDIC SOCIETY.—A meeting of this society was held at the City Orthopædic Hospital, London, on Feb. 17th.—Mr. G. Chisholm Williams showed cases of (1) Ganglion of the Extensor Tendons of the Foot; (2) cases of Caries of Dorsal Vertebræ; and (3) Severe Hallux Valgus with Hammer-toes.—Mr. Muirhead Little showed a boy, aged 10 years, with Stiff Shoulder probably due to Tuberculosis. There was a history of injury. When first seen nine months ago the humerus was firmly fixed on the scapula; its head was slightly displaced upwards and inwards. There was no swelling or sign of local inflammation. Under an anæsthetic the humerus could be easily moved on the scapula through about 90° of abduction. Rotation was very limited. There was a roughness in the movement of the joint. The other shoulder-joint allowed an unusual degree of mobility, so that the boy could turn his olecranon to the front. Both elbow-joints were normal except for slight hyper-extension.—Mr. John Poland showed a skiagram of a case of Hallux Varus, probably of paralytic origin. He had replaced the bones after dividing the tendon of the abductor pollicis and internal lateral ligament.—Mr. Jackson Clarke read a paper introducing a discussion on Hallux Valgus and Varus and Analogous Deformities, which is published at p. 609 of our present issue.—Mr. John Poland referred to the skiagram he had previously shown of a case of hallux varus. He now showed a skiagram of a remarkable congenital case. The condition was not alluded to in books. There was great developmental abnormality and the second phalanx was completely displaced to the inner side of the first. As suggested by Mr. Tubby, it was very probably a congenital dislocation analogous to congenital dislocation of the hip. As regarded hallux valgus there was a class of cases of great interest of which nothing or little had been said in the text-books. These cases were those of children from 14 to 15 years of age who had not worn tight or narrow-toed boots. He had operated on many such.—Dr. Robert Jones said that he preferred to treat the subject from a clinical rather than a pathological standpoint. He thought that the extensor of the great toe played a large part in producing and maintaining hallux valgus. He was in the habit of dividing or of excising an inch of the tendon. The best treatment in pronounced cases was excision of the head of the first metatarsal bone, but many patients would not consent to operation. These could be successfully treated by gradual mechanical correction if they chose to undergo the pain and trouble. There was no need to apply any apparatus in the day time. In excising the head of the metatarsal bone it was most important to remove enough bone. He had seen a boy, aged 14 years, with well-marked hallux valgus, yet this boy had never worn boots or shoes; he sold newspapers in the streets of

Liverpool. Mr. Jones had found that osteotomy of the shaft of the metatarsal bone was useless.—Mr. Tubby agreed with Mr. Jackson Clarke as to the osteo-arthritic nature of the deformity, but he would say that not merely 50 but 90 per cent. of the cases were due to rheumatoid arthritis, which he believed was a dyscrasia, apt to fall upon any joint which happened to be exposed to pressure or irritation. If enough bone was removed there was no need to divide the extensor proprius pollicis.—Mr. Muirhead Little referred to the dislocation of the sesamoid bones which occurred in hallux valgus. These showed plainly in skiagrams on the first inter-osseous space and had been removed by at least one surgeon as the probable cause of symptoms. There must be thousands of cases of hallux valgus which produced no symptoms unless arthritis supervened or was the original cause. Toe-posts were useless. He suggested that the cases in young people described by Mr. Poland were analogous to hammer-toe and were due to defective growth of the external lateral ligament as compared to the bones.—Mr. Keetley said that he thought that one broad line of treatment by excision of the head of the metatarsal bone was the best. He had found that wedge osteotomy was sometimes effective. He had never succeeded in curing any case by any mechanical appliance, though he had given many cases a very fair trial. He thought that there were two classes of cases—those associated with flat foot and (the great majority) those caused by improper boots. He did not believe—apart from rickets—that hallux valgus affected people who had never worn boots.—Dr. Blagg said that there were three classes of cases, namely—(1) congenital; (2) due to rheumatoid arthritis; and (3) due to tight boots. When he was a student he had seen operations of osteotomy and the immediate results seemed excellent, but when he got into practice he found that the trouble recurred after osteotomy and excision of the head of the bone had to be performed.—Mr. Noble Smith said that in the slighter cases much might be done by persuading the patients to wear proper boots.

Clinical Society of Manchester.—A meeting of this society was held on Feb. 20th, Dr. Judson S. Bury, the President, being in the chair.—The President showed a case of Idiopathic Muscular Atrophy and a case of Unilateral Paralysis of the Serratus Magnus.—Dr. A. Wahltuch showed two patients:—1. A girl, aged 10 years, suffering for 12 months from Hemichorea of the Right Side, who developed during the early stages of the illness an inequality in the pupils of the eyes, the left being enlarged and slower in contraction than the right. The vision in both eyes was perfect, though there was a slight astigmatism in the right. She attended as an out-patient at the Hulme Dispensary and was treated twice a week by massage and was now considerably improved, the twitchings being very rare and slight. 2. A girl, aged three years, suffering from Congenital Infantile Paralysis in the right leg and forearm; the supinators and extensors of the forearm and the peroneus longus were chiefly affected. She was brought to the Hulme Dispensary in August, 1899, the mother stating that the child had never been able to walk. Treatment by massage and electricity improved so far that she could now walk, run, and extend the fingers, though supination was still difficult.—Dr. W. Milligan mentioned the case of a patient who suffered from chronic Suppurative Middle-ear Disease complicated with extradural abscess and lateral sinus thrombosis and upon whom he had operated with a successful result. The patient, who had suffered for many years from suppurative middle-ear disease, suddenly developed acute symptoms—viz., pain in the head, high temperature, rigors, nausea, &c. Three weeks after the onset of the symptoms and when the patient was suffering from profound septic poisoning operation was performed. A large extradural abscess was opened and drained; the lateral sinus which was found ulcerated through and thrombosed at the distal end was freely scraped and packed with gauze. A second deep-seated cervical abscess round the jugular vein was also opened and drained, the vein itself being tied and divided. Localised pneumonia developed after the operation, probably due to a pulmonary infarct. The patient, however, finally made a good recovery.—Dr. Milligan also showed a patient upon whom the Stacke operation had been performed for Chronic Mastoid Disease with satisfactory results and made some remarks upon the rationale of the operation and the methods by which the most rapid healing could be secured.—Dr. W. E. Fothergill and Dr. J. W. Stenhouse described the case of a woman, aged 32 years, who, before completing the seventh month of her first pregnancy, developed Excessive Swelling of the Legs and Body which extended up to the lower ribs. The urine turned solid on boiling and contained a quantity of bile. About one-third of a pint was passed per diem. The liver was tender and was at first increased in size. In spite of active treatment the patient became worse, fluid collected in the abdomen, and the liver dulness became reduced to two and a half inches. The stools were absolutely without chyle. Labour was induced as a last resort and she rapidly improved thereafter. In less than a month her urine was copious and contained a normal amount of urea, whilst there was no bile in it, and only 0·1 per cent. of albumin. The liver had resumed its normal size, the action of the bowels was correct, and every trace of œdema had disappeared. The case was brought forward as an example of one of the forms in which hepatic toxæmia occurred during pregnancy. Poisons probably derived from the alimentary canal, and which should be destroyed by the liver, were, through failure of the functions of that organ, allowed to remain in the circulation. The kidneys also failed to excrete the poison which produced extreme renal irritation. Other manifestations of auto-intoxication during pregnancy were mentioned briefly.—Mr. J. E. Platt showed a patient, a blacksmith, aged 41 years, upon whom he had operated for aneurysmal varix of the brachial artery and median basilic vein and partial division of the median nerve. 14 months previously the man had received a small, punctured wound immediately below the bend of the elbow. Two weeks later he had been subjected to operation, and a piece of steel, three-quarters of an inch in length, had been found embedded in the brachial artery near its bifurcation. The median nerve had been found to be divided for the inner three-fourths of its extent. The brachial, radial, and ulnar arteries and the median basilic vein had been ligatured and the nerve sutured. Recovery of the function of the muscles supplied by the median nerve had subsequently progressed slowly but surely and was almost complete at the time the patient was exhibited. Some remarks were made upon the treatment of aneurysmal varix and upon the period necessary for recovery after division of motor nerves.

Windsor and District Medical Society.—A meeting of this society was held at the Guildhall, Windsor, on Feb. 21st, the President, Mr. W. B. Holderness, J.P., occupying the chair.—Mr. Noble Smith gave a demonstration of some Interesting Surgical Cases (upwards of 13 in number) illustrated by Casts, Radiographs, Models, and Photographs. The first case was one of Pott's fracture. Nine months after the accident the patient was hardly able to get about. A radiograph showed the foot to be so much displaced outwards that the weight of the body was transmitted through the centre of the tibia and impinged upon the inner edge of the astragalus, thus pushing the foot towards a valgus position. The fibula, which had been fractured diagonally and had united with much thickening, was chiselled through and the tendo-Achillis was divided, whereupon the foot could be immediately placed in a better position. The aching pain previously felt was at once relieved and at the end of six weeks the patient was able to walk about far more comfortably than before the operation. The second and fourth cases were examples of supposed bow-leg. Mr. Noble Smith, however, employed radiography which clearly showed fractures of the tibia one and a half inches above the ankle-joint. These were cut down upon and the bone was straightened, the patients making good recoveries. The fifth case was one of dislocation of cervical vertebræ. A lady sustained a fall of 80 feet down some rocks in the island of Sark. After some weeks' rest she began to get about again and then suffered from pain and stiffness in her neck. Attacks of giddiness likewise occurred and so affected her that she would suddenly fall down and especially on placing her hands upon her head in attempting to dress her hair. On examination Mr. Noble Smith detected an angular deformity between the fifth and sixth cervical spines and a radiograph clearly indicated a partial displacement between these vertebræ. The patient was placed under ether and firm extension made upon the head. Some adhesions were first felt to give way and after more force had been applied a slight gliding movement was felt in the neck. It was then found that the vertebra occupied their natural position. The acute symptoms shortly disappeared and the patient was now practically quite well. Mr. Noble Smith quoted also the case of a woman who, whilst sleeping with her arm thrown over the back of a chair, suddenly started up and "ricked" her neck. A similar luxation had taken place. A fortnight later he lifted up the head to a considerable degree and suddenly imparting a lateral gliding movement a distinct "click" was heard and the patient was instantly relieved. Among other cases described were four of knock-knee, three of coxa vara, and one of marked deformity in the lower limbs, probably due to fracture in early childhood. Referring to the subject of club-foot Mr. Noble Smith said that he and his colleagues at the City Orthopædic Hospital were unanimously opposed to severe osteotomies except in cases accompanied by great bony deformity. They strongly disapproved of Phelps's operation in which all the soft parts were cut through down to the bone, the resulting gap, sometimes two inches in width, being stuffed with gauze. A disastrous example of this procedure was mentioned in which necrosis of bone and other troubles occurred, and this was contrasted with a severe case of club-foot (casts shown) treated with gradual pressure by small iron splints and division of contracted tendons. It was of the first importance to overcome the inversion before dividing the *tendo-Achillis*. For spinal curvature Chance's splint had the great merit of stimulating the development of the back muscles (photographs shown). He deprecated Calot's operation, which had been attended with no small mortality and of which he had seen some lamentable examples.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held on Feb. 7th at the Medical Institute, Birmingham, Dr. Rickards, the President, being in the chair.—Mr. Gilbert Barling showed a Kidney removed for Calculous Pyonephritis by lumbar nephrectomy from a woman, aged 49 years. The patient had had symptoms for about 12 months, during which time she had suffered from severe attacks of pain in the right side, from frequency of micturition, and from a swelling which had gradually increased in size. At the time of operation the kidney formed a tumour reaching mesially to within an inch of the umbilicus, backwards into the loin, downwards into the iliac fossa, and upwards under the ribs. The kidney was separated from its surroundings with great difficulty, the peritoneum being widely torn during the process of separation, and at the lower end of the organ a piece was torn out at the junction of the internal, external, and common iliac veins. The hæmorrhage from the torn veins was small and easily controlled by ligature of the three veins. A good recovery followed with practically no œdema of the right lower extremity. Examination of the kidney showed an abscess cavity holding about four ounces of pus and other tiny points of suppuration in the organ. A calculus was fixed in the pelvis and there was a good deal of atrophy of the renal substance. Though some renal tubules and glomeruli still existed the bulk of the kidney tissue was replaced by fat. There was some interstitial and parenchymatous nephritis, but casts were not found before the operation, the explanation possibly being that the ureter was blocked The excretion of urea before the operation was about 300 grains and this had remained pretty constant since the operation.—Dr. Douglas Stanley showed a boy suffering from Favus and remarked on the rarity of the disease in the Midlands.—Mr. Chavasse showed a Sacculated Aneursym removed from a man, aged 41 years, who had suffered from syphilis; it was of the size of a large orange and was situated in the upper part of the abdominal aorta. The only symptoms present during life were attacks of pain resembling those of renal colic and limited to the left side. Rupture of the sac had taken place posteriorly and extravasation into the substance of the left psoas muscle caused a large sub-peritoneal hæmatoma. Erosion of the bodies of the last two dorsal and upper two lumbar vertebræ existed. A slight pouch was also found at the extreme convexity of the arch of the thoracic aorta.—Mr. Haslam showed a Tumour of the size of a walnut that he had successfully removed from the left ulnar nerve in the middle of the arm of a patient, aged 38 years. The tumour had been growing for eight years and consisted centrally of blood-clot and around this a layer of angiomatous tissue.—Mr. Chavasse showed a Large Hydronephrotic Cyst which he had successfully removed by abdominal nephrectomy from a boy, aged 11 years It was apparently congenital (the abdomen having distended from birth) and contained five pints 12 ounces of clear straw-coloured fluid, which chemical analysis showed to contain urea, uric acid, and traces of albumin.—Dr. Murray read a paper on Chronic Brass Poisoning.

PLAISTOW AND CANNING TOWN MEDICAL SOCIETY.—At a meeting of this society held on Feb. 22nd at the Public Hall, Canning Town, Dr. J. Biernacki gave an address on Diphtheria. After a reference to the modes of infection a clinical description of a typical fatal case was given with a chart in which were shown the falling temperature, the progressing diminution of urine, and the blood-pressure curve. It was stated, as the result of numerous investigations with the Hill-Barnard pocket sphygmometer, that a fall in pressure invariably accompanied the disease, slight at the outset, but becoming extreme in fatal cases. The initial drop was attributed to relaxation of the blood-vessels from the direct action of the toxin, an effect anticipated from the recent experimental work of Dr. T. G. Brodie; while heart failure was added as a more potent factor in the final depression. This speaker expressed the conviction that all the symptoms of the disease were to be referred to the diminution in blood-pressure—pallor with coldness of the surface, sickness, compressibility, and final disappearance of the pulse, a reduced temperature, restlessness (jactitation), and especially oliguria, going on to suppression, which locked up, not only the toxin, but also the physiological poisons.—A discussion followed in which Mr. A. E. Kennedy, Mr. Percy Rose, Mr. Stewart Boyd, Dr. Beaumont, and others took part.

Reviews and Notices of Books.

The Principles of Treatment and their Applications in Practical Medicine. By J. MITCHELL BRUCE, M.A. Aberd., M.D., F.R.C.P. Lond., Physician and Lecturer on the Principles and Practice of Medicine, Charing cross Hospital; Consulting Physician to the Hospital for Consumption, Brompton; Examiner in Medicine, University of Cambridge. Edinburgh and London: Young J. Pentland. 1899. Pp. 614. Price 16*s*.

WE have rarely perused a book with more satisfaction than we have Dr. Mitchell Bruce's work on "The Principles of Treatment." A treatise of this nature was wanted and practitioners and students will find a study of it most valuable. The usual manner in which therapeutics are taught is unsatisfactory; in the majority of cases treatment appears to be purely symptomatic or empirical. Long dissertations are given by the bedside on the etiology, pathology, and symptoms of a disease, whilst the treatment is usually dismissed in a few words. There are, fortunately, teachers exceptional in this respect, but we believe we are correct in the general terms in which we have spoken. Dr. Bruce alludes to this defect in his preface and comments on the immense difficulties which students experience when they are called upon to show an intelligent acquaintance with treatment. They may write a prescription with little hesitation, but as a rule they cannot give a rational account of the principles on which they have planned it, apparently being ignorant of the principles which control successful and rational therapeutics. The work is planned on excellent lines. It starts by assuming no therapeutical laws, but proceeds to find them in the familiar facts of etiology, pathological anatomy, and the clinical characters of disease. These are carefully examined for the elementary principles of treatment, and in the course of the inquiry the reader is taught how he may himself employ his observations as guides to practice. This is the only way in which a truly correct line of treatment can be mapped out and one which will abolish routine and frequently harmful methods of the use of drugs.

Dr. Bruce remarks in his preface that the principles of treatment are difficult to discuss, and still more difficult or impossible to appreciate, without illustrations of them in connexion with [illegible] d[illegible]. Throughout the first part of the work [illegible] ..d and to statements of principles are made without reference to some familiar instances in which they apply, but in the second part of the work a large number of illustrations are given, exemplifying the principles enunciated in the first part.

The principles of treatment founded on etiology are first discussed, and a distinction is made between efficient causes on the one hand and predisposing and determining circumstances on the other. Micro-organisms, animal parasites, poisons, unsuitable food, traumata, mechanical strain, cold and heat, all receive due attention, "indications for treatment" based upon the various etiological factors being considered at length.

"Principles of Treatment Founded on Pathology" naturally form an important part of this work. It is refreshing to read the paragraphs relating to inflammation, ulceration, necrosis, degeneration, hypertrophy, and atrophy, these subjects being considered from a therapeutical point of view. We are shown how the result of these processes as a whole may be either successful or otherwise. Success means regeneration and recuperation, and the final result of these is recovery, complete or incomplete. In too many instances, however, the different processes of spontaneous recovery entirely fail. Instantly, suddenly, or slowly, as the case may be, the pathogenetic influence and its effects overwhelm or otherwise overcome the various provisions for recovery with which the body is furnished. The result is death—swift, rapid, or slow; but unless the pathogenetic agent be instantaneous or crushing the body makes an effort or attempt at reaction or recovery. It is further argued that whilst natural resistance continues and can be advantageously aided and controlled the prominent feature of pathology from the therapeutist's point of view is recovery in the form of both anatomical and physiological repair and associated processes. These may be effected by structures and vital functions over which we have abundant control. Our opportunities of rational interference are thus proved and the treatment of pathological processes is fully justified.

The chapters on "Principles of Treatment Founded on the Clinical Characters of Disease" are equally interesting. It is quite rightly insisted that the appreciation of the importance of the indication for so-called expectant treatment in acute diseases (particularly such as are of limited duration) constitutes a turning-point in the history of medicine, and scarcely less valuable are the indications for the prevention and treatment of complications and sequelæ and for the thorough establishment of convalescence which an improved knowledge of these parts of the natural history of disease has enabled us to reach.

The first part of the book terminates with chapters on "Principles of Treatment Founded on the Personal Factor in Disease," "The Proper Relation of Treatment to Disease," "Means of Treatment," and "The Art of Treatment." The second portion of the book will be found most useful for reference. It is headed "Illustrations of the Principles of Treatment" and, as its title indicates, it shows the method of applying the principles laid down in the first part to the treatment of diseases. Separate chapters are devoted to different diseases or groups of diseases and the information imparted will be found most valuable by practitioners who desire to ascertain the lines of treatment which they should adopt in any particular case.

We can strongly recommend the book to our readers and we offer our congratulations to the author on the excellent work which he has produced.

Text book on Palæontology. By KARL VON ZITTEL. Translated by C. R. EASTMAN, Ph.D, Harvard College. London: Macmillan and Co. 1900. Pp. viii. & 706. Price 25*s.* net.

THIS is a translation of Dr. Zittel's smaller work upon palæontology and will be completed with the issue of Vol. II. The present volume, of large dimensions and most copiously illustrated, deals with the invertebrates only; the concluding volume will have for its subject the more important group of vertebrates. More important, that is to say, from the point of view of palæontology; for with abundant and often well-preserved bones to handle it is possible to come to reasonable conclusions about the relations of extinct creatures to their living allies. With invertebrates, on the other hand, there is, save in rare cases, little left but their shells or spines and other hard bits which, though useful enough, are often precisely those regions of the creature with which we could best dispense. The study of invertebrate palæontology is productive of annoyance for this very reason. Some delightfully "aberrant" mollusc or worm has left only miserable evidence of itself in the shape of a damaged shell or even a mere cast—just its imprint upon the muddy flat where death overtook it or the waves left it. The palæontologist wonders, and unfortunately is compelled to continue wondering, whether some of those remarkably persistent types of life, such as the brachiopod lingula, concealed under an identical exterior an interior diverse from their descendants of to-day, or whether they are permeated through and through by a conservatism which has hardly a parallel in the animal world. Unlike ourselves, the author of the volume before us commences logically by defining what a fossil is before proceeding to speak of fossils and their occurrence. The common idea is probably of some animal or plant turned to stone. Dr. Zittel naturally does not sanction so loose and inaccurate a notion as this; he would, and very properly, define fossils as "all remains or traces of plants and animals which have lived before the beginning of the present geological period and have become preserved in the rocks." This broad definition will include the frozen carcasses of mammoths exhumed in Siberia, whose flesh formed an admirable though rather expensive diet for the dogs who assisted in the disinterment, no less than the most stony of Dura Den red sandstone fishes. The line, however, is a little hard to draw with accuracy and decision. We rather gather that the author would not allow the skull of the Canstadt man to be a fossil, since he denies this distinction to the peat-entombed remains of the dodo. This does not appear to be quite logical. The dodo is, for all practical purposes, as effete as the trilobite, though it was undoubtedly, in quite recent times, seen alive by many, including John Evelyn. This, however, is a small criticism. The reader who is imperfectly acquainted with the subject will, on turning over the pages of this book, be struck with the fact that so many groups of animals are excessively abundant, while others are as rare, in the rocks and clays of the world. The author finds himself obliged to devote 260 pages to the consideration of the shellfish (mollusca), while he *only needs* 60 for the crustacea. The enormously hard and stony carapaces of many crabs would seem to lend themselves to preservation just as well as, if not indeed better than, the comparatively thin shells of many bivalve molluscs. The group of isopod crustaceans, including among living forms the familiar wood-louse, is dismissed in a little under one page; and yet this is not negligence or ignorance on the part of the author: in that exceedingly short space he has said what is to be said (on the lines adopted through the book) about that at present very large and widely-spread race of creatures. There must be some reasons, with which we do not seem to be acquainted at present, for the paucity of one race as fossils and the abundance of others. It is not, of course, surprising to find that fossil butterflies and moths occupy only half a page. These tender insects must crumble away directly after death; and, indeed, everyone knows that a dead butterfly is as rare as that proverbially rare creature a dead donkey. Generally speaking, the remains of terrestrial animals are scarcer in the rocks than those of aquatic animals.

And among aquatic animals those which formerly inhabited the sea are decidedly more abundant than fluviatile or lake-dwelling animals. This, of course, is natural and readily explicable. A land animal dying upon the land has but little chance of leaving its remains behind it in a state fit for interpretation by a palæontologist, whereas the marine crustacean or mollusc sinks into soft mud in many cases, and is rapidly entombed and preserved until future upheaval for the advantage of the student.

In considering the past history of fossil vertebrates and their relations to existing forms much has been done in tabulating the modifications of structure through which they have passed before arriving at that form which characterises them at present. Pedigrees of, in some cases, highly probable accuracy have been made out concerning the descent of such types as the horse and the camel. With invertebrates the general results are disappointing. The common sea urchins of our own coasts recede into the "infinite azure" of a most dim and palæozoic past. Yet these early urchins, different though they are in many particulars from their living representatives, have already got the same stony plates arranged with the same almost crystalline regularity. It is true that the ancient forms have more rows of plates on their "tests" than those which we can dredge off our coasts; but the veriest tyro would not hesitate for one second in assigning them to the same group. There is no hint afforded by the study of palæontology—of a kind that can be argued out with success—of any closer approximation of the primitive types to other allied forms of echinodermata, such as starfishes or sea cucumbers. An echinus has been always definitely an echinus. There is here at least no limbo to which vague forms of intermediate characters can be profitably relegated.

The fact of the matter probably is that we do not and cannot go far back enough into time to obtain a glimpse of those early creatures which were the ancestors of what are now quite separate groups The imperfection of the geological record about which so much has been said is no doubt also an imperfection of another kind than that usually meant when the phrase is used. That there are many hiatuses to be deeply deplored is true enough; but what is to be most regretted is that the beginning seems to be irrevocably lost. The gaps may be filled, for there are the rocks, and hammers are plentiful, but there is no known method of re-stratifying a crystalline and altered rock. In the echinoderms, which we have just been considering, but much more in the shellfish, the lack of plasticity in the outward form is remarkably noteworthy. The abundant figures which illustrate that section, as they do all the other sections, of the volume will show the very close likeness which the most ancient forms of molluscs bear to those actually living. The bivalve shell of the earliest times is often—save, of course, to the expert—a mere replica of that of forms which strew the beach at any seaside place. The innumerable æons through which the same type of defensive armature has been preserved is astounding. Their consideration affords a strong argument against a progressive evolution without the stimulation of natural selection. The shell once acquired proved, we may suppose, to be the best and least expensive form of protection during a life by no means so complicated as that of a terrestrial animal, and was therefore preserved without much alteration. On the other hand, it may, of course, be argued that the small changes, comparatively speaking, which have occurred cannot be due to anything like competition, since it is hard to understand how a slight alteration of engraved lines upon the shell could affect the well-being of its inhabitant.

Professor Zittel's book is not a book to be read through at once from cover to cover. It is really a work of reference and as that is very full. Though an abridgement of his more extensive work (which we should much like to see translated) it is quite full enough in those places where we have tested it. The translator has not acted only in that capacity. Dr. Eastman has, with the sanction of the author, "remodelled, enlarged," and generally brought up to date the whole work. In this he has been assisted by many eminent experts, chiefly in the United States. There is no doubt that he and his colleagues have performed a useful piece of work in producing this sufficiently full account of the zoology of extinct invertebrates.

LIBRARY TABLE.

Health Abroad: A Medical Handbook of Travel. Edited by EDMUND HOBHOUSE, M.D. Oxon. London: Smith, Elder, and Co. 1899.—We believe that this will be found to be an extremely useful book, not only to the ordinary traveller, for whom apparently it is intended, but also to the medical practitioner who may wish to supplement his often somewhat meagre knowledge of "foreign parts." The contents consist of a bibliography of very great interest and value, the works enumerated being numerous and well selected. There is a general introduction by the editor, very short and, of course, general, but still conveying many useful hints. Dr. Leigh Canney contributes the article on North Africa, which includes Egypt, Tunis, and Algiers. The article on Egypt is first, and due prominence is given to its peculiarly dry and fine winter climate, with guidance, prudent on the whole, as to the various places and their peculiarities. As to the route Dr. Canney has fallen into error in saying or implying that the P. and O. boats from Marseilles run to Alexandria. Every traveller must wish that they did. The article on South Africa is by Dr. Guillemard and that on Central Africa by Dr. Battersby. The former has, of course, a peculiar and painful interest at present. The editor writes on North America and the West Indies, Dr. Pennell on South America, the editor again on Australasia and on the Riviera, while Dr. Tidey contributes the article on Switzerland and Italy, and Dr. Simpson that on India The articles all bear the impress of knowledge derived at first hand, and they have therefore a high degree of practical usefulness. We congratulate the editor on the idea of publishing a book of this kind and on the very successful manner in which he has accomplished the work.

Professions for Boys and How to Enter Them. By M. L. PECHELL and JAMES J NOLAN. With a preface by the Most Reverend J. E C. WELLDON, D.D. Second edition. London: Beeton and Co, Limited; Simpkin, Marshall, Hamilton, Kent and Co, Limited. Pp. 316. Price 3*s.* 6*d.*—The word "profession" is used somewhat loosely in this book, for the callings mentioned embrace nearly every known one, from the Navy, which begins the list, to the Church Missionary Society, which closes it. Curiously enough, two eminently pleasant callings are not considered—namely, the Diplomatic Service—although there is an article on Student Interpreters—and the various clerical posts to be gained in the Houses of Parliament True, such posts are only for the few, but they are worth the winning. In the chapter upon Medicine and Dentistry there are some statements which are not quite clear. Thus, "the university degree implies an arts education; the diploma does not." An "arts education" may mean anything. All the examining bodies require candidates for degrees or diplomas in medicine to have passed certain examinations in arts, but the University of Oxford stands alone, we fancy, in demanding that candidates entering for her examinations in medicine should previously have taken a *degree* in arts. Trinity College, Dublin, however, will not confer a medical degree without an arts [illegible] but the arts course and the [illegible] for each [illegible] article will be found useful to those desirous of entering what is possibly the most arduous profession of any, but one which, at the same time, has its prizes both in interesting work and in emoluments.

Jahresbericht uber die Fortschritte auf dem Gebiete der Chirurgie. (*A Year-book of Progress in Surgery.*) Redigirt und herausgegeben von Professor Dr. HILDEBRAND in Berlin. III. Jahrgang, bericht über das Jahr 1897. Wiesbaden: Verlag von J. F. Bergmann. 1898. 8vo, pp. 1102. Price 25*s.*—This useful book, which may be obtained in Great Britain from Mr. Bauermeister of Glasgow, is the third issue. It contains *résumés* of all, or nearly all, articles on surgery which appeared throughout the world in the year 1897. When we noticed the previous volume we praised its conception and arrangement, and equal commendation is deserved by the present book. Some such work as this is well-nigh indispensable for a writer on any department of surgery who wishes to be aware of what has been written already on the subject. Two suggestions we should like to make. The first is that more differences in the type employed would render conspicuous names and subjects which have at present to be sought for carefully in a mass of text. The other suggestion is that a little more care should be exercised in revising the spelling of the personal names which occur. We are well aware of the difficulty there is in ensuring the accuracy of names, especially of foreign names, but a little revision will do much. Hardly any praise is too great for the general arrangement of the volume.

The Mechanics of Surgery, comprising Detailed Descriptions, Illustrations, and Lists of the Instruments, Appliances, and Furniture necessary in Modern Surgical Art. By CHARLES TRUAX. Chicago. 1899. Pp. 1024. Price $4.50.—This is an account of modern surgical instruments by one who is a member of a firm manufacturing instruments, but it is in no way a price list and the personal element is kept as much as possible in the background. There are so many instruments nowadays and so many patterns and forms of the same instrument that most medical men feel rather at sea when they wish to purchase some new appliance. This book is intended to assist them in their choice, and so far as we have seen they will not go far wrong if they follow the advice which this volume contains. There are, it is true, many small points on which our opinion does not quite coincide with the author's, but we have not discovered any instance in which the difference is of any real importance. The book contains, also, an account of trusses, of splints, and of artificial limbs. In his remarks on the fitting of artificial limbs to stumps the author does not attempt, like so many makers of these appliances, to dictate to the surgeon where he should amputate, but he explains the conditions which render one form of stump more convenient than another for the patient. The book should prove of real service to anyone who wishes to purchase an instrument with which he is not personally acquainted.

Cancer, Illustrated by 1000 Cases from the Registers of the Middlesex Hospital and by 50 Selected Cases of Cancer of the Breast, &c. By THOMAS WILLIAM NUNN, F.R.C.S.Eng., consulting surgeon to the Middlesex Hospital. London: H. J. Glaisher. 1899. Pp. 89 Price 2*s.* net.—This little book consists of two parts; in the first is given an account of the structure and life-history of carcinoma, in the second part are contained the notes of 53 cases of this form of tumour affecting the breast. When the connotation of a popular term is exactly equivalent to the connotation of its scientific representative there can be no objection to employing it even in scientific treatises; but when the popular term and the scientific are distinctly not equivalent the one to the other only confusion can arise from employing the popular expression. The word "cancer" amongst the public is employed to mean any growth which tends to shorten life; in Mr. Nunn's book it is used as equivalent to carcinoma, and though he would doubtlessly claim that the word is never used otherwise by medical men, yet it is distinctly not advisable to employ a word which is capable of this double meaning. The various questions relating to the disease, such as regional frequency and age liability, are somewhat briefly discussed. The cases are of interest and the 11 plates represent sufficiently accurately the microscopical appearances of sections of carcinomata.

A Manual of Pharmaceutical Testing. By BARNARD S. PROCTOR, F.I.C. Second edition. Published at the offices of the *Chemist and Druggist.* 1899. Pp. 186.—No one can dispute the excellence of the purpose of this volume. It is to instruct the pharmacist so that he may be able to test his chemicals occasionally to see that their quality is up to the required standard. The processes are, of course, familiar to those who make a special study of analytical chemistry, but the present volume is restricted in its application to the ordinary contents of the pharmacy. In this way the pharmacist is not burdened with a number of analytical details in regard either to manipulation or to method, but he will find just what he wants and sufficient to satisfy him as to the purity and strength of his drugs. The work is in accordance with the British Pharmacopœia, 1898.

A Laboratory Manual of Physiological Chemistry. By ELBERT W. ROCKWOOD, B.S., M.D., Professor of Chemistry and Toxicology in the University of Iowa. Philadelphia, New York, and Chicago: The F. A. Davis Company. 1899. Price $1.—This is essentially a book for experimental work and is evidently the outcome of laboratory experience. The experiments are mostly of a simple character, and when detailed experiments are necessary they are described in small type for the benefit of advanced students. The book affords a very clear and experimental course of physiological inquiry. We notice that in describing Pettenkofer's test for the biliary acids the author warns the students not to overheat the test mixture for fear of the cane sugar charring. We have again and again pointed out that this difficulty may be completely avoided by substituting glucose for cane sugar in the test. The book is excellently printed in bold clear type on toned paper. Occasionally the pages are interleaved with blank sheets for the purpose of making notes, the utility of which arrangement is doubtful or is seldom taken advantage of. The illustrations are decidedly good and true and relate chiefly to urinary deposits, casts, and absorption spectra. The book is an excellent practical elementary guide to the study of physiology.

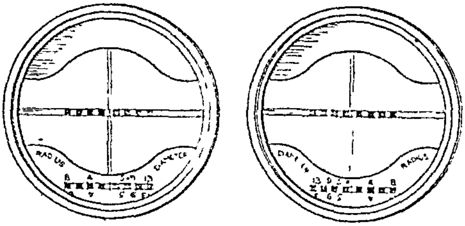
Architectural Hygiene. By BANISTER F. FLETCHER and H. PHILLIPS FLETCHER. London: Office of the *Builder.* 1899. Pp. 249.—This is a reprint of a series of articles which appeared in the Students' Column of the *Builder.* It is a small work and the descriptions of the different processes involved in applied sanitation are necessarily sketchy. This is the case particularly with the sections on sewage disposal, heating, and ventilation. The chapters on construction in regard to drainage, water supply, and building are excellent. The authors are wrong in attributing the plenum system of ventilation of hospitals to Mr. Henman of Birmingham. The system was introduced by Mr. Key of Glasgow and was applied by Mr. Henman to the General Hospital of Birmingham, of which he was the architect. The book covers a remarkably wide ground considering the space at the disposal of the authors. It gives a very good general idea of the way in which sanitary knowledge should be applied. An important feature in the book is the number of excellent illustrations which assist the authors very materially in describing the fittings and apparatus concerned in sanitary construction.

New Inventions.

AN IMPROVED METHOD OF EYE-MEASUREMENT.

THE primary purpose of the small instrument described below is to quickly determine and accurately record the relative position to each other of the centres of the two pupils of the eyes in a patient under examination. That this point is not an immaterial one will be generally admitted, especially in connexion with the estimation of refraction, as in order to obtain the most efficient results with spectacles it is essential that the position of the centres of the lenses should accurately correspond with the visual axes; and also that in any subsequent examination for the object of comparison, the correcting lenses should assume precisely the same position as on the former occasion. Without some such means as this instrument affords, the exact centring of the lenses must always be one of slight uncertainty and guesswork. There are *subjective* modes of attaining this object, but they are not so speedy, and they are greatly dependent upon the quality of the intelligence of the patient.

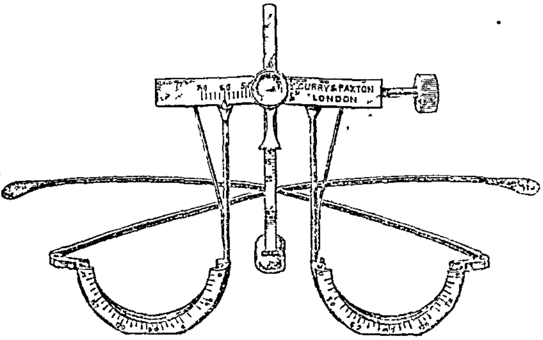
FIG 1.



Full size.

For several years I have constantly employed the discs (*Fig. 1*) *for this* purpose, and I have found them to be most satisfactory, but I have lately been able considerably further to extend their scope of usefulness. This is done by supplementing them with a double scale, marked in millimetres. One of the scales, which is stamped in red and is only half of what the complete scale would be, records the *diameter* measured from the central point; the other scale, in black, and which is complete, indicates the length of *radius* or absolute distance from the centre. The repetition of the scale in fuller detail below is simply to facilitate measurement, and the numerals duplicated in reverse enable the readings to be easily made at any position of rotation in the trial frame. The millimetre intervals are alternately coloured and blank so that they may be more clearly seen. The discs must be used in combination with an adjustable trial-frame, such as the one figured here (Fig. 2), also made for me by Messrs. Curry and Paxton; it is on the principle of that originally described by Mr. Lindsay Johnson.[1]

FIG. 2.



The diameter scale (red) permits of the measurement of the size of the pupils, relatively to each other as well as separately; it also allows of the estimation of any abnormalities in the shape or size of the pupil due to congenital, pathological, or operative causes. In addition, it enables the size of the cornea to be measured. The *radius* scale (black) furnishes a precise means of indicating the position, the shape, and the extent of any markings or alterations in the cornea, whether situated on its surface, in its substance, or in structures lying behind it or adjacent to it. It is also of use in observing the progress of inflammatory processes in the cornea by noting their increase in area or rate of absorption. Another mode of employing it is to gauge the extent and direction of deviations of the axis of the globe from that of direct vision, when caused by muscular action or by displacement due to the presence and growth of tumour formation. In the same way the limit of muscular excursions of the globe in various directions may be noted, and compared with similar observations at later periods.

The general mode of use is simple. A pair of trial-frames with the discs inserted in the usual position of cylindrical lenses is placed on the patient, who is seated at about the distance of a metre in front of the surgeon. The patient must gaze steadily forwards at a point corresponding with the bridge of the nose of the examiner, who then, by screwing the horizontal and vertical adjustment racks, brings the centres of the cross-bars of the discs opposite the centres of the patient's pupils. The two indicators of the trial-frame are then read off and noted. This gives the position of the pupil-centres, and the extent of their separation from each other. It also indicates approximately the position which would be required for spectacles to be used at "reading" distance. There is no difficulty in similarly obtaining the proper adjustment for "distance" spectacles, as at six metres the bright white metal of the cross-bars is distinctly seen against the darker tint of the eye behind it.

Further measurements when required may afterwards now be made. The size of the pupil is found by comparing the position of its edge with the number of intervals it extends to on the red bar and referring to the adjacent duplicate scale for the figures. The axis on the "cylinder-part" of the trial-frame at which this diameter is obtained should at the same time be noted. The size of the cornea is obtained in the same way. Not only may the size and general shape of the pupil be thus correctly remembered, but the position and extent of irregularities due to adhesions or malformations, may also be represented and even mapped out, by doing so on a chart such as that ordinarily used with a perimeter The other scale (black) is employed in a similar manner for obtaining the actual size and shape of corneal alterations, the position of which is found by noting their distance from the centre and also the axis in the frame at which it is read. The extent of deviations and also excursions of the globe may be recorded and compared, by noticing on the radius scale how closely the corneal margin approaches towards the central point in the particular axis. The corneal diameter must also be ascertained in conjunction with this in order to make such a comparison of any value.

In brief summary the discs enable accurate record to be made of: (*a*) the position of the pupil centres, whether at a near distance or further off; (*b*) the individual and relative size

---

[1] Transactions of the Ophthalmological Society of the United Kingdom, vol ii., p 276.

THE LANCET.

LONDON: SATURDAY, MARCH 3, 1900.

WE know the effect of the mind upon the body to be exceedingly great. In times of epidemic, it is the anxious, the nervous, and those who are depressed and troubled with fear who the more readily fall victims to the prevailing disease. Such receptivity determines the outbreak of illness, and may possibly facilitate the spread of other maladies than infectious ones. There can be no doubt that the news from the seat of war has until quite recently had a very depressing effect on the minds of most people of this country. How far has such depression contributed to the spread of influenza and other diseases? Statistics on this point, were it possible to obtain them, might be very instructive. The reverses which our arms suffered during the first three months of the war coincided with an exceptional prevalence of sickness. Of course, it may very justly be urged that the coincidence can be explained by the simultaneous epidemic of influenza and by the wintry season. But if the splendid success with which our arms have been crowned during the past two weeks is maintained, and if there should be at the same time a marked improvement in the public health, the question may fairly be asked whether the abatement of illness is not in part due to psychological causes.

If we go about our business with a heavy weight on our minds, with our thoughts distracted and troubled by deep anxiety and apprehension, do we not tend towards a morbid condition that renders us especially susceptible to disease? The answer is certainly yes. And there is at least one evil influence from which we might have been spared and against which we may well be warned, for we are not yet out of the wood. Much unnecessary revulsion of feeling has been produced by the false presentation of war news. A reverse is difficult to endure, but when it follows immediately on confident affirmations of near victory it is infinitely worse. To fail is bad enough, but when such failure is preceded by the exultation of a supposed victory the shock and the revulsion of feeling are much more trying and intense. Therefore we should take warning by the past, and not allow ourselves to be carried away by sensational and badly sifted information which too often has to be contradicted on the morrow. It requires great coolness and great sobriety of judgment to read, to analyse, to weigh, and to dissect the very confusing and contradictory news which we receive from the seat of war. Those who are gifted with a judicious power of perception will avoid the extremes of exultation or depression. This week we run the risk of over-exultation, just as formerly we were exposed to the risk of too deep a depression. All these extremes must be avoided. Much of the misconception which has arisen in England is due to the fact that the war in South Africa has been thoughtlessly considered in the light of the history of great European wars. The nearest precedents to the present war that can be found in modern European experience are the wars of the Turks against the Servians and the Montenegrins, and the campaigns of Austria in Bosnia and Herzegovina. Had we taken the history of these wars to heart we should have realised that victory was only to be obtained by the employment of vastly superior forces, and should have avoided surprise and disappointment at our early failures.

That there should be complete confidence in ultimate success is only natural when we consider the valour of the British soldier, how vast are the resources of which we can dispose, and how changed the whole face of our prospects now is by the surrender of General CRONJE and the magnificent relief of Ladysmith; but, in the meanwhile, let us practise the virtue of patience. It will be time enough to exult when the war is definitely concluded in our favour. We shall lose nothing by patience and may avoid disappointments that are demoralising to the mind and injurious to the body. Let us, though we are now on the winning side, continue to search out our shortcomings: let us not forget the days of adversity and the lessons which they taught. The man of a calm, dispassionate mind who recognises that there are faults on both sides, that there is need of reform in all countries, that we do not as a birthright possess every virtue under the sun, and that consequently adversity may be but a friend in disguise, even as he has been able best to resist the depressing effects of the past crises will also be able best to comport himself with moderation in the hour of victory. Finally, we may repeat that these simple, obvious principles, which are none the less hard to observe because they are so simple, are not only medicine for the soul but also physic for the body.

◆

THE advance of sanitation in certain States of the American Union has of recent years been indeed remarkable, and the example which Massachusetts, for instance, has set in the direction of scientific research in matters concerned with water and sewage purification might profitably be followed by many European countries, not omitting Great Britain. It is, however, to be regretted, more particularly so if regard be had to the expansion of America and to the probable creation ere long of an American empire beyond the seas, that this great republic does not at present feel herself justified in dispensing with quarantine methods and in relying upon her sanitary machinery for the control of exotic disease.

The Treasury Department, under the advice of Surgeon-General WALTER WYMAN, of the Marine Hospital Service, have recently issued certain additions to their quarantine regulations for preventing the plague which are well worth study. In the first place, it is enacted that vaccination should not be practised on persons at, or *en route* from, places infected with plague inasmuch as such vaccination "increases the liability to plague infection and by inducing fever and swollen glands tends to confuse diagnosis at the port of arrival." This prohibition would, we surmise, hardly be enforced had the patient been exposed to infection from small pox, as the presence of small-pox on board a ship is little less disastrous than is bubonic plague. Throughout the new regulations much use is made of the members of that excellent organisation the Marine Hospital Service, and baggage, even though coming through a plague-infected district, will not be rejected in America if it is duly sealed by a medical officer of this service and arrives with its seal unbroken. Passengers, however, coming from a suspected or infected locality who desire to take passage at an uninfected port are to be kept under observation for 15 days prior to embarkation, or otherwise the vessel carrying such passengers will be considered as coming from an infected port, and this even if no case of plague has developed on the journey. The baggage of such passengers is to be disinfected before being sent on board. When plague is prevailing in a port it is forbidden to tie up a vessel to the dock and no ropes likely to afford passage for rats are to be allowed. It is, moreover, enacted, with a view to the prevention of the spread of plague by mammals, that dogs, cats, monkeys, mice, and the like, are not to accompany passengers as pets. If they do so the animals are liable to a quarantine period of 15 days. Under the regulations relative to the American ports we note that pilots, Customs officers, and agents, or other persons whose official duties may cause them to board incoming vessels, may be deemed and treated as passengers or crew and can be detained in quarantine sufficiently long to cover the period of incubation of plague. As to the examination of passengers, it is provided that in dealing with infected or suspected vessels all clothes likely to interfere with the examination of glandular regions are to be removed, female inspectors being of course provided. In the treatment of vessels suspected of plague it is laid down that no person from an infected or suspected place shall be admitted into the United States until 15 days shall have elapsed under observation, but such observation may take place at the port of departure, at sea, or at the port of arrival. In the case, however, of a first-cabin passenger, who is certified by an officer of the Marine Hospital Service not to have been exposed to infection for 15 days immediately prior to embarkation, entrance may be allowed without detention. All passengers other than first-cabin passengers are to be bathed and their clothing disinfected before landing, and if the crew, in the opinion of the quarantine officers, have been exposed to infection, similar measures are to be taken with regard to them. Extensive operations are contemplated in reference to the baggage from infected places, and its disinfection is provided for either at the port of departure or that of entrance. The quarantine officer is given enormous discretionary power in relation to vessels of this class and in the event of a vessel carrying passengers but having no surgeon on board the ship may be quarantined with all on board for the full 15 days from the completion of disinfection.

The methods adopted for dealing with plague-infected vessels would be regarded in this country as altogether impracticable, but it has, of course, to be remembered that the internal sanitary machinery of America is behind that of this country. The sick and suspected cases are to be isolated and the remainder of the passengers are to be segregated in groups; while, if practicable, antiseptic serum is to be used as a preventive measure. All are to be detained under observation for 15 days from the "last possible exposure to infection" and are to be inspected twice daily by the physician in charge. As a preliminary measure all accessible parts of the vessel are to be fumigated with sulphur dioxide, with a view, it appears, to the destruction of the rats on board, and such disinfection is to be performed by daylight in order that small boats around the vessel may be able to prevent the escape of rats. The holds of infected or suspected iron vessels carrying cargo are to be fumigated for 24 hours with sulphur dioxide, and if the hold is without cargo it is to be thoroughly washed with perchloride of mercury. It will be of great interest to observe how, in the most unfortunate event of plague extending and many ports becoming infected with the disease, America will be able to carry out her scheme in its entirety. Imagine, for instance, such regulations being in force in this country and Calais infected with plague. How would they work? We note, however, that there are many discretionary clauses in the regulations, and we infer that the rules are a little theoretical. It will be seen, by the way, in a communication from our New York correspondent that 15 officers of the United States Marine Hospital Service have been detailed for service at European seaports. They will take note of vessels bound for the United States and will keep the Bureau informed as to the sanitary condition of the cities in which they are stationed. This is a sound idea.

In a pamphlet entitled "On Life Assurance Inquiries respecting the Use of Alcoholic Stimulants"[1] Sir DYCE DUCKWORTH points out that, with the exception of the inquiry regarding the tendency to tuberculous disease in any individual presenting himself for life assurance, there is no question of greater importance, or more difficult to find the exact answer to, than that relating to the employment of alcoholic drinks. There is seldom difficulty in recognising the indications presented by candidates who indulge freely in stimulants, yet even in some of these instances a good deal of experience is needed on the part of the medical examiner and some moral courage to determine the matter and manner of his questions. But in a large number of candidates the difficulty is to determine exactly what constitutes a departure from strict moderation in the use of alcoholic liquids. We fully support Sir DYCE DUCKWORTH's contention that not only great clinical experience and wide knowledge of the habits of different classes of people are requisite to qualify medical examiners in prosecuting their inquiries, but also that there should be a personal knowledge of the character, qualities, and effects of different varieties of alcoholised liquors.

It has been argued that the practitioner who is a lifelong abstainer is probably less well equipped than others to judge quite correctly in all the bearings of this matter owing to his personal inexperience. In the debate which followed upon Sir DYCE DUCKWORTH's paper, this opinion was strongly repudiated by Dr. HINGSTON FOX, who, as an abstainer himself, submitted that the experience by which these cases are judged is derived from the observation of men in general, observation which comes to medical men every day in countless forms. This is undoubtedly true up to a certain point, but at the same time we cannot help feeling that a strict abstainer from alcohol can hardly resist a certain bias against habitual use of alcoholic drinks, though used to an extent which the majority would regard as moderate. The difficulty lies mainly in deciding what is to be regarded as "moderate drinking," or, in more scientific phraseology, as the "physiological limit." The statistics of those assurance societies which have two departments—one for those who abstain and the other for those who do not—were severely criticised by Dr. DE HAVILLAND HALL, who remarked that when the position held by total abstainers in such offices is compared with that held by the moderate drinkers everything is in favour of the total abstainer, because the ordinary class includes those who drink moderately and also those who drink immoderately. Clearly such figures will not assist us to draw a comparison between the effects of moderate drinking and "immoderate moderation," as Sir DYCE DUCKWORTH expressed it. The medical adviser is called upon to consider in detail the circumstances under which the proposer is living, and to estimate as best he can whether these circumstances are likely to be continued and become disastrous, or whether, either at a medical man's suggestion or from some other cause, the proposer is likely to amend his ways, to reduce his supply, and so to prevent any evil effect. Only after prolonged experience can any reliable opinion be formed. We believe that the vast preponderance of medical opinion will be with Sir DYCE DUCKWORTH in the belief "in the value of a truly moderate quantity of alcoholic liquor in some form consumed with a meal, in no routine fashion, however, but according to the demands of a disciplined appetite"; while no medical man will dissent from the view that total abstinence should be prescribed for those persons with morbid or irregular craving for alcohol, whether this be inherited or acquired. There can also be no doubt that those individuals who have habitually overstepped the "physiological limit" should not be rated as first-class lives. This morbid condition is shown by premature ageing, a tendency to obesity, and more especially by evidences of vascular changes such as small dilatations of superficial vessels and progressive arterial sclerosis long before the natural period in which such senile decay may be expected. Other signs are early whitening of the hair, and not seldom, through errors of hepatic and other metabolism, some degree of glycosuria is apt to occur. The kidneys are not infrequently involved in the sclerosing process.

---

[1] A paper read before the Life Assurance Medical Officers' Association on Nov. 1st, 1899, by Sir Dyce Duckworth, with the discussion that followed.

As a practical outcome of his remarks Sir DYCE DUCKWORTH urged on the consideration of the members of the Life Assurance Medical Officers' Association the following rules of practice in dealing with life assurance inquiries into the use of alcoholic liquors: (*a*) that care should be taken to ascertain as fully as possible the nature and amount of stimulants taken daily by each candidate and the particular hours in the day when they are consumed; (*b*) that an attempt should be made to form an accurate opinion as to the effects of the candidate's habits on his bodily textures and nervous capacity, having regard to his mode of life, his environment, and peculiar temptations; and (*c*) that in cases of drinking in the degree of immoderation, if there is no prospect of decided amendment of the habits an extra premium should be demanded in view of a premature onset of degenerative bodily changes. These suggestions will doubtless commend themselves to all those who have to consider applications for life assurance. Each proposal will have to a great extent to be considered on its merits, but a general line of practice, such as the above, will be sure to carry with it the confidence of the directors in the action of their medical advisers whilst avoiding any injustice to proposers.

◆

THE Lunacy Bill introduced by the Lord Chancellor during the present session of Parliament is in form and substance the Bill of last year except for the omission of certain important matters. Amongst the omissions is the provision for making compulsory a scheme of pensions for medical officers, attendants, and other servants of asylums. This has been dropped out of the present Bill owing to the opposition of the county councils to the superannuation scheme proposed in the Bill of last year. The Bill of 1898, re introduced in 1899, was a decided improvement on that of the previous year, inasmuch as it rendered compulsory the granting of superannuation allowances which were merely optional under section 280 of the Lunacy Act of 1890. Prior to the session of 1898 a petition had been presented to the Lord Chancellor by the Medico-Psychological Association of Great Britain and Ireland, this petition being signed by over 4000 officers, attendants, and servants of public asylums, the result of which was the insertion of the pension clause above referred to. This clause was subsequently dropped owing to the opposition offered, and its omission from the Bill now before the House is a serious defect. It leaves a grievous difficulty and injustice without remedy. On a former occasion we pointed out the injury which such a measure would inflict on the asylum service of the country, for this would be the only public service in which it would be possible for an officer to be cast adrift in his old age after a long and arduous service without any provision other than the savings he might have succeeded in accumulating from an income which is seldom other than small. The provisions for the reception and treatment of incipient and curable forms of insanity reappear in the same form and possess the same commendable features as before. The facilities given for placing suitable cases under care in private homes for the period of six months allowed by the Act, and without the tedious formalities previously in vogue, will afford important aid in the future treatment of incipient and unconfirmed cases of insanity. But we must point out that the reduction in the valid duration of an urgency order from seven days to four days would impose certain practical difficulties in the way of fulfilling the requirements of the Act in localities where a magistrate is not readily found, and might thus defeat the object of such orders. The alteration, while rendering the working of the Act irksome, will probably have no effect in preventing abuse of the liberty of the subject. It is clear that strenuous opposition should be offered to the Bill in the interests of asylum medical officers and other workers. The machinery of the Medico-Psychological Association has in the past proved effective in promoting reform and in diminishing abuse, and in these labours the Psychological Section of the British Medical Association has loyally coöperated. We may expect that both bodies will unite in an attempt to have restored to the Bill the clause making provision for pensioning the medical and other officers of asylums. The position and status of the public asylum service and the grave responsibilities entrusted to the hands of its officers alike demand that a high level of professional attainments and of character should be a *sine quâ non* to qualify for the service, and it is in accordance with the fitness of things that legislation should have for its object the maintenance of such a level. Its failure to do so can only invite disaster in the future.

Annotations.

"Ne quid nimis."

THE LIABILITY OF THE BAD BOY.

The case of Eady *v.* Elsden, heard recently by Mr. Justice Ridley and a jury, was curious in more ways than one. In the first place, it is said to have been the first action ever brought by a schoolmaster against his pupil for damage done by the boy to the master's property; and, in the second place, the boy set up unsuccessfully the defence that he was insane when he did the act complained of and that the master undertook the charge of him with the knowledge that he was mentally affected and failed to exercise proper discipline and control over him. The facts seem to have been that a boy, of quick intelligence but of extremely turbulent behaviour, was sent to a school the master of which advertised himself as prepared to undertake the charge of troublesome boys. From this school he ran away and having been brought back set fire to the school-house which was burnt to the ground. The fire office seems to have refused payment of the insurance on the ground that the master was responsible for the fire, and he having ascertained the real author of it brought an action against the boy in order to establish clearly his own position in the matter. The defence of insanity is one frequently raised when a person is charged criminally, but it is not so common when a person is only sought to be made liable civilly, for it may injure the defendant in the pursuit of his daily calling to have proved, or tried to prove, that he was once, at all events, not responsible for his actions. In Eady *v.* Elsden the defendant, though still a minor, was endeavouring to earn a livelihood in the employment of a cycle-maker; he had a reversionary interest in certain property enjoyed by his mother, and that the infant is at law liable for wrongs committed by him is as certain as it is that the parent is not responsible for them. That young Elsden should have failed to prove himself insane is not surprising, for his mother who was his principal witness on this point does not seem to have been able to quote any medical men who were prepared to take a serious view of her son's admitted eccentricities. That he was given to breaking windows and that he had frequently injured his mother's watch was not perhaps considered by medical men, if they were consulted on the subject, symptomatic of serious mental derangement in an otherwise intelligent boy. On the other hand, the plaintiff had on one occasion with commendable prudence consulted a medical man with regard to his pupil owing to some incident that seemed unusual and demanded punishment, when the medical man found nothing to prove that the lad's mind was affected; while on another occasion the late Sir Russell Reynolds, who had seen the boy after he had run away from school, apparently said that he might safely be punished by whipping like any other troublesome pupil. The jury consequently were able to say that young Elsden was not insane when he set fire to Mr. Eady's house and, further, that there was nothing special in the arrangements made with regard to him that need prevent Mr. Eady from recovering. Mr. Eady is to be congratulated upon his success. It would have been a serious matter for him if it had been proved that he undertook, with his eyes open, the charge of boys whose mental condition demanded medical rather than educational care and neglected to take precautions with regard to them.

THE RECENT FATALITY IN SCARBOROUGH HOSPITAL.

A little girl, aged five years, was taken to the Scarborough Hospital on Friday, Feb. 9th, by her mother, who stated that the child had a bead in her ear, "the club doctor" having seen the patient and having made an unsuccessful attempt to remove it advised that the child should be taken to the hospital where she could be "held by nurses" as she was so restless. At the hospital the patient was seen by Mr. F. Bawtree (assistant house surgeon), who found that as she would not keep still it was impossible to make an examination of the ear, so he recommended that she should return the next morning to have chloroform administered when a thorough examination could be made. This was agreed to; the mother, who received instructions as to the feeding of the child, brought her again the next morning (Feb. 10th). Dr. M. D. Wood (senior house surgeon) gave chloroform from a small drop-bottle upon lint. The patient was under the influence of the anæsthetic in about six or seven minutes. Mr. Bawtree examined the left ear which was found to be full of clotted blood; this was syringed out and a clear view of the membrana tympani was obtained (it was healthy and there was no rupture); no foreign body was seen. During the time this examination was in progress the patient took the anæsthetic without the least bad sign, the pupils were contracted to pin-points, the breathing was rhythmical, the patient's face was a good colour, and the pulse was regular. Mr. Bawtree having finished his examination requested Dr. Wood to look at the ear, and in the meantime took charge of the patient as far as the anæsthetic was concerned, but no more chloroform was given. Dr. Wood having examined both ears suggested that the left ear should be again syringed as it still contained a fragment of blood-clot. While the syringe was being filled the patient made an attempt to vomit, a small quantity of mucus being expelled from the nose, directly after which it was noticed that the child was cyanosed, the respiration ceased, the pupils began to dilate, but the heart still continued to beat. The urgency of the situation was at once recognised and the child was placed with her head over the end of the table and the body was raised, a finger was passed into the patient's mouth to the back of the tongue and both jaw and tongue were brought forward. Artificial respiration was at once resorted to and the respiratory passages allowed a free entrance of air to the lungs. After this had been in progress for about three-quarters of a minute the patient's condition improved, the colour of the cheeks became more natural, and the pupils began to contract. This improvement, however, was only temporary, and though the artificial respiration was continued in the same way slowly and deliberately the patient sank back into the former condition and died. Brandy was injected into the præcordium and the faradaic current was applied, but without any good effect. In all a little under one drachm of chloroform had been used.

A post-mortem examination was made; the veins of the neck were found to be congested and all the organs of the body were found to be healthy. The wall of the left ventricle of the heart was hypertrophied but all the valves of the heart were competent; there were no signs of disease. The heart weighed five and a quarter ounces. The borough coroner, Mr. George Taylor, held an inquest, and in summing up said he considered that the case was one in which there was necessity for the administration of chloroform, that every care had been used in the administration, and that there was no negligence on the part of anyone. The jury brought in a verdict in accordance with the medical evidence that "Death was due to failure of the heart, following on temporary asphyxia caused by vomiting, consequent upon administration of chloroform." This case is typical of many deaths due to chloroform, especially of fatalities among children. It is noticeable that the administrator of the chloroform handed over his task to a second person. This is often inevitable in hospital practice but is not without danger as the second administrator is often in doubt as to the stage of the anæsthesia. The failure of circulation associated with the onset of vomiting is a common phenomenon which is at present but imperfectly understood. The true causal relation is certainly doubtful, but the asphyxial condition which is described in the present case possibly was the factor determining cardiac failure. There appears to have been impediment to respiration which, imposing a severe strain upon a debilitated heart, taxed it beyond its power. The probability of a weakening of the heart (acute dilatation) by rapid chloroformisation with imperfect ventilation of the lungs, which takes place in many cases, should always be borne in mind as establishing a state of the circulation predisposing to cardiac failure.

HOW TO SPREAD INFECTION.

A VERY useful reminder was administered to the public recently through the publicity given in the newspapers to a case heard at the South-Western Police Court, in which the mistress of a household was summoned under the 126th section of the Public Health Act of 1875 for exposing in a public place a servant in her employment when suffering from a dangerous infectious disorder and particularly for placing her in a public conveyance. The mistress had sent her servant who was ill, accompanied by a fellow-servant, to a medical man. He certified the sick servant to be suffering from diphtheria and advised her removal to the Fever Hospital at Tooting. There appears to have been some conversation between the two servant girls, the medical man, and his partner, as to the comparative merits of the outside of a tram-car and the interior of a cab as conveyances, and the medical man himself seems to have suggested an ambulance. How far this conversation was reported to the mistress by the two servants was not elicited at the hearing before the magistrate, but in the end the mistress, who at least had heard what was the matter with the patient, gave the two servants five shillings and suggested that they should go to the hospital in a cab. The house surgeon very properly detained the cab for disinfection and was no doubt to some extent responsible for the matter coming to the ears of the local authorities who took out the summons. On hearing the whole of the above facts and taking into consideration that the patient was of full age, the magistrate decided that he could not find that the mistress had been in charge of the person suffering and had exposed her within the meaning of the Act and he dismissed the case. He, however, made no order that the unsuccessful prosecutors should pay the defendant's costs, doubtless marking thus his opinion that an employer, presumably of better education than her servants, acting as the defendant had done had incurred a moral if not a legal responsibility. With this view every thoughtful person will concur, and the thoughtless should realise, on reading the report of the case, that the defendant who was summoned escapes a fine but does not go scot free. The costs of a defending solicitor and of witnesses, to say nothing of the anxiety and loss of time, are substantial items, and from a pecuniary point of view, if from no higher motive, it is wiser to keep well within the law than merely to avoid overstepping its limits. Ignorance of its provisions is no defence for breaking it, and this rule involves no hardship where the exercise of ordinary good sense would lead to much the same conclusion as the perusal of the Public Health Act.

THE VESTRIES AND THE SNOW.

THE decision arrived at by Mr. Curtis Bennett in dismissing a summons against the Marylebone Vestry for failing to remove snow is a little disappointing. The complainant, Mr. Joseph Hurst, a barrister, appeared in person, and his own evidence and that of his witnesses, among whom was Lord Robert Cecil, Q.C., were not disputed or contradicted. In the street in which Mr. Hurst lives the snow which fell on Feb. 2nd and 3rd remained unremoved, and was supplemented by the subsequent fall on the 10th, until it melted away on the 20th, the pathways being cleared but the snow from them being left heaped in the gutters. It was argued that by more vigorous measures and by more liberal payment of its workers the vestry might have cleared it away, which it was by law bound to do. On the other side it was proved that labour was difficult to get, that after the first effort, at all events, a wage equal to that paid by other vestries was offered, that 1800 tons of snow were removed, and that the vestry had spent on the work £3260, a sum equal to a rate of three-sevenths of a penny in the pound on the rateable annual value of the parish. It was also urged that by the Act[1] under which the proceedings were brought the vestry was only bound to sweep and cleanse so far as was reasonably practicable and that it could not be called on to attempt impossibilities or be punished for failing to achieve them; and this view the learned magistrate took in dismissing the summons, which, however, he did without allowing costs to the otherwise victorious vestry. It seems to us that Mr. Hurst deserved more success. He may have injured his cause by putting his requirements too high or by suggesting the adoption of methods not suited to the district which he represented. The use of salt, which he commended, to thaw the snow is very objectionable where it can be avoided, and it is not largely employed anywhere. Marylebone was not the only district in which loud complaints were to be heard after the recent snowfall; they were heard all over London, and they are invariably heard when any serious fall of snow takes place. It is quite possible that the remedy may not lie in the employment of a very much larger body of men or in the expenditure of very much larger sums of money than are now usual, although parsimony in such emergencies is to be deprecated. The cure probably lies in the better organisation of the labour with a view to its prompt application, in the better supervision of the gangs to ensure their doing their full measure of work, and in preparing some permanent apparatus in each district for the liquefaction of the snow, so that the carts employed may do as much work as possible in the shortest possible time. It was said recently on the death of a prominent New York citizen that until he took in hand the cleansing of the streets of New York the removal of snow had always been regarded as presenting insurmountable difficulties. Perhaps some day a London vestry will find an organiser whose example will instruct other vestries. Meanwhile opinions differ as to the desirability of throwing on the local authorities the duty of removing snow from the side walks—a duty which in many cases lately they have carried out inadequately, and which, as Mr. Hurst observed, the private citizen is now not only not called upon but is not permitted to perform.

---

[1] Public Health (London) Act, 1891.

HOSPITALS IN NEW SOUTH WALES.

THE fourth report of the Royal Commission on Public Charities in New South Wales deals with the hospitals of that colony. It is a Blue-book published by the Government printers in Sydney and contains a total of 254 pages, 55 of which are devoted to the report itself and the remainder to the minutes of evidence and appendices. The Commission was appointed in November, 1897; as recorded in this volume it held 39 meetings from April 14th, 1899, to Sept. 13th, 1899. There are in the colony 108 hospitals which are subsidised by the State, one maintained entirely by the State, and five not subsidised. To these have to be added five institutions for lying-in cases, three of which receive Government aid. These 119 institutions provide for 3422 beds—namely, about two and a half beds per 1000 of the population, and in addition there are 1383 hospital beds in the Government Asylums for the infirm and destitute, so that in all there is accommodation for 4805 patients, being a ratio of about three and a half beds per 1000 of the population. The total expenditure in 1898 was £145,424. The receipts (less the bequests which were invested by the Sydney and Prince Alfred Hospitals and consequently were not available for expenditure) amounted to £142,686, towards which the Government contributed £83,355. Of the latter sum £20,910 were for the maintenance of the hospital at Little Bay. The cost of the treatment of the sick poor in the Government Asylums of the Infirm and Destitute is not taken into account in these figures. Of the total revenue of the subsidised hospitals (less the bequests referred to), the Government contributed 51 per cent. in 1897 and 51·3 per cent. in 1898; whilst the contributions from the public in the form of subscriptions and donations in three years amounted to only 33 9 per cent. and 33·5 per cent. respectively. The total number of in-patients treated in the subsidised hospitals was 22,158 in 1897 and 23,832 in 1898. The number of in-patients treated in 1898 by the hospitals not subsidised by the State (excluding lying-in homes) was 3292, of which 1665 were dealt with at St. Vincent's Hospital, Sydney. Including the number treated at the Coast Hospital there were thus 29,818 patients who received hospital care in the colony in 1898, an increase of over 76 per cent in the last ten years. The general hospitals in the metropolitan area of Sydney are: (1) the Sydney Hospital (including the Ophthalmic Branch) (318 beds); (2) the Prince Alfred Hospital (236 beds); (3) St. Vincent's Hospital (175 beds); (4) the Glebe Hospital for Children (64 beds); and (5) the Coast Hospital (286 beds). In addition to these there are (*a*) the convalescent hospitals (at least 100 beds); (*b*) the suburban hospitals (152 beds); and (*c*) special hospitals for maternity cases and diseases of women (approximately 181 beds). The majority of the witnesses examined by the Commission stated that there was great pressure on this accommodation, but on the other hand some witnesses well qualified to form an opinion (Dr. Ashburton Thompson, Dr. Charles Mackellar, and Dr. Sawkins) saw no need for any immediate increase. Sydney Hospital has been in active operation ever since its foundation in 1811. The buildings in which the patients were housed were, with the exception of one detached block, demolished in 1876, and temporary wooden structures were provided so that the work of the hospital could be continued until the completion of the new buildings in 1892. The new hospital is on the pavilion system, contains 12 wards, and has "bed accommodation" or 241 patients. It has a "spacious and well-arranged" pathological department, with reference to which the following remarkable observation is made in the report: "It appears to be unnecessary that pathological or bacteriological inquiries, except for clinical purposes, should be undertaken at this hospital, to which no medical school is attached, and anything in the nature of bacteriological research would appear to be outside the functions of an institution of this character." The ophthalmic department at Moorcliff has 69 beds. The number of in-patients in 1898 was 3904. The Prince Alfred Hospital was the outcome of a movement initiated in 1868 to give expression to the gratitude of the public at the recovery of Prince Alfred (the Duke of Edinburgh) from an attack made on his life. By a special Act of Parliament it is affiliated to the University of Sydney. The staff of the hospital includes a medical tutor, with a view of assisting students in their clinical work. The number of in-patients treated in 1898 was 3706 and of out-patients and casualty cases about 12,500. St. Vincent's Hospital is essentially a private institution, under the care of the Sisters of Charity, and under the immediate direction of the mother rectress of the Order, but it takes rank after the large public hospitals (the Sydney and Prince Alfred) owing to its large size and the number of patients for whom it makes provision. It was first opened (with eight beds) on a site different from the present one in 1857. It now contains seven main wards and 20 private wards. In 1898 there were 1665 in patients, and there were also 7644 out-patients who made 22,700 attendances. The Coast Hospital, built during an epidemic of small-pox in 1881 and 1882, is essentially a Government institution. In 1883 lepers were sent there and were accommodated in temporary structures till 1890, when a regular lazaret was built. Since 1884 it has been used as an overflow hospital for the metropolitan district, and even for the treatment of infectious disease. Among the many subjects dealt with in the report are the treatment of sickness by friendly societies and provident dispensaries, the necessity for a free dispensary, accommodation and treatment of venereal disease, the pay or part-pay system in hospitals, out-patients, and private hospitals. On the subject of hospital abuse the report says: "The evidence shows that the charity of the hospitals is taken advantage of by a number of persons who have no claims upon it whatever. ...... Among the more flagrant cases appear to be patients from the country who come to Sydney for operations and who escape the fees which their medical attendants in the country and those they consult in Sydney propose to charge by getting admission to the hospitals under plea of poverty." In Sydney there are about 20 private hospitals, but there is considerable difficulty in ascertaining their exact number, since they are not registered and there is no recognised or complete list of them in the medical or other directories. "The majority have established and highly creditable reputations." The report, however, recommends registration and inspection of these institutions, with a view to preventing illegal operations and other abuses.

MUMPS IN OLD AGE.

FEW cases of mumps in the aged have been recorded. Pepper[1] refers to a case of double parotitis in a lady, aged 84 years, which ran a regular course up to the sixth day when she suddenly became stuporous with jactitation and stertorous respiration. She died on the following day. In the *American Journal of the Medical Sciences*, December, 1899, Dr. H. J. Walcott, jun., has published the following case in which the age appears to be the greatest on record. A retired physician, aged 99½ years, felt chilly while working in his garden, as had been his habit. For two weeks he had not felt well and had lost his appetite, and for a few days he had been troubled with dryness of the mouth. He at once went into the house and soon after complained of his face. He vomited after trying to eat a little supper. Towards night the pain became worse and swelling appeared. He experienced now severe pain about the angle of the jaw and difficulty in opening his mouth. The right parotid gland was swollen and tender and the overlying skin was rosy. The pulse was 86, full, and strong; there appeared to be but little fever (owing to the patient's objection the temperature was not taken). On the following day the swelling was much increased, the right eye was closed, and he was delirious. He was weaker on the third day, the swelling was diminished on the fourth, and he could fully open the eye. On the fifth day the swelling was still subsiding, but he gradually became weaker and died. There were a number of cases of mumps in the town, and two weeks before the patient was taken ill he had attended a public entertainment where he came in contact with members of a family in which mumps existed. The question may be asked, Was this a case of parotitis from exposure to cold or from injury, and not one of mumps? The history of exposure, the malaise, anorexia, chill, dryness of the mouth, and course of the disease, are all in favour of the diagnosis of the latter disease.

---

[1] American Textbook of Practical Medicine, 1892.

THE ROYAL METEOROLOGICAL SOCIETY.

As this society will attain its jubilee on Tuesday, April 3rd, having been founded on April 3rd, 1850, it is proposed to observe this fiftieth anniversary in a special manner. The Council have arranged for a commemoration meeting to be held at 3 P.M. at the Institution of Civil Engineers, at which the President of the society will deliver an address and delegates from other societies will be received In the evening a conversazione will be held at the Royal Institute of Painters in Water Colours. On the following day, April 4th, the Fellows will visit the Royal Observatory, Greenwich, and in the evening will dine together at the Westminster Palace Hotel. In view of this jubilee celebration Mr. G. J Symons, F.R.S., was elected President at the annual meeting of the society on Jan 17th, but owing to illness he has since been obliged to resign this office. Under these circumstances the Council at their last meeting appointed Dr. C Theodore Williams as the President of the society.

FACTORY LEGISLATION.

THE Home Secretary has made it known that his Bill for the amendment of the Factory Acts, which he hopes shortly to introduce, will provide new machinery for bringing into force the special rules applicable to dangerous trades. It will also deal with the question of arbitration in connexion with which considerable difficulty has recently arisen. These special rules will, of course, apply to lead-poisoning in the Potteries, and we understand that the regulations are somewhat severe. When these rules are adopted the next question to be considered is how their enforcement is to be ensured. As it is, the special rules already obtaining and which were established in 1898 are frequently infringed, as is shown by the reports of recent prosecutions appearing in the daily press These infringements relate in most cases to the failure to provide and maintain sufficient and suitable washing conveniences for all persons employed in dangerous processes. In one instance it was affirmed by the lady inspector that the lavatory accommodation was inadequate. In another case a firm was summoned for employing a girl, 15 years of age, for two months in a dangerous process without a certificate of fitness, while another firm nilarly summoned for not entering the name of the employée in the health register with the consequence that she was not medically examined. Lastly, a well-known firm of potters was summoned for failing to provide overalls and head coverings for workers in the dangerous process of colour-dusting. These interesting cases were brought to light by the vigilance of the principal lady inspector of factories, and it seems to us that with the advent of still more stringent rules an increased number on the staff of inspectors will be required.

VACCINATION AND PASTEURISM IN THE DUTCH EAST INDIES.

THE information epitomised in the subjoined table is derived from the annual reports[1] of the Director of the Animal Vaccine and Pasteur Institute which is installed at Weltvreden, in the vicinity of Batavia. The Dutch have always been reputed to be a cleanly race—so much so, indeed, that the spotlessness of a Dutch interior has become proverbial—and in their Eastern possessions (where, according to a recent report, no less than 45 cwt. of quinine were distributed gratuitously among the natives in order to combat malaria) they are evidently fully alive to the advantages of sanitation and preventive medicine.

Year.	Number of calves inoculated.	Number of vaccine tubes distributed.	Percentage of successful vaccinations.	Numbers vaccinated at Institute.	Number of patients treated preventively for rabies.	Deaths among persons so treated.
1895	205	4023	81 3	2960	101	1
1896	189	8040	74 4	3045	230	3
1897	223	9360	63 7	3731	294	9*

* Two of the fatal cases in 1897 "were infected at the Instit itself."

STREET NOISES AND MEDICAL MEN.

A CASE of some interest to medical men was tried in the High Court of Justice before Mr. Justice Farwell on Feb. 22nd. The plaintiff, Dr. John Templer Crosbie Conry, sought an injunction to restrain the defendant, who sells fried fish, from carrying on his business in such a manner as to be a nuisance. Dr. Conry is in practice in North Kensington, and the defendant, whose name is Fox, lives ten doors away from him. Mr. Fox was wont to stand outside his shop and shout to the public the merits of his wares, in doing which he seriously interfered with plaintiff in the practice of his profession. The plaintiff on examination told how the shouting of the defendant interfered with his examination of patients. Since the writ had been issued some six months ago the shouting had diminished. Defendant was not the only person who shouted, but he was the worst. Defendant said that he came back from market at about 10 A.M. From then until noon he stood outside his shop inviting customers to buy. He then fried fish until 2 P.M., rested from 2 P.M. until 4 P.M., and then stood outside from 4 P.M. until 6 P.M. He only talked and did not shout except when there was a costermonger on the other side of the road. In such a locality it was impossible for him to make a living without calling out to attract custom. The judge said that he considered the injunction should be granted, for the defendant by his shouting made such a noise as seriously to interfere with the practice of the plaintiff. This is a sensible judgment. The contention of the defendant that he had to make a noise to attract custom is nonsense. A fried-fish shop is very far from being a retiring, coy business in itself. It exhales odours which are perfectly perceptible some 100 yards away. No vendor who has a stationary place of business need shout nor should he be allowed to do so. We must put up with the bawls of the wandering coster and of the itinerant muffin-seller, and even, we suppose, with the doleful wailing of the coal-vendor. These peripatetic tradesmen do not appeal to passers-by but to persons in houses, so that they may reasonably contend that notice must be given of their approach. But the fried-fish merchant and the seller of "stickings" should exercise their trade in quiet.

---

[1] These reports are published [illegible]

"BIBLIOGRAPHIA MEDICA."

AS will be seen by the letter from our Paris correspondent the first number of *Bibliographia Medica* has just been issued. This work, which has arisen like the phœnix from the ashes of the *Index Medicus*, is intended to carry on the same traditions. The amount of matter written upon medical and other scientific subjects is nowadays so great that it is impossible for any one observer to keep in touch with it all except by the aid of some such publication as this. The new venture deserves success and we offer our hearty good wishes for it to Dr. Marcel Baudouin, Dr. C. Potain, and Dr. Charles Richet, who are at the head of the executive organisation for publication.

THE CONNEXION OF THE LYMPHATIC VESSELS AND BLOOD-VESSELS.

THE interesting observations by Mr. C. H. Leaf, which we record this week, add to our knowledge as to the connexion between the lymphatic and blood vascular systems. Mascagni, Haller, and Cruikshank never allowed that the lymphatic system had any connexion with the blood-vessels, except with the large veins in the neck, but cases of such connexion have been recorded by Nuhn, Petrel, Stenson, Wepfer, Schmiedel, Vermeuil, and Meckel. The veins into which the lymphatics directly opened were the venæ cavæ, the portal, renal, axillary, internal iliac, and the azygos veins. The accuracy of these anatomists is too thoroughly known to admit any question as to the truth of their observations, even if we dismiss Lippi's descriptions as extremely doubtful. Mr. Leaf gives us further examples of this connexion between the lymphatic and venous trunks and he also shows that a direct communication exists between the small arteries in the thorax and the lymphatic vessels in that region, although the connexion is not so free as between the lymphatics and the veins.

PUBLIC BATHS.

THERE are still numberless places in these islands unprovided with public baths, and those not merely country places but towns with above 10,000 inhabitants, where there are many workers in occupations tending to make them dirty. Very few, even if we cannot say none, of the houses inhabited by the working classes are provided with bath-rooms, and in fact the same may be said of many houses in London which are not quite modern in construction, but which are let at rentals of considerably over £100 per annum. The need for public baths is specially noticeable in places where large numbers of workers are engaged in occupations such as coal-whipping, in crafts necessitating working in iron, in gasworks, in dusty trades, or, as at Deptford, in businesses connected with the slaughtering of cattle. Although a bath can be taken in a private house, however poor—for the cost of a tub that will answer the purpose is trifling—yet want of space is a serious factor. Families living in one or two rooms, and those not on th ground floor, find it difficult both to procure the water ar to get rid of it when it is done with. Therefore we thir that the establishment of public baths would undoubted be a great convenience to many a worker. In Durham ar Northumberland it is, we believe, the weekly custom for eve miner to have a warm bath, and a most salutary custom it i No arguments are needed to prove that it is more healthy be clean than to be the reverse, but those local authoriti who have yet to provide public baths might well be remind by their medical officers that the skin, to perform i function properly, should be freed from the accumulatio of dead epithelium and dried excretion which collects da by day if a bath is not taken. It is false economy on th part of a community, which is never so well off as when i workers are healthy, to shirk the provision of public baths.

PUBLIC MEDICAL SERVICE OF BRITISH GUIAN

IN the annual report for the year 1898-99, Dr. J. E Godfrey, acting surgeon-general of British Guiana, state that the health of the colony generally was fairl good in so far that there were no epidemics of severe type, but the mortality, which was 34 per 100 was by no means satisfactory. The principal diseases wer malarial fevers, intestinal affections, and influenza, an there were also a large number of cases of pneumonia, whic were to a great extent due to the prevalence of influenza There are six public hospitals—namely, one of 700 beds a Georgetown, one of 150 beds at Berbice (New Amsterdam) one of 53 beds at Suddie, one of 35 beds at Bartica, one o 17 beds at Morawhanna, and one of 30 beds at Arakaka In these institutions there were during the year 14,20 admissions and 1600 deaths of in-patients; there were als 75,356 out-patients treated. At the Lunatic Asylum ther were 149 admissions, 83 discharges, and 85 deaths. Her the principal cause of death was cirrhosis of the liver an kidneys, which proved fatal in 25 instances; 11 deaths wer attributed to cerebral congestion and the same number t tuberculosis. The average number resident daily during th year was 674. At the Leper Asylum there were 277 male and 97 females on April 1st, 1898, and during the ensuing 1 months 78 males and 21 females were admitted, 26 male and 9 females were discharged, and 37 males and 11 female died. The total expenditure of the medical department fo the year 1897-98 was 305,227 dollars.

ANTRAL SUPPURATION.

THE current issue of the Transactions of the Odontologica Society contains an interesting and eminently practical pape by Mr. J. G. Turner on Antral Suppuration. The subject i considered under the headings of Diagnosis and Treatment In dealing with diagnosis the author points out that pu which is pent up in the antrum, although it may cause sever pain, never leads to bulging of the walls, but that in case which have been recorded the bulging was due to denta cysts which had invaded or displaced the antrum and ha subsequently suppurated. In dealing with the value o transillumination as an aid to diagnosis he suggests tha the two sides of the face should be compared a to: (1) illumination of the pupils; (2) appreciation o light by the patient; (3) the light along the lower borde of the orbit; and (4) the light coming through the chink Although he regards transillumination of great value h considers it by no means a certain method of arrivin at a diagnosis, and he lays great stress upon the importance of a preliminary puncture followed by irrigatio in all doubtful cases. In treatment he draws attentio to the importance in chronic cases of making a good openin through the canine fossa, maintaining that it is next to impossible to treat effectively such cases through an opening in th alveolus. Difficulty of treatment arises, in his opinion, from the cellular nature of the upper and inner part of the antrum, especially around the ostium maxillare. These cells are often continued up the inner side of the orbit, and hence there is a danger of the infection spreading to the ethmoidal cells. Thorough treatment of this portion of the antral walls he considers to be most essential and suggests that they should be explored with a probe and regularly swabbed out with pure carbolic acid twice a day.

THE SOPHISTICATION AND CARRIAGE OF MILK.

MILK is at the present time tending to receive some small portion of that attention which its importance as an article of diet for children and invalids merits, and it is to be hoped that the two departmental committees which are now sitting will be able to make such recommendations as will lead to very necessary reform. When, for instance, we read in the current annual reports of Mr. Wynter Blyth, the medical officer of health of Marylebone, that one sample of milk was not only watered and skimmed but had also no less than the enormous amount of 80 grains of borax to the pint, the British Pharmacopœial dose being 5 20 grains, it is clear that at least some regulation of this indiscriminate sophistication of milk is desirable, if only to enable the medical practitioner to have some clear idea of what his patient is taking. There is, by the way, one obvious opportunity for the milk that London drinks to become grossly polluted. Anyone who travels much by train in England must have been struck, especially at night and in the early morning, with the number of enormous metal milk cans which come in and out of the mighty city, and if his curiosity has tempted him to examine these churns more closely he will have noticed that not a few have broken lids which render it impossible to protect the milk from casual or intentional pollution. We believe that certain firms stipulate that the covers of their cans shall be sealed, but we doubt from our own experience whether the precaution is often taken. It would not be difficult to enact regulations rendering the proper sealing of these cans obligatory.

TÆNIA NANA A CAUSE OF CHYLURIA.

IN the Russian Archives of Pathology (tome viii., fasc. 6) Dr. Predtechenski of Moscow reports a case of chyluria which is interesting for several reasons. It is the first case of the kind reported from Russia, though in other parts of Europe cases are occasionally met with in subjects who have not resided in the tropics. Dr. Predtechenski has been able to find some 20 of these cases in medical literature. The cause of tropical cases is generally allowed to be some parasite—filaria sanguinis or distoma hæmatobium. In Europe strongylus gigas has been found and some authors believe that tumours and other pathological conditions which cause stagnation of the chyle and lymph-streams may also produce chyluria. In the Russian case a parasite was detected; at least ova were found in the urine which were diagnosed as those of tænia nana, a minute variety of tapeworm which is tolerably common in Italy but is almost unknown in England, though Dr. Ransom of Nottingham has reported the case of a girl from whose intestinal canal a large number of these parasites were expelled.[1] Dr. Predtechenski's patient was an officer's wife, aged 23 years, who had at times passed turbid or milky urine ever since she was 16 years of age. When seen by him the urine contained, in addition to epithelium, specks or small clots of fibrin, crystals of oxalate of lime, and red and white corpuscles, the last-named having a single spherical nucleus and being in fact small lymphocytes. There were also found some spherical bodies looking like the eggs of some entozoön. They were nearly transparent and under a good immersion lens were seen to possess six hooklets. Their diameter was from 20 to 25 μ and they agreed with the figure of the ova of tænia nana in Mosler and Peiper's work on Animal Parasites. It is suggested that the worm itself may have existed in the kidneys, as another variety—tænia Madagascariensis—is stated to have been found alive in the kidney in a patient suffering from chyluria. The parasite probably occludes the lymphatics and causes them to become distended and finally to rupture, so that the lymph finds its way into the urinary passages. The most efficacious treatment in this case appeared to be gallic acid in 15 grain doses three times a day.

THE CASE OF A NEWSPAPER YELLER.

WE congratulate Mr. Shirley Murphy upon the public spirit which induced him to prosecute a newspaper yeller for obtaining money under false pretences. The extent to which our streets and squares are made hideous by the bawls of these fellows is becoming serious. In many parts of London, and especially at about 10 o'clock in the evening, an hour when the young and the sick are particularly likely to be composed for their night's rest, the streets suddenly resound with raucous bellowings. If anyone, convinced by the violence of the shouting that something really new is to be found in the paper, should become a purchaser, he will assuredly be deceived. The "'orrible slorter," the "magnificent vict'ry," and the "'eavy fightin'" advertised by the yellers are all fictitious to this extent, that the sensational phrases are chosen to describe some small episode in the war that has been published hours, perhaps days, earlier. In the case where Mr. Shirley Murphy very properly put the law in action last week the newspaper tout definitely stated that Ladysmith had been relieved, and charged *3d.* for a *½d.* paper because of the good news of which he was the strident harbinger. Consequently, his conviction was easy to secure. Will a public-spirited individual now try to obtain a conviction on some ground or another, we do not care what, against the more ordinary yeller, who keeps within the letter of truth by being able to show in his paper some sentence, which although describing an ancient event, still justifies to some extent his shouting? The attempt in these cases is really to obtain money under false pretences.

ROENTGEN RAYS IN THE TREATMENT OF LUPUS.

MR. J. F. HALL-EDWARDS contributes a paper to the *Edinburgh Medical Journal* for this month on the Physiological and Therapeutic Action of Roentgen Rays in the Treatment of Lupus. The essentials of the method employed by him are exposure to a highly charged Crookes's tube for a considerable time at short distance. The average duration was 15 minutes and the distance from one to two inches. Three cases are quoted, and though this number is too small to form a basis for generalisation the results recorded are sufficiently obvious and uniform to justify a further trial of the method pursued. 1. A case of lupus vulgaris on the instep. There were five exposures at intervals of from two to three days, except on the last occasion, when nine days intervened. After the fourth exposure sloughing of the patch began and extended for about half an inch round it. The resulting ulcer healed slowly with a sound scar. Two small adjacent patches of lupus which had been protected from the rays by sheet-lead one eighth of an inch thick also became ulcerated and healed in like manner. 2. A case of lupus erythematosus on the arm. This patch was exposed on two successive days. It had sloughed by the twelfth day after the first exposure a week later it was granulating and ultimately healed well.

---

[1] THE LANCET, July 21st, 1888, p. 109.

3. A case of lupus vulgaris in a typically tuberculous patient. A portion of an extensive patch on the front of the right thigh and knee was treated on two occasions. No result was noticed until 18 days later, when the part exposed to the rays was seen to have sloughed away. The ulcer which formed gradually healed with a sound scar. Except in Case 1, where, as already mentioned, lead was used to protect the adjacent skin, the means employed with this object was a solution of gelatin containing iodoform. A coating of this material appears to have answered its intended purpose. In the treatment of these cases a special tube 18 inches long (to avoid sparking over) was used. Mr. Hall-Edwards asserts that one exposure, or at most two exposures, is sufficient and that the number of exposures employed in Case 1 was excessive, the treatment in this instance being necessarily experimental and tentative. Further observation has proved that a latent period of from 14 to 21 days intervenes in any case after the use of the rays before a result can be looked for. He also suggests that a series of exposures at such a distance as to preclude local inflammation might be equally curative. In Mr. Hall-Edwards's opinion the x rays themselves play a very small part, if any, in the process, for, as Nikola Tesla showed, they easily penetrate an aluminium shield which suffices to prevent burning of the skin. He attributes the beneficially irritant and ulcerative effects to electrical action.

PREMATURE BURIAL.

FROM time to time there come to the fore most ghastly stories of cases of premature interment. Only recently two instances have occurred in Italy. One of these was published in the letter from our Rome correspondent which appeared in our issue of Feb. 24th and a second case is mentioned in the letter from him which will be found in another column. The first case was accompanied by the additional horror that the victim is said to have given birth to a child in a coffin. This at least was the report of the judicial authorities who added that both mother and child had died from suffocation. While it is impossible to prove that the child was not born alive, we think it exceedingly unlikely. It was minus both arms, which had apparently been pulled off by the efforts of those who had attended the mother in her confinement to extract it. That a child should be born alive more than 24 hours after receiving such injuries is, to say the least, very doubtful. Neither does the fact of the fœtus being extruded prove absolutely that the mother must have been alive when buried; this at least is the opinion that has been recorded by some observers. In the case which appears at p. 661 there seems no doubt that the man really was alive when placed in the coffin. There appears to be no information as to whether the death was certified by a medical man as the result of his personal investigation.

MORE OYSTER-BORNE ENTERIC FEVER.

FROM the West of England comes a story of an outbreak of enteric fever in which oysters seem to have played a very conspicuous part. Two servants, a footman and a maidservant, employed at a country seat in Cornwall were attacked by enteric fever soon after consuming certain oysters, and the maidservant succumbed to the malady. At the same house was a shooting party, and two of the guests left on Nov. 11th after having during their stay eaten freely of oysters. These gentlemen were taken ill with enteric fever at their respective homes, the one on Nov. 24th and the other on Nov. 26th. Moreover, a lady guest left this house on Nov. 28th for Ireland taking with her a supply of oysters, some of which she gave to her brother on her arrival. On Dec. 17th this brother developed enteric fever. All the oysters here in question were procured from the same source, and the circumstances remind us of the outbreak at the Connecticut Wesleyan College, in that the oysters were originally procured from a source relatively free from pollution, but were laid down prior to sale for consumption on what appears to be a highly polluted foreshore. The suspected oysters were laid down in the Penryn river off the village of Flushing and opposite to the town of Falmouth. This river is, we learn from the Local Government Board report on Oyster Culture, only one and a half miles in length, and at the head of it the town of Penryn with a population of 3256 pours its sewage. In addition to this there are on the foreshore of Flushing, as also on the opposite side of the river, numerous drains discharging. The oyster layings in the Penryn river must, Dr. Bulstrode states in his report, be regarded as occupying a dangerous position. It is a serious reflection on this state of affairs to read in the report of the meeting of the East Kerrier District Council, at which this matter was discussed, and that various proposals were made for dealing with the danger, but that "it was thought that the authority had no power, and nothing was done."

THE ROYAL NAVY MEDICAL SERVICE.

WE are glad to notice that Sir Walter Foster spoke in terms of commendation of the changes which the First Lord of the Admiralty proposes to make in the Royal Navy Medical Service, for these changes are unquestionably of a highly desirable nature. They are really needed and they will have the effect of greatly increasing the efficiency of the service. It will be remembered that when the report of the committee on the subject was published some time ago it met with our cordial support. We concur with Sir Walter Foster in thinking that the reforms introduced by Mr. Goschen form an enlightened departure. They will afford satisfaction to the medical profession as a whole and will encourage its younger members to enter upon a career of great usefulness. There is surely no need to point out how essential it is that medical officers, separated by their calling and duties from centres of scientific activity, should have every opportunity of keeping abreast with the progress of medicine and surgery and the newest methods of treatment. It is obviously a duty they owe to those committed to their charge. There are many doors to post-graduate study open to medical officers of the services nowadays and we trust that every practicable facility will be extended to them to enter.

THE VALUE OF TECHNICAL CERTIFICATES.

THE movement of the proverbial straw indicates the direction of the wind, and the case tried recently between Sir Philip Magnus and the Plumbers Company indicates much more than the falling out of faithful friends. Sir Philip Magnus sued to be re-instated in his position upon the Court of the Company, from which the company had for a time excluded him, he being a member of the Court, and judgment was given in his favour. Any quarrel between Sir Philip Magnus and the Plumbers Company upon private grounds would not come within the scope of our consideration, but it seems to us that in this dispute questions of considerable, if indirect, influence upon public health were involved. From correspondence that passed some two years ago between Sir Philip Magnus and the Plumbers Company, upon which we commented in THE LANCET of October 2nd, 1897 (p. 872), it appeared that the real matter at issue between the parties was as follows. The Plumbers Company, or rather the Examining Board of the Company, composed of master and operative plumbers selected to represent the plumbing trade, refused to register as plumbers the certificated pupils of the City and Guilds of London Institute, in which Sir Philip Magnus holds the post of superintendent of technological examinations, unless the candidate first passed the practical tests set by the Examining Board of the Plumbers Company. The Plumbers Company seem to have had, as they possibly still have, grave doubts as to the practical nature of the work done by the pupils of the Institute. Their object is to avoid the registration of any but men who intend to follow the craft of plumbing for a livelihood and who therefore must have a thorough working knowledge of it in every detail. We sympathise with this object heartily.

AT the forthcoming dinner to be given by the Royal Medical Society at Edinburgh on March 6th the guest of the evening, Mr. Victor Horsley, will speak on the subject of "The Medical Corporations," instead of proposing the usual toast. A further indication of the newly awakened interest in the position of medical men is evidenced by a movement now in progress in the eastern and midland counties to arrange a gathering of the profession in the spring to hear the situation discussed by the Direct Representatives on the General Medical Council.

THE annual dinner of the Irish Medical Schools' and Graduates' Association will take place on St. Patrick's Day, Saturday, March 17th, at the Hotel Cecil, at 7 15 P.M. The honorary secretary, to whom all communications should be made, is Mr. P. J. Freyer, 46, Harley-street.

A TELEGRAM from the Governor of Mauritius, Sir Charles Bruce, received at the Colonial Office on Feb. 23rd, states that during the week ending Feb. 22nd eight fresh cases of plague occurred with four deaths. Six cases have also been reported from Aden with one death.

IT is announced that Dr. Sydney Ringer, F.R.S., and Mr. Christopher Heath, the senior physician and surgeon respectively to University College Hospital, are about to retire under the ordinary rules from service upon the active staff.

MR. THOMAS SCATTERGOOD, of Park-square, Leeds, Lecturer on Forensic Medicine at the Yorkshire College and Dean of the Medical Department, died on Feb. 22nd.

THE Admiralty have sanctioned a proposal to provide new naval sick quarters, with a dispensary, at Sheerness, at an estimated cost of £12,000

THE second reading of the Bill for the Registration of Midwives which was down for Wednesday, Feb. 28th, was not reached.

NURSES' HOME AT BATH.—At the meeting of the Bath Board of Guardians held on Feb. 21st it was decided to erect a nurses' home to give accommodation for 20 nurses. The cost of building is estimated at about £2000.

ROYAL DEVON AND EXETER HOSPITAL.—The annual meeting of this institution was held on Feb. 22nd under the presidency of Colonel Lucas. The medical report stated that 1322 in-patients had been admitted, against 1343 in 1898. The out-patients numbered 4303, against 3850 in the preceding year. 75 patients had been sent to the Ockenden Convalescent Home in connexion with the hospital. The average daily number of in-patients was 145. The financial statement showed that the income from all sources amounted to £13,698, the ordinary expenditure was £8460, and the extraordinary expenditure was £3677, making a total of £12,137.

THE WAR IN SOUTH AFRICA.

THE splendid news has come at last. Ladysmith is relieved and General Cronje has surrendered with all his force.

The brief telegram from Lord Roberts intimating the latter piece of intelligence to Her Majesty's Government was not without a touch of dry humour. Cronje is our prisoner and the unconditional surrender of his army by the irony of fate and a remarkable coincidence occurs on the anniversary of the Majuba Hill disaster, after which reverse to our arms Great Britain gave an example of magnanimity never likely, we imagine, to be repeated in our experience, for the source of the present troubles may be traced to the root which was then planted. Cronje's surrender was a foregone conclusion having regard to the circumstances in which he found himself and the hopeless straits to which his force had been reduced, but this does not render the news any less welcome or important. The result has been brought about by brilliant strategy and admirable tactics on the part of the British leaders, and Lord Roberts has exercised very proper humanity and a wise discretion in delaying the further and complete destruction of a force which was within his grasp at any moment that he liked to crush it. The end is not yet, perhaps not near, but when it comes it will have been purchased with the blood of some of the noblest and bravest of our race and by the outpouring of treasure without stint under the firm conviction on the part of the British Empire that the cause was one of right, justice, and humanity. The empire is of one mind and determined to achieve its purpose. The fruits of its sacrifice and labours will one day be recognised and reaped by all the world, including those who have hitherto been forward to scoff at our arms, revile our motives, and misrepresent or belittle our labours and achievements on the battle-fields of South Africa.

We have now to await with patience the receipt of detailed news from General Buller, whose force has fought its way laboriously and step by step through all those topographical and natural obstacles which lend themselves so powerfully to the Boer system of warfare The hardest task in the present war fell to the lot of General Buller, and that he has reached his goal proves both his resourcefulness and the indomitable pluck of his officers and men. He was resolved to win through and the forces under his command had entire confidence in his military capacity and ability to conduct them to the successful accomplishment of the relief of Ladysmith. When those who laid down cheerfully their lives under his command and who had the best opportunities for estimating his difficulties and his power to overcome them were content to wait his time, we may be sure that no earlier relief of the beleaguered city was humanly possible. We do not yet know whether the Ladysmith garrison under Sir George White were able to contribute largely to effect their own relief. The monotonous life and diet during the siege, the want of stores for men and horses, and the large number of sick present in Ladysmith must have handicapped their efforts, but we may be sure that they made every attempt to aid the relieving army at the opportune moment. It is a noteworthy fact that the soldiers who are fighting our battles in South Africa never seem to have any misgiving as regards their leaders; on the contrary, they are in excellent fettle and animated with a firm belief in ultimate success; and they never fought better than they have been doing in South Africa. It is certain that no other country could have accomplished in the matter of organisation what England has already done in this war; and after every allowance has been made to our discredit for miscalculations and mistakes it is very questionable whether the army of any other nation would have done better, if as well, in actual fighting under all the adverse circumstances. We await with anxiety full information concerning the condition of the relieved garrison, but our anxiety is tempered by the knowledge that all possible provision has already been made in Natal to receive the sick along the lines of communication and to transmit them with every comfort to the base.

The medical service is continuing to do excellent work in all directions and of the most varied nature. The officers country for the fertility of resource, zeal, and ability which they have displayed and for the energy with which they have worked throughout. All who have had opportunities of ascertaining the facts add their testimony to that of Sir William Mac Cormac and others in respect of the medical arrangements, and testify to the promptitude and readiness with which the War Office have complied with every wish and responded to all suggestions in regard to the conveyance of surgical instruments, specially prepared dressings, and other appliances necessary for the treatment of urgent cases requiring immediate operations.

Preparations have been made at Durban and at Pietermaritzburg to celebrate the relief of Ladysmith which was expected hourly, while Sir William Mac Cormac, in his notes this week speaks of the excellent arrangements that have been made at No. 4 General Hospital at Mooi river. Mr. Treves has expressed his complete satisfaction with the management of the hospitals at Pietermaritzburg and other centres. The field hospital arrangements, he said, were as perfect as they could be, and he records a strong testimony to the devotedness of the stretcher-bearers. He added that, in his experience, the Boers had treated our wounded very kindly. The generous efforts of the colonists on behalf of the wounded also elicited from him a word of grateful recognition. Lord Roberts stated in regard to the hospital at Kimberley that Lord Methuen's account of the admirable manner in which the Kimberley hospital was managed had made him desire to send some of his sick and wounded there.

Royal Visits to the Wounded.

Within the last few days the Royal Victoria Hospital, Netley, has received large batches of sick and wounded from South Africa. The *Kildonan Castle* arrived at Southampton on Feb. 23rd and as the vessel reached the Southampton quay news of the relief of Kimberley was shouted to those on board and received with ringing cheers. The vessel brought 178 men from the front, 53 of whom had been wounded. Captain Lugard of the Indian Staff Corps was among the invalids. Most of the wounded men had received their injuries either at Colesberg or at Magersfontein. The patients were nearly all convalescent, thanks to the skill of Fleet-Surgeon Saunders, R.N., and of Dr. Wilburn, the medical officer of the vessel, who divided the work between them during the voyage. All the invalids were speedily attended to and were transferred into the hospital train and reached Netley early in the afternoon.

The Princess of Wales and her Hospital Ship.

On Feb. 25th the hospital ship, *Princess of Wales*, which left the Cape on Feb. 1st, came into Southampton Water. She brought home 174 men under the command of Major A. Hickman Morgan, D.S.O., late Surgeon-Major A.M.S., the principal medical officer, who on arrival was able to give a very favourable account of the patients. Nearly all of the men had been wounded, but so favourable had the cases been that only one cot case was landed at Southampton. No operations had been performed on board, but a number of bullets had been localised by the x ray apparatus presented to the ship by the Duke of Newcastle. The majority of the men had been wounded at Magersfontein and the Modder river, the regiments represented being the Coldstream Guards, the Argyll and Sutherland Highlanders, the Highland Light Infantry, the Royal Engineers, the Royal Artillery, the Scotch and Dublin Fusiliers, and the Grenadier Guards. Lord and Lady Wantage were awaiting the steamer's arrival accompanied by Major W. G. Macpherson, R.A.M.C., who did such excellent work in connexion with the fitting out of the vessel. Lord Wantage expressed his gratification at the facts that no death had occurred during the voyage and that the patients had made such excellent progress on the road to recovery. The wounded were not landed on the day of arrival as the Princess of Wales had intimated her intention of visiting her hospital ship—a visit which was looked forward to by the men with the keenest interest. The next day (Monday) opened with heavy rain and fog, which continued until nearly 10 o'clock when the sun burst forth brilliantly through the clouds, rapidly dispelling the vapour, and beautiful weather prevailed long before the arrival of the royal train. Carrying out the instructions received from Marlborough House, no one was allowed to enter the wharf where the royal party alighted. The Prince and Princess of Wales, accompanied by the Duke of York, left Waterloo station at 9.30 A.M., and travelling over the London and South-Western Railway reached the docks at 11.20. Their Royal Highnesses were attended by Colonel Sir Nigel Kingscote, Lady Emily Kingscote, Miss Knollys, and Major the Hon. Derek Keppel, and were accompanied by the Hon. Sydney Holland, representing the Red Cross Society. On the platform to receive the royal party were stationed Lieutenant-General Sir Baker Russell, commanding the Southern Division, and his staff, and Captain G. White, R.N. The royal visitors, accompanied by their suite, proceeded by the gangway, which was beautifully decorated, on board of the vessel and were duly received by the captain and officers of the vessel and by Major Hickman Morgan and Major Macpherson, with each of whom the Princess shook hands. Her Royal Highness graciously accepted a beautiful bouquet of lilies of the valley, attached to which were red and white streamers. The Princess visited each patient, their cases being explained to her by Major Hickman Morgan. She spoke in most kindly terms to the men, who were much touched by her gracious manner. Her Royal Highness inquired at some length as to the manner in which the vessel had performed her mission during the voyage, one and all of the men declaring that they had been most comfortable and that every possible requirement was at hand. Most of the patients were sufficiently recovered to be able to stand at attention by the side of their cots, but noticing that in many cases they looked pale and weakly Her Royal Highness promptly directed that all who cared to do so should be seated, an act of thoughtful kindness which went straight to the hearts of the soldiers. Early in the visit Major Hickman Morgan drew attention to a man of the Gordon Highlanders who had been shot in the top of the head while lying in front of the trenches at Magersfontein. The bullet had destroyed the left eye in its course and had emerged at the chin. A man of the Royal Artillery who was shot in the leg was able to produce for inspection the Mauser bullet which had been extracted. Among the patients was a man who had been wounded in the head and whose case has been described by Sir William Mac Cormac as one of the most extraordinary he had ever heard of. Major Hickman Morgan, while showing the Princess a Mauser bullet which he had extracted, stated that the bullet was perhaps the most merciful ever used in warfare. A few of the patients had been suffering from typhoid fever and dysentery, and one of the most serious of these was berthed in the Maud Ward, named after the Princess's youngest daughter. At the end of the visit those men who were sufficiently well were assembled on the deck and they cheered the royal visitors when leaving. The arrival of the *Kildonan Castle* and the hospital ship the *Princess of Wales* has not only again filled up the wards of the Royal Victoria Hospital at Netley, from which a steady stream of men have been passed to convalescent homes and to sick furlough, but has also been the means of bringing Netley the honour of two Royal visits on successive days.

The Prince and Princess of Wales and the Duke of York at the Royal Victoria Hospital, Netley.

On leaving the *Princess of Wales* hospital ship on Monday last the party, accompanied by the military staff of the Southern Division, were conveyed by a special train to Netley. The train steamed into Netley station at 1.20 P.M. when carriages were in waiting to convey the visitors to the officers' mess of the Royal Army Medical Corps where they were received by Colonel Charlton, the principal medical officer at Netley, and his staff. After lunching with Colonel Charlton and the officers of the Royal Army Medical Corps in their fine mess-room, the whole party proceeded to the hospital, where Miss Norman, the lady superintendent of nurses, was introduced. They were then taken through the wards and corridors, in which were drawn up all the patients who were sufficiently convalescent. All the wounded in bed were visited in turn and for each the Prince and Princess of Wales had a kindly word. The visit lasted for about an hour and a half, and after it the royal party returned to London, arriving at Waterloo at 6 o'clock.

The Queen at the Royal Victoria Hospital, Netley.

The visit of their Royal Highnesses the Prince and Princess of Wales, accompanied by the Duke of York, which gave such sincere satisfaction both to the sick and wounded from the front and to those on whom devolves their care while restoration to health is being accomplished, was followed 24 hours later by a visit from Her Most Gracious Majesty the

Queen, who as age advances does not permit those qualities to diminish which have ever marked her out among sovereigns —the qualities of sympathy with the afflicted and pity for the suffering. These qualities, often before displayed during and after the wars in which her armies have been engaged, were again exemplified by her visit to the Royal Victoria Hospital on Tuesday afternoon last, Feb 27th, when she made a tour of the grand base hospital of the South African army and learned from the men's own lips something of the dangers through which they had passed. The effect of such a visit is truly gratifying to the whole army and will never fade from the memories of the men who have suffered in Great Britain's cause and who the more thoroughly appreciate the Queen's kindness and thoughtfulness from a knowledge of the fatigue which must be inseparable from such a visit at Her Majesty's time of life.

Before her arrival letters were received by the principal medical officer in which Her Majesty expressed her wish that only the officers and nurses who were engaged in the treatment of the patients in the various wards should accompany her to the different divisions of the hospital— a wish which was of course carefully attended to. The royal party travelled from Windsor Castle *viâ* Basingstoke and Fareham, arriving at the Netley railway station at 1.30 P.M., where Her Majesty was met by Lieutenant-General Sir Baker Russell, commanding the Southern Division, and his staff; Colonel Napier, his chief staff officer; Major Kinloch of the 60th Rifles, acting aide-de-camp; and Major Creagh, the assistant adjutant-general at Netley. Proceeding from the station in carriages, through part of Netley village, Her Majesty, who was accompanied by H R.H. the Princess Beatrice and the Princess Victoria of Schleswig-Holstein and attended by her equerries, Sir John M'Neill, V.C., and Captain Ponsonby, and by Lady Ampthill and Miss Moore, arrived at the west door of the hospital at 1 45 P.M. Here she was received by a guard of honour of the 4th Battalion of the Lincoln Regiment who were drawn up in front of the portico, under which Captain Stevens, R E., had erected a platform to facilitate Her Majesty's passage from her carriage to the lower corridor of the hospital. The morning, like that of Monday, had opened with much rain, a damp mist hanging over Southampton Water, but during the morning the weather much improved and the sun shone during Her Majesty's short drive. Greeted by the strains of the National Anthem Her Majesty walked, leaning with her left arm on an Indian attendant, up the platform, where she was received by Colonel Charlton, principal medical officer of the hospital, and was presented with a lovely bouquet by Mrs. Charlton. On reaching the door of the hospital the Queen entered her wheeled chair and the military staff of the hospital were presented to her by Colonel Charlton. The officers who had this honour were Colonel K. MacLeod, Lieutenant Colonel W. E. Webb, Lieutenant-Colonel Hughes, Lieutenant Colonel Chester, Major W. Dick, Captain Stevens, R.E., and Lieutenant Prentis, and the chaplains of the hospital. Accompanied by Colonel Charlton Her Majesty was wheeled to the lift, in which she was conveyed to the surgical division of the hospital. There she made a careful inspection of the wards, being shown many of the scars made by the Boer bullets and presenting flowers to the men. Her Majesty remarked on the proportion of Highlanders found among the wounded and was informed that a large number of them had suffered at Magersfontein. She remarked to Colonel Charlton on the good news which she had received in the early morning from Lord Roberts and inquired if the men had been informed of it. Being answered in the negative, she requested the principal medical officer at once to announce it, which he did in the terms of Lord Roberts's telegram giving out that General Cronje had unconditionally surrendered to Lord Roberts and upon the anniversary of the Majuba Hill reverse. To one man of the Connaught Rangers Her Majesty remarked that the Irish regiments had done very well during the war, and to another she said, "You have had a hard and severe time." Many of the men to whom the Queen presented flowers were so much affected that they were unable to answer her questions or to express their thanks. From the surgical division Her Majesty passed to the medical division where the cases were explained by Colonel Webb. The whole tour of the hospital occupied two hours, and at its termination, at 3 45, Her Majesty and suite left for Windsor.

(NOTES FROM SIR WILLIAM MACCORMAC.)

(Continued from p [illegible]02.)

I and my secretary arrived at Durban on Jan. 27th. The news there was of a disquieting nature, a private report having found credence to the effect that the whole of Buller's army had recrossed the Tugela, having been unable to hold the kopjes they had gained during the previous seven days' fighting. I determined, however, to push on to No. 4 General Hospital at Mooi river at once in the hope that these reports might prove to be untrue and that I might be near at hand for the purpose of participating in the expected relief of Ladysmith. I arrived at Mooi river at 2 A.M. on the 28th and during that day we heard news which confirmed the Durban rumours. At present, therefore, nobody can say when a new advance may be made, and so I determined to remain at this hospital for the present and do what work may come to hand here During the three days after my arrival the two hospital trains made ten journeys, carrying the wounded between them from Frere to Estcourt, to this hospital, to Pietermaritzburg, and to the hospital ships at Durban. Each train can convey 69 patients lying down and a great many more patients sitting up. During these ten journeys they brought down close upon 1100 cases and there are, at the date of writing this, still about 250 to bring

The situation of affairs as regards the medical organisation in this locality at present is as follows. The field hospitals with the brigades in the fighting line were situated about nine miles from the Tugela river on the further side. The wounded were carried by stretchers and ambulances back across the river to the Stationary Field Hospital, situated on this side of the Tugela, 22 miles up the stream from Frere. This hospital (which I described in my account of the battle of Colenso) has become enlarged from its original size of 150 beds to one of 400 beds. The wounded have been treated and operated upon in this hospital and as they become fit for transport have at once been conveyed by hand stretchers and waggons across the 22 miles of plain to Frere station. The stretchers are carried by volunteer ambulance bearers After this excessively tedious journey the patients are at once loaded, on arrival, into the hospital trains, the excess being temporarily accommodated in a field hospital of 100 beds at Frere. The hospital is under the command of Major Kirkpatrick, R.A.M.C., and the hospital at Frere is commanded by Major Daly, R A.M.C. Both of these hospitals have civilian surgeons attached to them for duty under the officers of the Royal Army Medical Corps.

The weather at present is very rainy and the journeys of some of the wounded have been carried on under great difficulties. As the future movements, however, of the army are at present very uncertain the transport of the wounded must of necessity be carried on so as to make room for possible fresh contingencies. The hospital trains are well supplied with luxuries and the wounded are at once fed with comforting soup and drinks. On their arrival at this station (Mooi river) those of the wounded who are destined to remain at this hospital are conveyed in a most comfortable and easy manner by means of the MacCormac-Brooke wheeled stretchers to the hospital on a hill about half a mile from the station. This hospital, No. 4 General Field Hospital—No. 1, No 2, and No. 3 being at the Cape side—has been established in this locality since my last visit, which was in December. It is under the command of Colonel Clery, R.A.M.C, principal medical officer of the lines of communications, his staff consisting of Major Lucas, R A.M.C (secretary and registrar), Major Hackett, R.A.M.C, and Major Fryer, with a lieutenant, a quartermaster, and ten civilian surgeons. There are also eight nurses of the Army Nursing Service attached.

The history of this hospital may be summed up by briefly detailing the diary of the days following its arrival here. The Mooi river is a rapidly flowing stream which at this spot is about 50 yards in width. The railway station is on its left bank and the country runs away from its right bank in large undulating grass downs resembling Salisbury Plain. About 50 yards from the railway station there is a small railway hotel, about a quarter of a mile from the left river bank, which is used as a hospital for officers (see plan).

Jan. 6th —Arrived at Mooi river and surveyed the ground for No. 4 Hospital on the right bank of the river in the evening.

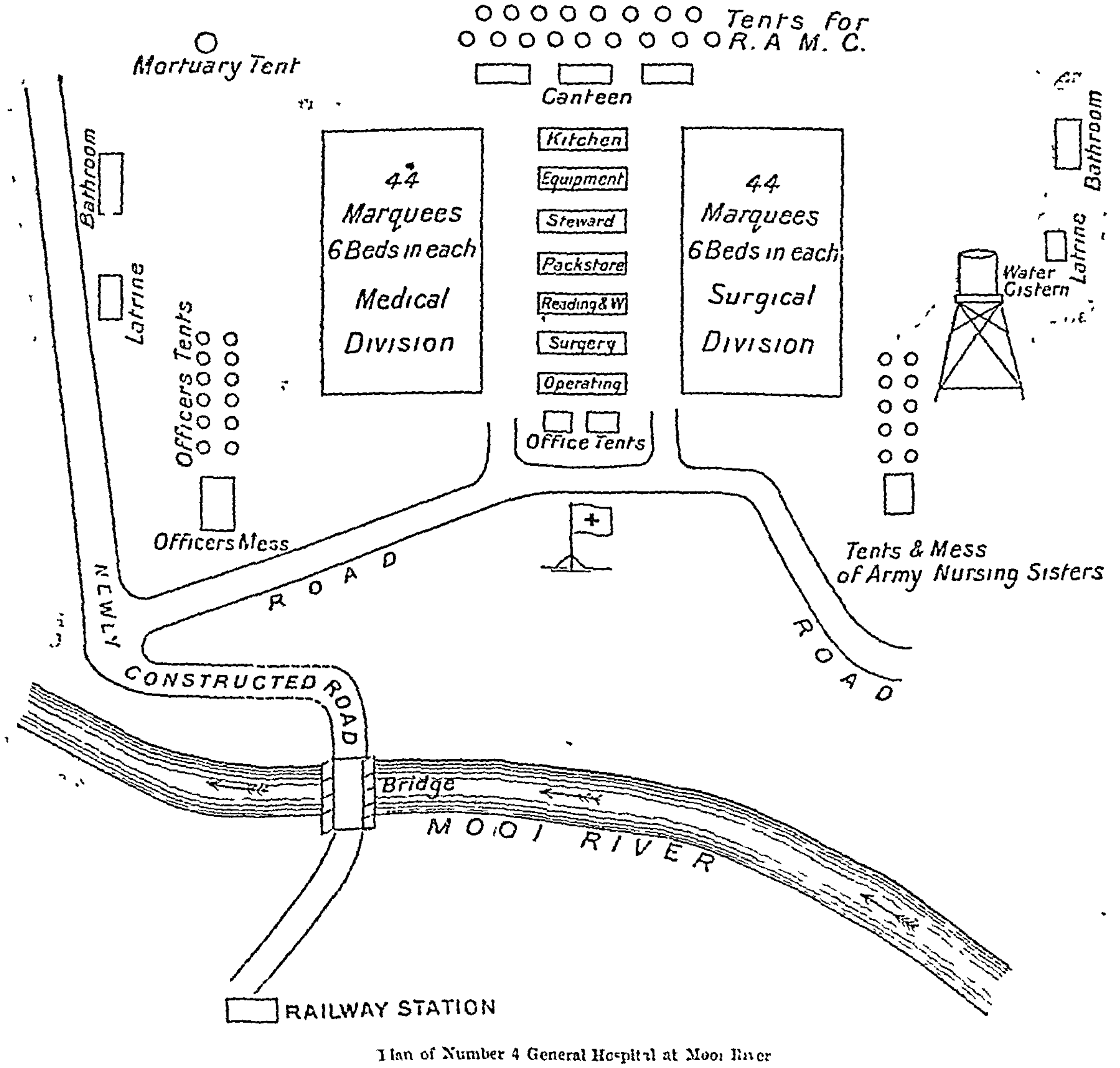
Jan. 7th —Pegged out the ground for marquees and bell-tents and unloaded part of the hospital equipment from the train. Only five waggons could be used for conveying equipment across the river to the site chosen on account of the fear of blocking the narrow fording-place in the river.

Jan 8th.—Continued the unloading and erection of the tents.

Jan 9th and 10th —Bad weather having set in the river became so swollen that the ford was impassable and it became necessary to send the waggons round by a devious route of four miles. The strength of the rank and file, which had been two warrant officers and 143 non-commissioned officers and men on arrival, was diminished by the withdrawal to Spearman's Camp of 50 non-commissioned officers and men. This camp was also supplied with one officer of the Royal Army Medical Corps and six civil surgeons, leaving a very diminished staff to carry on the work of organisation.

Jan. 11th.—Took over the Railway Hotel and equipped bedrooms for the accommodation of 30 officers. 48 marquees were equipped and got ready this day and the first sick party, consisting of 300 patients, arrived.

The hospital at present is situated upon the gentle slope of a grassy hill. It consists of 88 marquees for the accommodation of sick and wounded. Each marquee contains six beds. The floors are covered with tarpaulin. The arrangement of the marquees is most excellent, the hospital being divided into two halves, medical and surgical, with a space between. In this space are situated the administrative tents and buildings. These buildings are of galvanised iron and they have been erected very rapidly by the Royal Engineers. They are not all yet completed, but several of them are in working order, notably the kitchen, which is a commodious structure fitted with water taps and boiling cisterns for sterilising the drinking-water. The surgery, the operating room and the x-ray room, the reading- and writing-room, the pack store, the steward's store, and the equipment store, which at present occupy marquees, will be provided for by buildings. On each flank of the hospital there is situated a bath-room containing four large baths and also a latrine provided with buckets. The water is laid on by pipes in the bath-rooms. A large water cistern has been erected upon a 50-feet platform, from which the water is carried in underground pipes by gravitation. The supply of water to the cistern is pumped up from the river by a pumping apparatus on its bank. The drinking water is filtered through sand and cloth in a special cistern. It is conveyed by pipes to the kitchen where it is boiled and afterwards passed through a Berkefeld filter. It is then aerated through charcoal filters and distributed in special drinking vessels to the patients. An operating room is at present being constructed; it will be of ample dimensions, so that two operating tables can be conveniently used at the same time. One corner of this building is being cut off to be converted into the x-ray and photographic room. A general idea of the arrangements may be obtained from the following plan:—



Plan of Number 4 General Hospital at Mooi River

I append notes of several very interesting cases which are at present under treatment in No. 4 General Hospital, the patients having been conveyed there from the various field hospitals at the front. These notes were taken on the occasion of my inspection of the hospital on Jan. 31st and represent the condition of the wounded which was noted on that date.

CASE 1. *Wound of the head and the neck.*—Private —— was wounded on Jan. 21st at a range of 800 yards. The entrance wound was precisely through the centre and middle line of the nose immediately beneath the nasal suture. The wound of exit was behind on a level with the sixth cervical spine and about an inch to the right, the bullet having passed in its course through the base of the uvula close to its junction with the soft palate. The symptoms were bleeding from the mouth and epistaxis for about a week and some difficulty in swallowing. There are no other symptoms at present except headache and some dilatation of the left pupil. The wounds healed and on the 31st the patient was apparently otherwise perfectly well.

CASE 2. *Wound of the neck and the lung.*—Private —— was wounded on Jan. 24th from an unknown distance. The entrance wound was at the anterior margin of the right trapezius two inches above the centre of the right clavicle. The wound of exit was on the left side in the tenth intercostal space two and a half inches from the middle line. The symptoms were hæmoptysis for two days after the injury. He has felt perfectly well ever since the wounds healed.

CASE 3 *Wound of the lungs.*—Private —— was wounded on Jan. 20th from a distance of about 700 yards. The entrance wound was at the upper part of the left posterior axillary fold. The wound of exit was at the ninth intercostal space on the right side, five inches from the middle line of the back. There was slight hæmoptysis from the receipt of the injury up to the 31st. The temperature was normal and there was slight dyspnœa. The patient was progressing favourably and the wounds had healed.

CASE 4. *Shell wound of the chest wall, involving the lung and pleural cavity.*—Private —— was wounded on Jan. 23rd from an unknown distance by a portion of a shell. There is at present a large shell wound, about seven inches long by three inches in width, running from the right nipple almost transversely backwards, occupying the region of the fourth, fifth, and sixth ribs, which have in part been carried away, leaving a large chasm. The pleural cavity has been freely opened, the lung being exposed The patient states that he lay in a trench on the field from 2.30 P.M. until 5 P.M. before he could be attended to. He was carried to the hospital at 12.30 that night. On the 31st there was no cough or dyspnœa and the temperature was normal. The man states that he has suffered very little indeed from this extensive injury at any time and that he had no shortness of breath or spitting of blood and no evidence of any shock could be obtained. In the bottom of the large open wound the lung is plainly visible and the parts are beginning to granulate. The man looks extremely well and says he has nothing whatever to complain of.

CASE 5. *Wound of the lung.*—Private —— was wounded on Jan. 20th from a distance of 600 yards. The entrance wound was at the sixth interspace on the right side, five inches from the median line. The wound is of the small characteristic variety and is still unhealed. It is not known where the bullet is lodged. He will be x-rayed. There were no symptoms beyond slight hæmoptysis and on the 31st he was convalescent.

CASE 6. *Wound of the lungs.*—Private —— was wounded on Jan. 20th at a range of 1600 yards. The entrance wound was immediately over the second left rib one and a half inches external to the margin of the sternum. The wound of exit was through the eighth right interspace one and a half inches below, and slightly internal to, the inferior angle of the scapula The symptoms were slight hæmoptysis for two days with slight cough and dyspnœa. On the 31st the man's condition was good and the wounds were healed.

CASE 7. *Wound of the hand, the lung, and the abdomen.*—Private —— was wounded on Jan. 24th from an unknown distance. The entrance wound was of the characteristic circular type and was situated three and a half inches vertically below the right nipple, the bullet having first traversed the second right metacarpal bone. The wound of exit was slightly to the left of the second lumbar spine. The symptoms were *nil* and the wounds had scabbed over. On the 31st the man was quite convalescent and had nothing apparently the matter with him. The entrance wound in the finger is as clean cut a circle as that in the chest.

CASE 8. *Wound of the lungs.*—Private —— was wounded on Jan. 21st from an unknown range. The entrance wound was one and a half inches above the clavicle at the outer border of the sterno mastoid on the right side. The wound of exit was one inch above the posterior axillary fold on the left side. There was also an exceedingly oblique fracture of the left clavicle. This fracture was not in the bullet track, but the man persisted in ascribing the fracture to the bullet. Its obliquity contradicts his opinion. He denies a fall or any other accidental violence. The symptoms were *nil* beyond the pain of the fractured clavicle.

CASE 9. *Wound involving the lung and the abdomen.*—Private —— was wounded on Jan. 20th at a range of about 1000 yards whilst lying in a prone position. The entrance wound was on the anterior surface of the right shoulder two inches below the acromion. The bullet was cut out about two inches below the centre of the fold of the right buttock, having lodged immediately beneath the skin. It had thus raked, as it were, the whole length of the man's trunk fore and aft. There was hæmoptysis for three days after the receipt of the wound On the 31st the patient was convalescent, the wounds having healed. No further symptoms of any kind occurred.

CASE 10. *Wound of the abdomen.*—Captain ——, R.A.M C., was wounded on Jan 23rd near Colenso at a distance of 100 yards whilst he was bending over in the act of dressing a wounded man. The wound of entrance was through the right rectus abdominis muscle, one inch below the costal margin and one and a half inches from the median line. The wound of exit was one inch above and one inch behind the centre of the right iliac crest. The symptoms were *nil* throughout, although it was difficult to suppose that the ascending colon escaped perforation. This officer watched himself carefully for symptoms which he believed must inevitably arise. He knew where the entrance wound was almost directly, but did not localise the position of the exit wound for two hours afterwards. He tried to finish the dressing of the wounded man but became giddy and had to lie down. He then remained perfectly still on his back for 12 hours, suffering much from the constrained position but nothing from his wound, and refused to take some water offered to him by the Boers. Two other men close by, who were also shot through the abdomen, did drink, although strongly advised by him not to do so, and soon began to suffer very much, one vomiting constantly. The captain had only eaten a little porridge for breakfast ten hours before and took nothing by the mouth for 48 hours afterwards. On the 31st he was convalescent and he had had no abdominal symptoms throughout.

CASE 11. *Wound of the pelvis and the rectum.*—Captain —— was wounded on Jan. 23rd at a range of 500 yards. The entrance wound was an inch below and an inch behind the tip of the right trochanter major. The wound of exit was half an inch vertically above the tip of the left trochanter major. There were immediate and copious bleedings from the rectum and for several hours following; subsequently there was a thin, bloody discharge with tenesmus. On the 31st the external wounds were healed. There was considerable ecchymosis present in and around the anus and buttocks. There was no evidence of any local inflammatory disturbance. This officer said he felt as if he had been again operated on for piles. On the 31st he was quite convalescent. Without doubt the bullet traversed the rectum

CASE 12. *Wound of the pelvis and the thigh.*—Private —— was wounded on Jan. 20th at a range of 700 yards. He was lying prone when hit. The entrance wound was three inches behind the anterior superior iliac spine on the left side and an inch below the crest of the ilium The wound of exit was at the perineal margin, two inches behind the scrotum on the left side The bullet entered again at the junction of the upper and middle thirds of the right thigh, a little posterior to the adductor longus. It emerged finally near the upper end of the outer boundary of the right popliteal space. There were no symptoms and on the 31st he was convalescent. The position he lay in probably saved the testicles from injury.

CASE 13. *Wound of the thigh and the femoral artery.*—Private —— was wounded at Spion Kop on Jan. 21st at a range of 1100 yards. The entrance wound was immediately behind the tensor vaginæ femoris four inches above the left knee. The exit wound was on a little lower level on the inner side. Pulsation could be felt in the posterior tibial artery and in the dorsalis pedis artery. The bullet passed between the bone and the femoral artery, making a large wound in the artery on its anterior aspect. He was admitted to hospital on the 26th and damage to the femoral artery was diagnosed as there was a pulsating swelling with a loud bruit over the lower part of Hunter's canal. On the 28th an incision was made over the lower portion of Hunter's canal and the wound of the artery was found to be just above the opening in the adductor magnus. There was a very small amount of extravasation of blood present. The artery was ligatured above and below the wound and divided between. The anastomotica magna was also ligatured. On the 31st the patient was progressing satisfactorily and the collateral circulation was fully established. The small amount of extravasation from a large wound in a large artery was noteworthy.

CASE 14. *Wound of the thigh, the leg, and the tibial nerve.*—Major —— was wounded on Jan. 24th at Spion Kop. The entrance wound was immediately behind the insertion of the right biceps femoris tendon after grooving the skin of the thigh for six inches, leaving a narrow long black scabbed groove. The wound of exit was immediately behind the inner border of the tibia three inches above the internal malleolus. The anterior tibial nerve was injured, drop-foot and anæsthesia in the area of the nerve distribution being present.

CASE 15. *Wound of the knee.*—Private —— was wounded on Jan. 21st from an unknown distance. The entrance wound was beneath the outer margin of the left patella about the junction of the upper and the middle thirds of the bone. The wound of exit was just anterior and internal to the semitendinosus tendon opposite the joint line. The limb was in a splint but was now capable of flexion at the knee. There was some effusion into the joint, but no tenderness or rise of temperature. The wounds were healed on Jan. 31st and the man will doubtless have a perfectly useful joint and limb.

CASE 16. *Wound of the axillary artery and the musculo-spiral nerve.*—Private —— was wounded on Jan. 15th at a range of 600 yards. The entrance wound was half an inch vertically above the reflection of the anterior axillary fold from the chest wall on the left side. The exit wound was at the reflection of the skin from the thorax to the arm behind on the same side. On his entry into the hospital the patient was suffering from left drop-wrist, but there were no signs of a damaged brachial artery (the radial pulse being good). Sensation was lost in the musculo-spiral area of the fingers. The triceps acted. On the 26th an incision was made to expose the musculo-spiral nerve. There was no suspicion of the artery having been damaged, the radial pulse on that side being normal, but on isolating the nerve a wound was found in the side of the artery about a third of an inch long to which the nerve had been adherent by a small clot. There had been no general extravasation of blood. The nerve was found to have been pierced by the bullet, but a stout bundle of nerve-tissues remained intact on either side. The vessel was ligatured in two places and cut between. The nerve was not interfered with. On the 31st the sensation was returning in the fingers, but the drop-wrist was still present. It is remarkable that the bullet should perforate a nerve of this size and not completely sever it.

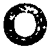
CASE 17. *Wound of the lung.*—Private —— was wounded on Jan 20th at an unknown range, probably 2000 yards. The entrance wound was immediately below the left sterno-clavicular joint. The wound of exit was at the eleventh intercostal space on the same side, one inch from the middle line of the back. The symptoms were *nil*. On the 31st the man appeared to be perfectly well.

CASE 18. *Wound of the pelvis.*—Private —— was wounded on Jan 20th at a range of about 1300 yards. The bullet entered two and half inches posterior to the tip of the left great trochanter, emerging one and a half inches vertically below the right posterior superior iliac spine. There was considerable rectal hæmorrhage but nothing could be felt on a rectal examination. The patient otherwise felt perfectly well. In this and other similar pelvic injuries it is difficult to understand the limited amount of damage apparently inflicted.

CASE 19. *Wound of the thigh, the pelvis, and the femur.*—Private —— was wounded on Jan. 24th at a range of 3000 yards. The entrance wound was at the central portion of the right gluteal fold. The wound of exit was two inches below and an inch in front of the apex of the left great trochanter. The base of the trochanter must have been traversed by the bullet, but there was no evidence of a complete fracture. There was a great amount of thickening and tenderness of the bone in the injured area, but no solution of the continuity of the femur. The external wounds were healed.

CASE 20. *Wound of the knee.*—Private —— was wounded on Jan. 21st at a range of 1400 yards. The entrance wound was immediately above the centre of the upper border of the left patella. The wound of exit was at the lower angle of the popliteal lozenge. There was slight effusion into the knee joint which still persists, but there is considerable mobility already present.

CASE 21. *Wound of the lung.*—Private —— was wounded on Jan. 20th at an unknown range. The entrance wound was a little external to and beneath the left sterno-clavicular joint. The wound of exit was at the ninth left costal interspace, immediately behind the posterior axillary line. There was hæmoptysis for three days, but there were no other symptoms. On the 31st he was quite convalescent.

These cases are for the most part sufficiently remarkable. The greater portion of the wounds were caused by the Mauser bullet and mostly all presented the characteristic features—a small circular slightly depressed area of the size of  covered by a black scab. The exit wounds were often quite similar, but a little larger, sometimes presenting a scar like an incised wound and difficult to discover. When I saw them a week or ten days subsequent to the injury they were for the most part healed. How these bullets fail to damage vital structures lying immediately in their path is nothing short of marvellous. The proportion of fatal chest wounds to those which are recovered from is believed to be small, but what the proportion precisely is cannot as yet be ascertained. It is abundantly clear that one lung and often both lungs may be traversed and in many directions without causing grave symptoms and often without producing any symptoms of lung injury at all. The large number of perforating abdominal wounds which are recovered from give pause to operative procedure in that direction, and the indications for operation in such cases must be completely revised. Wounds of the knee-joint seem also to be recovered from with a facility of which we have had no previous experience. The same may be said of wounds implicating other joints.

WILLIAM MAC CORMAC.

Mooi River, Feb. 1st.

(FROM OUR SPECIAL CORRESPONDENT AT THE BASE.)

THE complete lull in the fighting on this side has had the effect of keeping our hospitals at the base comparatively empty, and nothing of moment has occurred since my last letter. The cases coming down now are mostly medical and are generally traced to exposure to the sun or to the use of unfiltered water. On the other hand, the hospitals on the Natal side are pretty full as the result of the Spion Kop and Acton Homes engagements.

The accompanying particulars of a case which I mentioned in a previous letter may be of interest to the readers of THE LANCET as illustrating the eccentricities of Mauser bullets.

Lance-Corporal —— of the Black Watch, aged 20 years, was wounded at Magersfontein on Dec. 11th by a Mauser bullet. The man was wounded from an unknown distance whilst lying on his face preparing to fire. The entrance of the bullet was over the left malar bone at its junction with the temporal bone. The wound, which was small and round, completely healed. The exit wound was about the lower angle of the right scapula, and this also healed. The patient was admitted into the hospital on Dec. 15th. He was entirely nervous on admission. There was but slight movement in all the muscles of the right arm, and sensation of this limb was much impaired. The sensation and motion of the right leg were good. The left arm was completely paralysed and the sensation was very much impaired. The patient could move the toes of the left foot, but the sensation of the left leg was much impaired, especially towards the extremity. The bladder and bowels had both emptied themselves automatically. As to respiration, the action of the intercostals was impaired on the left side. The patient complained of pain over the seventh cervical spine, and also tenderness in that position. There was also some tenderness in the left sub-maxillary region. His facial muscles were intact. He lay on his back with his head turned to the right side. There were no trophic changes anywhere. On Dec. 18th the patient had recovered tone in the bladder and the sphincter, and respiration, both thoracic and abdominal, was good. On the 20th the bladder and the bowels could retain their contents much better and the patient could move his left leg fairly well. Sensation also was improved. By the 25th there was a slight improvement in the sensation of the left arm and the left leg was still improving. There were no other symptoms. The patient was convalescent on Jan. 1st, 1900, and was sent home to Netley. At this time motion in the left arm was improving daily and sensation was good.

Enteric fever has claimed another victim in Major O. P. Walker, R.A.M.C., who died in Natal, aged 40 years. I am glad to say that the last reports of Lieutenant W. Jagger, R.A.M.C., who is suffering from the same disease, are favourable.

To-day (Feb. 7th) the *Spartan* brought down from Durban 370 wounded officers and men who will be distributed amongst the various general hospitals. The *Lismore Castle* is *en route* for Cape Town with 180 more. These are some of the 1020 wounded in General Warren's fights at Spion Kop, where, as you know, the killed, wounded, and missing amounted to the serious total of 1700, by far the heaviest losses we have sustained in any operation up to date. The enteric fever at Modder river and at Orange river is still very bad, as many as 70 cases being reported from the former place. The *Kildonan Castle* is leaving to-day for England with a large batch of sick and wounded and I hear that the outward transports have again dropped a great number of men for treatment in the Cape Town hospitals. I suppose that this is unavoidable to a certain extent, but still I cannot help thinking that more care might be exercised in the medical examination of men destined for duty at the front before they leave England, as some of these cases, notably cases of hernia, might easily have been detected prior to embarkation. These patients take up badly wanted accommodation in the various hospitals, and in many cases they never get further than the wards, from whence they are sent home again, costing the country money that might well be expended in other directions.

The frightful mortality amongst officers in the recent engagement, there being no less than 32 killed, 66 wounded, and six missing, seems to the lay mind to point to unnecessary exposure on their part, or to the enemy's well-known sharpness in detecting them in spite of the various means taken to make their appearance as similar as possible to their men. You will have received a more detailed list long before this reaches you; in fact, our last information regarding casualties was taken from a London paper. I have not had an opportunity of inspecting the new ambulance train yet, but from what I hear it is very complete.

The *Princess of Wales* has left for Netley with sick and wounded. She will be followed by the *Avoca*, which leaves to-day.

Claremont, Feb. 7th.

THE TREATMENT OF SOME FORMS OF APPENDICITIS AT PLOMBIERES WITHOUT OPERATION.

By SKENE KEITH, M.B., C.M., F.R.C.S. EDIN.

THE account of one case will give a very good idea of in what the treatment of appendicitis at Plombières consists. The history of the case in question evidently dated back to an attack of peritonitis some 12 years ago, when the patient was 23 years of age. So far as the patient can remember she was confined to bed for at least two weeks. The abdominal pain was very severe. Complete recovery followed this attack, except that from that time there was a disinclination to go up many stairs, as this brought on a feeling of tiredness in the right side and thigh. Indeed, on one occasion after going up a number of stairs while sight-seeing abroad, the patient was unable to sleep one night on account of the pain in the right side. In the autumn of 1895 she moved into a larger house, and although she felt the longer stairs a fatigue and went up and down as seldom as possible she was able to learn to bicycle in the spring of the following year and could go for from 20 to 30 miles in a day without setting up any of the pain in the side or in the thigh. In the beginning of 1896 she began to suffer from pain in the right side, and on examination the chief seat of the pain and tenderness was found to be midway between the umbilicus and the right anterior superior iliac spine. The bowels were attended to, some β naphthol was ordered, and a belladonna plaster was put over the whole of the right side. This treatment was followed by marked improvement, but the patient broke down on a journey to Italy and had to remain in Paris. At this time there was no pain, she was simply tired out. For about a month after coming back from Paris she was perfectly well, but towards the end of May the pain returned. On examination the appendix could be felt with the greatest ease. It felt almost as thick as my thumb. I do not think that it was in reality anything like so large as this, for my experience has been, while operating, that the appendix is actually smaller than it feels from the outside. This has also been my experience with diseased ovaries and Fallopian tubes, and I consider that one has always to discount a considerable amount of the apparent size. The patient was kept as quiet as possible and the treatment which had before been successful was renewed. The very slightest irregularity of the bowels was invariably found to increase the pain. A course of baths at Plombières was recommended, but the patient did not wish to waste her time by "going in for" a water-cure. Another physician was consulted and he independently advised a visit to the same place. The patient was undoubtedly of a gouty habit, and had there been no previous attack of peritonitis I would have diagnosed simply a gouty irritation of the appendix.

The patient went to Plombières at the beginning of August, 1897. The treatment consisted in 21 baths, taken one every day. She lay for from 40 to 50 minutes covered to the neck in the water, at not less than 34° C. and not more than 36° C. After the first few baths and for the last 10 minutes of each succeeding one the *douche Tivoli* was used. This is simply a spray of warmer water coming out of a rose somewhere about an inch in diameter, which, passing through the water of the bath, is allowed to play against the affected part like a feather. This is a most important point. If it be used too strong it seems to do harm, as there is almost certain to be an attack of pain when the douche is improperly used in this way. After the bath the patient had to lie down in bed for half an hour. If a patient goes to sleep at this time there is said to be a headache in the afternoon. Before leaving the patient was told by the medical officer (Dr. Bottentuit) and the bath attendants that she would require to return twice more. This she firmly resolved she would not do, as the treatment was so simple that she had absolutely no faith in it. Possibly owing to not being very careful at first the pain went away slowly and there were many complaints that the treatment at Plombières was nothing but "humbug." But by the beginning of the year 1898 the patient was quite well and was losing the habit of considering before going upstairs whether she really required to go. In the middle of June she suddenly broke down after bicycling about 12 miles and had to drive home. Pain and tenderness at McBurney's point were again found, though the appendix itself could not be made out. A second visit was therefore made to Plombières in August, much to the triumph of the bath attendant. Exactly the same treatment was carried out at this second visit as at the first. It is now 14 months since the patient felt any discomfort in the region of the appendix. She has bicycled 30 miles at a time and she can go upstairs without giving it a thought. For the first time in her life she has had this winter an acute attack of gout in her foot and still the appendix is giving no trouble.

One case in particular, where I removed the appendix, contrasts very markedly with that which I have just narrated. The history was simply of one acute attack followed by rapid loss of health and strength, accompanied by pain in the right side. The patient was a medical man, and it was evident that he would soon have to stop work altogether. There was no difficulty in feeling the appendix, and at the operation one narrow band of adhesion was found which bent the appendix at an acute angle, and in this way had first caused congestion and then inflammation of the appendix. As in this case the cause was a mechanical one no course of baths or any general treatment [illegible] been expected to do any permanent good. S[illegible] [illegible]terwards the pat[illegible] illness before the operation and the illness at the time of the operation, but he said that the misery experienced while his strength was returning was a thing he could never forget.

Plombières does not seem to be sufficiently known to the medical profession. It is probably the best place in the world for the majority of cases of chronic diarrhœa, and of late years it is coming to be recognised as a place where many cases of appendicitis may be cured without operation. The cases which do best are probably those where the appendicitis is, in part at least, due to some general condition. Quite a considerable number of patients have been sent who have not been cured of their appendicitis by the removal of the appendix! Many people may not care to go to France for pleasure at the present time, but as the healing art does not require to pay attention to political matters a short account may be of interest. Indeed, the place seems to be so little known that a hospital surgeon who had himself suffered from appendicitis had never even heard of it.

This bathing station is situated in a valley 1400 feet above sea-level, on a short branch line of nine miles, midway between Nancy and Belfort, and can be reached either directly from Calais or *viâ* Paris. English ladies travelling in the restaurant train from Paris had better secure their seats in the restaurant car by sitting in them when the train is full. The villagers are conservative; they oppose every innovation and have so managed that the railway ends at Plombières and can apparently never be continued beyond it. To do this they had to take what I am told was the finest part of the park which had been laid out by Napoleon III. at the time he had the new baths built. Napoleon's old bath-man is still in attendance, having put in 37 seasons without missing one day in all those years. One old woman over 80 years of age, who lives in the main street close to the old Roman bath, has never seen the railway or the new baths, though both are within one-third of a mile. She is, however, something of a character. The baths themselves are fairly good and there is an abundance of both hot and cold water. Indeed, the water comes up so hot that it has to be taken to a reservoir up the hill to cool it before it can be used. At one of the older establishments, mostly used for rheumatism, one can go down and see the water bubbling up The air there is so hot and steamy that it is somewhat difficult to penetrate to the lowest depths, and ladies should not go down when they have on any clothes which might spoil with damp.

The treatment for appendicitis appears to be what I have already described, with, in addition, the use of the *douche ascendante* when there is constipation. One peculiarity of the *douche Tivoli* is that the water feels warm when directed against a healthy part of the body but not when it is playing against the affected spot. During the course of the 21 baths the patient is, as a general rule, depressed and miserable, though this seems to be less marked when the weather is warm. The great thing required is to be content to do nothing. Patients may apparently lie in bed, sit at the band or in the casino, and may drive, but must not exert themselves at all. For anyone who likes to be dull and doing nothing I can recommend Plombières, although it is not the dullest of bathing stations. There is, however, one great objection to the place, and one which could be easily remedied. It is that no provision has apparently been made for providing proper food for those suffering from disorders of the alimentary tract. The medical officers put the best face on it and say that the waters are so beneficial that the quality of the food does not matter, although the meat provided is notoriously so hard as to be almost uneatable. I have travelled much in France and do not expect to find French meat very tender, but it certainly was a surprise to find the meat which I got at Plombières—a place devoted in large part to the treatment of gastric and intestinal disorders. There are several hotels and many lodgings and in one of these hotels the food was very good indeed. Although a man could go alone it would be too dull for a lady without a companion. I do not mean to say that a lady could not go alone, but to send any lady ill to start with and feeling worse at some part of the course would not be a very kindly act. It is not a very expensive place; the ticket from London direct by Calais is £4 12*s.*; no return tickets are issued. The rate at an hotel not attached to the new bathing establishment and within two minutes' walk of the baths per day and without wine is 10 francs and upwards. Baths and the *douche Tivoli* cost under 5 francs or less at the other bathing establishments in the town. Some of them seemed to be almost as comfortable as the new baths and the arrangements for the supply of water are exactly the same. A man who could take his baths without a break could do the whole course from London and back for about £32, including the medical officer's fees, "tips," and ordinary wine, but excluding the casino. The majority of ladies would not be able to get through a course quite so expeditiously, and a very pleasant way of utilising the break which usually occurs is by driving to Gerardmer and the Schlucht. Gerardmer is situated on the lake of the same name, over 2000 feet above the level of the sea. It is a very lovely spot and is said to be bracing; but it has the disadvantage of being very full in summer, too full, indeed, for comfort. From Gerardmer to the Schlucht, over 4000 feet high, is a drive of about three hours, through pine woods and passing hills and lakes. The German hotel, much better situated than the French, is about one mile across the frontier, and the view from it embraces the whole of the Münster valley. The return drive to Gerardmer can be made, in part, alongside the lakes instead of high above them.

The bathing season does not begin till June 1st and finishes in the end of September, July and August being the two months when the village is full of visitors and when literally there is not an empty bedroom. During these two months it is very necessary to engage rooms before starting. The beginning and the end—especially the end—of the season are to be avoided. Even the band stops playing before the end of September, while the theatrical company leaves at about the beginning of the month.

In my experience the treatment at Plombières is very successful in cases of chronic diarrhœa, in constipation (though at first sight this may seem peculiar), in mucous colitis, and in appendicitis. The baths—and the treatment is practically limited to baths, though many people drink a small quantity of water before lunch and dinner—are recommended for various other conditions, especially for rheumatism. Comparatively few English go to Plombières, though the numbers are said to be increasing.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

(*Continued from p. 565.*)

LORD LLANDAFF'S Commissioners point out that before it is possible to determine whether purchase of the metropolitan water companies' undertakings is likely to be financially advantageous to the water consumers it is necessary to consider how the price to be paid will be fixed. They do not think it likely that the price can be settled by agreement. In the year 1880 an attempt was made by Lord Beaconsfield's Government to purchase the undertakings and the agreements arrived at were afterwards held by Sir William Harcourt's committee to be unsatisfactory, and since that date no serious attempt has been made to purchase by agreement. Many years ago negotiations which were entered into between the New River Company and the City of London had no result. The details were confidential.

In the year 1896 Sir Arthur Arnold, who was then chairman of the London County Council, entered into some negotiations with the chairmen of the water companies. As the result of the conversations which he had with them he came to the conclusion that some of the companies would be willing to sell their businesses on reasonable terms and that the purchase might be effected by agreement. The surviving chairmen of the companies through their counsel denied that the impression left on Sir Arthur Arnold's mind was well founded and denied also that any approach to an agreement was made.

In the year 1890 a Select Committee of the House of Commons, which was presided over by Sir Matthew White Ridley, examined several Bills, amongst which was one promoted by certain London vestries and parishes, which proposed that a water trust should be formed for the acquisition of the companies' undertakings under the Land Clauses Act with certain modifications, and a Bill was also framed to enable them to supply water from new sources. This Bill was not passed by the committee, but a special report was made on July 14th, 1891, in which it was recommended that the London County Council should be empowered to bring in a Bill constituting that body the responsible water authority for London and that they should be required to purchase alone or with the outlying authorities the undertakings of the eight metropolitan water companies, either by agreement or by arbitration within a fixed period. The London County Council considered the whole question and issued a report signed by Sir Thomas Farrer (afterwards Lord Farrer) in which they said that it was impossible to determine what should be paid for the water companies' undertakings without inquiry into the sources of supply and the nature and cost of new sources which might be necessary to replace or supplement those already existing, and these questions could not be determined by arbitration. It was contended also that an examination should be made as to whether the companies' charges were legal, whether their rating powers had not been stretched beyond the intention of Parliament, whether those powers might be reduced by Parliament, and whether competition with the companies might not be successfully resorted to. These questions, it was thought, would not be taken into account if purchase were conducted on ordinary arbitration terms, and if they were left out of account purchase would be likely to result in a manner unfavourable to the ratepayers and unduly favourable to the companies. This report was adopted by the County Council on Oct. 13th, 1891, and the Council declared that they were not able to accept the recommendations of Sir Matthew White Ridley's committee that they should purchase the companies' undertakings on the terms he suggested. A Royal Commission was then appointed to investigate the question of the London water-supply (the Balfour Commission), and when the Commissioners reported that the supplies in the valleys of the Thames and Lee were adequate in quantity and quality, subject to proper conditions of storage, filtration, and conservancy, the London County Council accepted the report "subject to criticism and to outlying facts and considerations," and Bills for the purchase of the water undertakings by the Council were introduced in November, 1894. In their Bills special clauses were inserted with regard to arbitration by which the arbitrators were required to have regard to the probability that the legal powers of a company as to taking water were limited; to discount the actual revenue because competition by other companies was possible; to revise the capital account because it represented obsolete works; to revise the revenue accounts in respect to repairs and renewals, and to take into account the likelihood of some competing body existing in the future. The arbitrators were not to allow any claim for back dividends for more than six years, nor to make allowance for a possible future increase of rateable value in unaltered premises, nor to give compensation in respect of compulsory sale. The Bill containing this clause was referred to a committee of the House of Commons (Mr. David Plunkett's Committee). The committee showed a manifest disinclination to accept the arbitration clause and the County Council proposed an alternative one which provided that arbitrators should not be precluded on any legal objection from considering any matter laid before them by either party and should deal with all the contentions of the parties as fully and effectually as could be done by Act of Parliament. The Commissioners suggest that this provision would apparently have enabled the arbitrators to decide upon the value without regard to the strict legal rights of the companies. Mr. Plunkett's committee did not give any final decision on this clause.

In the year 1897 the County Council again introduced Bills into Parliament for the purchase of the water companies' undertakings, and these Bills contained clauses giving unfettered discretion to the arbitrators and providing that they should not be precluded by any legal objection from considering all the contentions of the parties. On the second reading these Bills were rejected.

In 1899 the County Council again introduced a Purchase Bill in which they restored the clause which had been introduced in the Bill which was considered by Mr. Plunkett's committee. The Commissioners referred to the fact that during their inquiry they asked the London County Council whether that body were of opinion that the water undertakings could with advantage be purchased without any special terms of arbitration. The answer, which was very carefully drawn up, was given in writing. It has already been published *in extenso* in THE LANCET. The history of the arbitration clauses leads to the inference that the County Council think that in the interests of ratepayers and consumers purchase should not be conducted under ordinary terms of the Land Clauses Act, and the Commissioners discuss in some detail the contentions of the London County Council. 1. Stress was laid on the fact that the London water companies have no monopoly but are liable to competition. 2. It was contended that the companies are not entitled to charge the maximum rates and that a pledge had formerly been given to Parliament that these charges would not be made in the majority of cases. In answer to this the Commissioners point out that none of the special Acts contain any words restricting the companies from charging their maximum rates and that whatever pledge could be inferred from the language of the counsel for the water companies it was given with reference to a different scale of charges and one which was rejected. 3. It was contended that the capital of the companies should be revised because it included items which were not sanctioned by Parliament, and that it included sums spent years ago on works which had been abandoned or become obsolete. The Commissioners point out that the auditor of the London County Council gave it as his opinion that the capital of the companies as a whole represented "a going concern in good working order." 4 It was contended that the companies devoted too much of their annual revenue to dividends until they were able to pay the maximum rate to which they were entitled and that afterwards they were more lavish in their expenditure on improving their works. The case of the West Middlesex Company was brought prominently forward, but the Commissioners thought that the detailed account of expenses given by the secretary of the company which showed how the increase of expenditure had arisen proved that it was an "accidental coincidence" that the increase in capital outlay had occurred when it did. 5. It was contended that no compensation should be given to the shareholders of the companies in case of purchases for the amount due to them for back dividends. The Commissioners opine that the legal rights of the companies to pay back dividends to their shareholders are incontestable. 6 It was contended that Parliament did not intend that the rating powers of the companies should be "stretched to the utmost." The Commissioners state that in their opinion the check which Parliament intended to make is the one which they actually did make—that is, a limitation of the dividend—and that as soon as the maximum dividend is reached, the back dividends paid up, and the reserve fund built up the extra receipts must be applied to the reduction of charges made to the consumers for the water supplied. In the case of the New River Company this check has not been imposed. The company have not been restricted from making their full statutory charges. The rating powers of the companies are various and ambiguous and the authorised charges increase with the rateable value although the premises may not be altered. In the case of two of the companies, however (the Chelsea and the Kent), the increase in rateable value has had the effect of lessening their receipts, as they themselves have had to pay more on the increased assessments imposed on them than they have gained by assessments imposed on their customers. The Commissioners say that variation in the water charges allowed by the statutes of the different companies do not supply good grounds for attacking their revenues as inequitable. In case of purchase by arbitration it appears that any arbitration to ascertain the value of the companies must proceed upon the basis of their statutory rights and that the arbitrator could not take upon himself to consider whether Parliament might curtail them and then assign to the companies a lower compensation on the ground of the probability of such interference with existing statutory rights, and it is precisely in order to enable the arbitrator to take that course that the special arbitration clauses have been framed. The Commissioners, however, assume that if the policy of purchase be adopted the price of the undertakings should be determined by an arbitration conducted on the lines of the Lands Clauses Act, although possibly, in view of the magnitude of the undertakings, the tribunal might be differently constituted.

The Commissioners, having come to the conclusion that should the water companies undertakings be bought it should be done under the conditions laid down by the Land Clauses

Act, proceeded to consider what the financial results of arbitration would be likely to be.

The advisers of the London County Council, they point out, have looked with some apprehension upon the possible results. In the Bill which was introduced by the London Vestries in 1891, by which it was proposed that the undertaking should be purchased by a water trust and that the amount of payment should be settled under the Land Clauses Consolidation Act, the Parliamentary Committee of the County Council reported that there were *primâ facie* grounds for believing that such a method of purchase would prove unsatisfactory, because (1) recent Stock Exchange quotations had been unduly large; (2) unduly large dividends had been maintained; (3) the works and plant of some of the companies were obsolete; (4) no sufficient allowance had been made for depreciation; and (5) a heavy outlay would have to be made for establishing a new supplementary system of supply.

The Water Committee of the London County Council, after considering the report of their Parliamentary Committee, came to the conclusion that if the matters mentioned were left out of account in valuing the undertakings the people of London might be made to pay a very large amount for the existing undertakings and then find it necessary to spend from 10 to 20 millions more money in providing a new supply. Such a purchase, therefore, they thought should be resisted at all hazards. And, again, on Dec. 5th, 1895, their Parliamentary Committee reported to the London County Council that if the arbitration clause which they wished to put in was not inserted the arbitrator might be able to make an allowance for "compulsory sale" and for back dividends, and that therefore the purchase should not be undertaken in that case without full consideration of the probable financial results.

The Commissioners report that they had not the advantage of hearing any estimate as to the probable cost of purchase and that therefore they found it necessary to form for themselves the best estimate they could as to what would be the award of a fair and just arbitrator, acting on the usual terms of arbitration in cases of compulsory purchase and valuing the undertakings of the water companies at what they are worth to the vendors, having regard to their existing rights and taking into account the existing advantages and disadvantages of each company.

The estimate must in the first place be made on the existing net income of each company. The arbitrator ought next to consider whether the income is stable or unstable and in doing so he would have to find out what future capital expenditure would be necessary to maintain the income, bearing in mind that the companies are under an obligation to maintain the proper supply of water for the whole of their respective districts. The shareholder ought to receive a sum sufficient to purchase an equally good security producing the same income which he was getting from his water shares. A calculation made on these lines would result in neither loss nor gain to the purchaser, who would have the equivalent, and no more than the equivalent, for what he paid; and if the purchaser were able to borrow money on security of rates as well as water charges, and if he had, moreover, the option of paying in cash the amount of compensation awarded, he might obtain an advantage from the first from the fact that he could borrow money at a lower rate of interest than the water shares were now earning.

In the purchase of the undertakings the arbitrator would have to bear in mind that in some companies there was possibly a prospective increase of income, for which an arbitrator should make allowance. On the other hand, there might be companies in which the income was likely to diminish. "Assuming a claim for prospective increase were established the arbitrator would have to ascertain its true value and to discount that value in respect of the present payment."

It is usual in the case of unwilling sellers that some compensation should be made for compulsory sale, but nothing in the Lands Clauses Act requires an arbitrator to award anything for this, and it is not correct to say that any custom has grown up under the Act which binds arbitrators to make such an award. It is true that in some cases awards have been made because of the compulsory character of the sale as a *solatium* to the owner dispossessed of property to which associations of family or personal interest attached. But it would be improper for an arbitrator to give any compensation in the nature of a *solatium* of that kind for deprivation of water shares. The shareholders would be entitled to be recouped for any delay which might occur in finding an equally good investment yielding the same income and to be recouped for the cost of the re-investment. The amount which should be allowed would depend on the character of the shares of the particular company concerned, and although it could hardly be estimated it would probably be comparatively small.

Should the undertakings be purchased by a public authority it would be according to custom that a sinking fund should be set aside by the purchasing authority to repay the amount borrowed within a certain number of years. It would, of course, be within the power of Parliament to allow a purchasing body to dispense with such a sinking fund, but this would be contrary to precedent.

Considering, however, the magnitude of the operation it might not be unreasonable to allow the operation of the sinking fund to extend to 80 or even to 100 years, should the sinking fund be considered necessary. Unless the purchased income exceeds the interest on the purchase money the whole of the annual charge which would have to be met for providing that fund would have to be got either by increasing the water charges or by a special rate—i e., by making the water consumer pay more for water or by imposing a new burden on the ratepayer, whether he consumes water or not. At the end of the time allotted for the operation of the sinking fund great relief would be given to the community, but in the meantime for many years an increased burden would have to be borne.

The Commissioners pass on to consider to what extent it is likely that the expense of a sinking fund would be met by any economies which might be ensured by a public authority. Amongst the possible ones it had been suggested during the inquiry that about £50 000 a year would be saved in (1) directors' fees; (2) salaries, &c.; (3) collection of rates; and (4) printing and stationary. With regard to possible saving in directors' fees the Commissioners thought that some compensation to the present directors would probably be thought necessary by Parliament, and it is not unlikely that this compensation would for some time absorb a great part of the suggested saving (£28,345 per annum).

It was suggested that £5000 per annum might be saved i salaries and superannuations, but the Commissioners thoug it doubtful whether management of a business as large that carried on at present by the eight companies, if do by an unpaid committee whose members would be frequen changed, was likely to result in economy. The perman officials would have more responsibility, with the result t they would obtain higher pay. One of the witnesses had experience in the municipal management of w undertakings (at Blackburn, Nottingham, and Burnley) sidered that a larger staff, more office work, and more re ing were required under municipal than under a comp management. Under municipal management the Co sioners say that a motive to economise and the experience necessary to economise rightly are both wanting.

With regard to saving in the collection of rates one of the witnesses had estimated it at £10,000 a year. During the year 1897 the companies paid £51,884 for collecting, and it was suggested that a public authority might be able to employ the parish rate collectors in getting the water rates. This suggestion did not appear to be a practical one, for it was found that municipalities which managed their own water-supply found it necessary to employ a separate staff of collectors for the water rates and the borough rates. In the case of Liverpool the collection of the sanitary rate is made by the water rate collectors and the borough rate is collected separately; the water rate collectors receive 4 per cent. of the total money taken—a higher percentage than that which is paid by the London water companies. The difficulty of collecting water rates is increased by the fact that extra charges for baths, stables, gardens, &c, are made and that the trade supplies are given by meter and at special rates according to the quantity taken.

Another possible source of saving was that of Parliamentary expenses. This, the Commissioners observe, is purely hypothetical, for although it is true that the annua purchase bills of the London County Council would b saved if that Council were the purchaser the purchasin authority would have to make applications to Parliament f extending its powers in the same way that the companies present have to make them. Moreover, the expenses of arbitration leading up to a purchase would be very heavy.

It was suggested that a saving of £5000 a year stationary and printing might be made if the undertakings were bought from the companies. The Commissioners agreed with Sir John Lubbock that a public authority was likely to spend more rather than less on that item.

In the case of purchase of the undertakings by a public authority one of the most important changes which would take place has regard to the Chamberlain's Sinking Fund. The Sinking Fund clauses are, the Commissioners point out, peculiar to metropolitan water legislation. The first Sinking Fund clause was introduced into an Act of the East London Company in the year 1886 at the instance of the City of London. Three similar forms have been adopted in the case of other companies and now in some form the clause has been applied to all the companies. In detail there are differences in the form of the clause introduced, but the operation in each case is substantially the same and has the following effect: "*Whenever a company obtains power* to borrow money on debenture stock—and since 1886 no company has obtained power to increase its capital in any other way—the clause assumes that the money so borrowed earns profit at the average percentage of the dividend or interest paid on all the capital of the company, whether share capital or loan capital. The excess of that average percentage over the interest payable on the debenture stock issued *plus* 1 per cent. for management of such debenture stock is taken as the profit earned by the new capital and the company are required to pay the whole of the excess to the Chamberlain of the City of London as trustee for the purpose of purchasing and holding shares of the company and of investing the dividends thereon with a view to ultimately extinguishing the capital of the company or for such other purposes as Parliament may from time to time determine." This clause prevents any additional value accruing to the undertaking from the new loan capital and withdraws from the profits of the company the sum paid over to the Chamberlain for the benefit of possible purchasers in the future. Parliament required the City Chamberlain to re-invest payments which were made on account of the Sinking Fund and the dividends accruing from them in purchasing the shares of the company which made the payment. The transfers of the stock purchased are taken by the Chamberlain in his own name with the description, "Chamberlain of the City of London." The accounts of the Chamberlain's Sinking Fund have not at present been published with the other accounts of the Corporation, but in future they will be included with the notion that their responsibility will thereby be established.

The intention of the clauses, the Commissioners point out, was that fresh borrowing powers should be granted to the companies only on condition that the future profits assumed to result from the additional expenditure should be appropriated for the benefit of a purchaser representing the interest of the public.

Up to the present time the practical result of the clauses has been small, the dates when payments to the Chamberlain become due have not yet arrived, but there are, taking all the companies together, £6,320,000 of debentures subject to the Sinking Fund clause. In the year 1887 the sum of £4804 was paid to the Chamberlain, and it is estimated that should the present dividends of the companies continue unaltered no less than £119,703 a year will be payable in and after the year 1915, and it may be safely asserted that the operation of the Sinking Fund clauses will provide a very substantial sum.

THE PRINCE OF WALES'S HOSPITAL FUND FOR LONDON: THE REPORT FOR 1899.

As we have already mentioned, the annual meeting of the General Council of the Prince of Wales's Hospital Fund for London was held on Feb. 13th at Marlborough House, the PRESIDENT (H.R.H. the Prince of Wales) being in the chair, and the draft report for the past year was read and adopted. The total receipts for the year 1899 showed an increase of about £9,000 over those of 1898, and the total sum distributed for the year was £42,000. At the close of the meeting H.R.H. the PRINCE of WALES said that it only remained for him to perform what might seem a formal duty, but one which in reality was one of pleasure—namely, most heartily and sincerely to express his thanks to the Council and honorary officers of the Fund. Proceeding the Prince of Wales felicitously congratulated Sir William MacCormac who, he said, was absent at the seat of war. "At his time of life," said His Royal Highness, "the performance of the arduous duties that this necessitates reflects, I think, the greatest credit on him and gives the utmost satisfaction to all who know him."

The report, which showed an eminently satisfactory state of matters, was as follows:—

The General Council view with satisfaction the work of the Fund during the past year, as shown by the reports of the several committees appended hereto. It will be seen that the general policy adopted at the inauguration of the undertaking has been continued, and while money has not been hoarded unnecessarily the total distributed has left a balance on the right side. The receipts for 1899 are £48,536 15s. 4d., as against £39,272 3s. 5d. of the previous year. This result the Council consider highly satisfactory under the peculiar circumstances of the year. This is more especially the case, seeing that in view of the exceptional claims upon the public the committee decided not to make the usual autumn appeal. It is, however, a noteworthy fact that of all the sums received not one has been in the form of a legacy, although the hospitals themselves derive a large proportion of their incomes from this source. But now that the Fund is proved to have come to stay it is hoped that exceptions to this rule may be introduced from outside the ranks of existing subscribers.

The total sum distributed for 1899 amounted to £42,000. Of this sum £26,250 has been given as annual grants and the balance as donations. It will be seen that in the majority of cases the grants have been given on certain conditions. The cost of management and collection is about 3¾ per cent., as compared with about 6¾ for 1898. As stated by His Royal Highness the President, improvement is evident from the fact that the receipts are larger and the expenses smaller. There has been no clashing with the work of either the Sunday or Saturday Funds, and the promise given to that effect has been kept. Subscribers may be interested to know that most of the surplus copies of the Jubilee programme printed for the benefit of the Fund have been given to London hospitals, board schools, workhouse infirmaries, and other institutions.

In the report of the Hospitals Distribution Committee it will be noted that a distinction is drawn in those cases in which grants are withheld between the ten institutions which, though favourably reported on, did not at the end of last year appear to be in urgent need of further help and the three which were not deemed to be hospitals in the true sense of the word. This distinction is drawn by the advice of the Visiting Committee and in accordance with requests frequently published in the public press. The effect of the work for the year is that, in addition to improvements in operating theatres or rooms, nurses' accommodation, sanitary and other requirements, 45 more disused beds will be re-opened and maintained, making a total of 287 re-opened in the last three years through the help of this Fund. Rather more still remain closed, but in many of these instances the beds could not easily be re-opened at the present time. In some hospitals the vacant wards are used for pay patients and thus fulfil a useful purpose, which makes it desirable to defer the consideration of re-opening these beds as free. In others they are used for nurses, and if they are devoted to their intended purposes fresh accommodation must be provided for nurses. In still harder cases the debts of the hospitals must be liquidated before any fresh liabilities are incurred. In the course of the present session a petition will be presented to Parliament by the Central Hospital Council calling attention to the heavy rating of hospitals. In support of this, on behalf of the Fund, a petition has been forwarded in accordance with the instructions of the Executive Committee, expressing the sympathy of all concerned and their desire to see the rating of all recognised London hospitals abolished. It may now be considered that the expenses of the Fund have been reduced to a minimum. Every care is taken that the money subscribed be wisely spent. Therefore, the General Council would earnestly request all interested in the cause to support the Fund in the present year, when the hospitals will be called upon to admit the wounded and when more than ever public charity is apt to turn from the sufferers at home to those abroad. Demands must shortly be made on the hospitals, not only for their increasing number of patients, but especially this year for soldiers and sailors returning from South Africa in need of good nursing and tender care. In conclusion, the Council confidently appeal to all their generous supporters including the Press, to aid them in maintaining the established and successful position of the Fund.

THE BACTERIAL TREATMENT OF CRUDE SEWAGE.

IT is abundantly clear that before we are able to pronounce definitely upon the merits of the bacterial treatment of sewage the evidence of long practical experience must be at hand. Nothing would seem to be simpler than that sewage should be spread upon a large area of porous material and there left to liquefy and ultimately to be converted into inoffensive products by the agency of bacteria. But of course sewage is not a simple organic mixture. If it consisted solely of fæces, water, and urine, bacterial agencies would be equal to the task of purifying it to a remarkably high degree. The difficulty even with the chemical treatment of sewage has been owing to the presence of matters like paper, fat, fibre, factory refuse, &c.,

which are hard to disintegrate. The same substances present a serious obstacle to the completion of the work of purification by bacteria. In the coke beds at Crossness and Barking there occurs a deposit of them which decreases the sewage capacity of the coke bed. A series of gaugings of the capacity of the 13 foot coke bed, for example, showed that the decrease of capacity was proceeding at the rate of 1 per cent. of the original capacity per week. Dr. Clowes, the chief chemist to the London County Council, undertook experiments with a view of preventing or minimising this choking of the coke bed, for it threatened a short life to the filter. As might have been guessed the deposit upon the coke consisted largely of cellulose or chaff, straw, and woody fibre, all of which are materials which baffle any attempt at disintegration by bacteria and, further, which close the pores of the coke. Attempts were therefore made, and with some success, to separate this woody sediment by allowing the sewage to settle slightly in a wooden trough. The sediment so obtained was inoffensive and contained from 52 to 70 per cent. of combustible matter. By adopting this simple preliminary the rate of choking of the coke bed was reduced from about 1 per cent. per week of its original capacity to 0 64 per cent. It is hoped that further trials will show that even a higher success in this direction is attainable.

The bacteriology of the deposit which accumulates upon the coke beds is of interest. Dr. Houston remarks that the organic matter is probably of such a nature as to resist the action of bacteria for a very considerable time if not almost indefinitely. The number of bacteria found per gramme of deposit was 1,800,000. Even this large number of microbes does not account for the deposit, for Dr. Houston has found that this number of typhoid bacilli, for example, weighed only 0·0000147 gramme. The character of the microbes appearing in the cultures differed somewhat from those found in crude sewage. Thus there was an increase in the number of spores of bacillus enteritidis sporogenes and a decrease in the number of bacillus coli. Proteus-like germs were present in abundance as were also the bacillus arborescens and an allied form. The bacillus prodigiosus was also isolated. Inoculations of a guinea-pig with some of the deposit developed an abscess at the site of inoculation and later the same characteristic red-colour-forming bacillus was isolated from the pus of the abscess. Mice similarly inoculated died with the characteristic symptoms of tetanus and bacilli were noted which in form were indistinguishable from the tetanus bacillus. Further experiments left little room for doubt that the tubercle bacilli are present in important numbers, but apparently they have lost for the most part their infective power. Dr. Houston sums up the bacteriology of the deposit in three sentences. In crude sewage, he writes, in bacterial coke beds, and in the effluent from bacterial beds, there are certain bacteria which, after being stained with hot carbol-fuchsin resist decolourisation with 33 per cent. nitric acid. Some of these "acid-fast" bacteria cannot with certainty be morphologically distinguished from the tubercle bacillus. In one instance a guinea-pig inoculated with the deposit accumulating on the coke bed died and presented on examination the appearance of death from tubercle infection, and sections of its organs when appropriately stained showed the presence of numerous tubercle bacilli.

These interesting results appear in a report recently published by the London County Council and their significance turns on the question as to whether the effluent discharged into a stream is used for drinking purposes or not.

THE LEICESTER MEDICAL SOCIETY: CENTENARY DINNER.

THE centenary of the Leicester Medical Society was celebrated on Feb. 27th by a dinner in the County Assembly Rooms, Leicester, which was attended by members of the medical profession from all parts of the country. Dr. Frank M. Pope (President of the society) occupied the chair, and was supported by the Archdeacon of Leicester, the Mayor of Leicester, Sir William Broadbent, Sir J. Sawyer, Sir Felix Semon, Sir Thomas Wright, Dr. W. S Church (President of the Royal College of Physicians of London), Dr. F. T. Roberts (President of the Medical Society of London), Dr. J. B. Spence (President of the Medico-Psychological Association), Mr. J. Tweedy (Vice-President of the Royal College of Surgeons of England), Mr. T. Bryant (President of the Royal Medical and Chirurgical Society), and Dr. Dawson Williams. Amongst those present were Dr. H. Michie (President of the Nottingham Medical Society), Mr. C. H. Hough (President of the Derby Medical Society), Dr. Howes (President of the Lincoln Medical Society), Mr. R. Taylor (chairman of the Leicester Provident Dispensary), the chief constable of Leicestershire, the town clerk of Leicester, and other local public gentlemen.

The CHAIRMAN, in giving the toast of "The Queen," referred to the Queen's visit that day to Netley. Such a journey must have been very fatiguing to one of Her Majesty's advanced years, but it was satisfactory to learn that she had been cheered on her way by the information received from the seat of war—information which had made them all cheerful. And if there was anything which would render that toast more acceptable at a gathering like the present it was that Her Majesty had always been mindful of her medical men and had on many occasions shown them her warm esteem.

The health of the Prince of Wales having been submitted from the chair and drunk with much enthusiasm, and

Mr. C. DOUGLAS having submitted "The Navy, Army, and the rest of Her Majesty's Forces," and the toast having been duly acknowledged,

Sir WILLIAM BROADBENT gave the toast of "The Leicester Medical Society." Dwelling on the value of such societies he said he thought there were no organisations such as this which did not serve a useful purpose. Meetings were held, papers were read, discussions were initiated, and opinions were exchanged, all of which tended to the benefit of the profession. A man could not read a paper before a medical society or venture on criticism without thinking the subject over and putting his own ideas in order, which was an exercise of great value not only to himself but to the other members of the society. At such meetings one found the young man fresh from lectures and hospital laboratories meeting the man of ripe experience. The man of ripe experience might from the young man realise the progress which had been made since his time, and the young man might find his theories shattered against the walls of ripe experience. In both instances a great service was rendered and marked progress was ensured. Another important work of medical societies was the bringing together of the members of the profession. By this means jealousies and suspicion were mitigated and honourable competition advanced. One of the great objects of such societies was to sweeten the moral atmosphere and to keep down quackery, which sometimes permeated into their ranks. There was another point for which they were indebted to these medical societies and that was that no one could attend their meetings without learning something of the advancement made in medical and surgical knowledge, and in that respect alone the work of such societies was of the greatest possible value. It was just 100 years since the Leicester Medical Society was started. He should have liked to have brought before them what had been done in regard to their profession in that period in London, but he had not the time at his disposal to do so. One of the things, however, which struck him in looking at some of the records of those days was that they had just had an epidemic of influenza, when the medical societies of London issued a circular with a number of questions on influenza The questions could not be better put to-day and the answers were very instructive. He noticed that among the answers was a very interesting one from Leicester from a Mr. Butler. In replying to the question as to what were the symptoms he was one of the few who "reserved his opinion." Another question which exercised the public mind of that day was vaccination. He found that Manchester resolved to give the poor the benefit of vaccination and money was voted for gratuitous vaccination. He was perfectly aware that in saying this in Leicester he was treading on dangerous ground. He thought for the first time in his life he had that day made the acquaintance of an anti-vaccinationist, though he did not venture to discuss the question, as he was well aware that one might just as well try to discuss the beautiful sunset with a colour-blind man as vaccination with an anti vaccinationist. But he thought that in the future the process would undergo development. They were vaccinating actively at the present moment against typhoid fever, and he thought they would sooner or later see vaccination adopted for protection against most contagious diseases. Reverting to the toast Sir William Broadbent wished the Leicester Medical Society every success and resumed his seat amid applause.

The CHAIRMAN, in replying to the toast, said they appreciated Sir William Broadbent's kind and sympathetic speech. No one was better qualified to tell them what a medical society should be. Their society, as they knew, was just celebrating its centenary. It was established, he believed, mainly for the circulation of books. It met twice a year and held its meetings at what he presumed was the chief hotel of the time. The members ordered three books and then feasted. Unfortunately, little was known of those very early days of the society, but undoubtedly by the circulation of literature it supplied a great want. The society in those early days comprised amongst its members two eminent surgeons, Mr. Thomas Paget, senior, and Mr. Thomas Paget, junior. He was thankful to say that they had had good surgeons in Leicester ever since. He knew of no town where there was such a fraternal feeling among the members of the medical profession as at Leicester and he attributed that state of things very largely to the work of their society.

Mr. C. J. BOND proposed "The Royal College of Physicians and Surgeons and the Learned Medical Societies," and in the course of his remarks said that medical politics should only be directed to obtaining for the medical profession a better opportunity of doing their true work.

Dr. CHURCH, Mr. TWEEDY, Dr. ROBERTS, and Mr. BRYANT responded.

The MAYOR of LEICESTER, in responding to the health of the Mayor and Corporation, referred to the improved sanitary condition of the town and said that the corporation in their endeavour to make the town clean and healthy had succeeded in reducing the death-rate from 23 per 1000 to something between from 14 to 18 per 1000. In short, they had done their best to reduce the incomes of the medical profession. With regard to small-pox he believed that by adopting the system of isolation they had in Leicester succeeded in preventing the spread of that disease. He was glad to find other towns following their example. He and the Sanitary Committee would be glad at all times to coöperate with the medical profession in any way they possibly could.

Mr. G. C. FRANKLIN gave "Our Guests," and the Archdeacon of LEICESTER, Dr. WARD COUSINS, and Sir JAMES SAWYER responded. The toast of "The Chairman" concluded the proceedings.

THE
APPOINTMENT OF EXTERN EXAMINERS IN THE ROYAL UNIVERSITY OF IRELAND.

A MEETING of the Senate of the Royal University of Ireland was held on Feb. 8th, when Dr. W. A. MCKEOWN brought forward the following motions:—

1. That extern examiners be appointed in the Faculties of Arts and Medicine, so far as the funds of the Royal University will allow.
2. That a committee be appointed to inquire as to the examinations in these faculties in which extern examiners are most required and as to the funds which are now or hereafter could be made available for the payment of such examiners.

In support of these suggestions Dr. W. A. McKeown has issued a most important statement in which he says that his chief reason for proposing these motions is that the examinations of the University are regarded generally by the public, by teachers, and by students, and even by members of the Senate, as unfair, mainly through the peculiar constitution of the examining boards, and that the appointment of extern examiners would certainly lessen that unfairness and do great good in other ways. To ascertain the grounds for this prevalent belief Dr. McKeown proceeds to investigate the relations of the Royal University with the students and with the colleges. He explains what an immense advantage the students from University College, Dublin, and the Catholic University School of Medicine have, as in one-half of every examination they are examined by their own teachers, whilst the students from other colleges are examined only in a small part by their own teachers. As a result he holds that the awards of prizes, &c., by the Royal University since its foundation have been vitiated and unreliable, the prizes obtained by students of these two schools having been obtained with odds greatly in their favour, whilst the prizes obtained by other students have been gained with the odds greatly against them. Dr. McKeown says that on the actual examinations doubtless the successful candidates were entitled to their prizes, &c., but under more equitable conditions other candidates might have been the fortunate winners, and other persons might have competed. As showing how, in his opinion, the constitution of the boards of examiners may affect the examination Dr. McKeown gives in his pamphlet the following table:—

Table showing the Subjects for the Final Examination for the Degrees of M.B., B.Ch., B.A.O., and the Institutions in which the Examiners Teach.

—	Belfast.	Cork.	Galway.	Catholic University School of Medicine	Richmond Hospital.
1. Medicine, Theoretical...	—	—	1	—	1
2. Medicine, Clinical	—	—	1	—	1
3. Medical Jurisprudence	—	1	—	1	—
4. Hygiene	—	1	—	1	—
5. Surgery, Theoretical...	—	—	—	1	1
6. Surgery, Clinical .	—	—	—	1	1
7. Surgery, Operative	—	—	—	1	1
8. Ophthalmology and Otology	—	1	—	1	—
9. Midwifery and Diseases of Women and Children .	1	—	—	1	—
10. Pathology ...	1	—	—	1	—
—	2	3	2	8	5

This table shows the relative position of the students from the various schools to the examiners in the Final M.B. Examination, a position which is made still more evident, he thinks, by the following table.—

Table showing the Number of Persons from Various Medical Schools who have obtained the Degree of M.B., B.Ch., B.A.O., in the Years 1889, 1894, and 1899.

—	1889.	1894	1899.	Total.
Queen's College, Belfast	32	21	27	80
Queen's College, Cork...	15	8	11	34
Queen's College, Galway	2	—	1	3
Catholic University School of Medicine	6	5	10	21
School of Physic, Trinity College ..	5	1	—	6
College of Surgeons, Dublin	—	1	—	1
London School of Medicine for Women...	—	1	—	1
Durham University	—	1	—	1
Mixed returns—i.e., where a student has been educated at more than one school	10	—	2	12
	70	38	51	159

Dr. McKeown says the number of Fellows and examiners approximately which should represent the different schools at the final medical examinations on the basis of graduation compared with what such schools really have is as follows:—

Belfast	with 80	graduates	should have	11½	but has	2
Cork	,, 34	,,	,,	5	,,	3
Galway	,, 3	,,	,,	½	,,	2
Dublin—						
Catholic University School of Medicine	,, 21	,,	,,	3	,,	8
Richmond Hospital	,, —	,,	,,	—	,,	5

Dr. McKeown points out that the position of the Richmond Hospital in relation to the Royal University requires explanation, and says that the constitution of the boards of examiners is unfair to all the schools and colleges except to

University College, Dublin, and the Catholic University School of Medicine, both of which have a predominant influence in all the examinations of the University.

Dr. McKeown brought his two motions before the members of the Senate on Feb. 8th at their meeting, when after a discussion a committee was appointed to examine the financial state of the University with the view of ascertaining how far it would be possible and desirable to appoint additional and extern examiners. Subsequently all the old Fellows and examiners in the Faculty of Medicine were re-appointed, with the addition of Professor Lindsay (Belfast) in medicine and Professor W. N. Thompson (Belfast) in physiology.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 7084 births and 5387 deaths were registered during the week ending Feb. 24th. The annual rate of mortality in these towns, which had increased from 21·2 to 25 8 per 1000 in the three preceding weeks, declined again to 24·2 last week. In London the rate was 21·5 per 1000, while it averaged 25 9 in the 32 provincial towns. The lowest death-rates in these towns were 9 9 in Croydon, 13 7 in Cardiff, 16 9 in Birkenhead, and 17·6 in West Ham; the highest rates were 37 3 in Blackburn, 39 0 in Salford, 40 7 in Wolverhampton, and 44 7 in Preston. The 5387 deaths in these towns included 444 which were referred to the principal zymotic diseases, against numbers increasing from 428 to 469 in the three preceding weeks; of these 120 resulted from whooping-cough, 115 from measles, 92 from diphtheria, 47 from "fever" (principally enteric), 40 from diarrhœa, and 30 from scarlet fever. No fatal case of any of these diseases occurred last week in Brighton; in the other towns they caused the lowest death-rates in Swansea, Birkenhead, Halifax, and Gateshead, and the highest rates in Wolverhampton, Blackburn, Preston, and Sheffield. The greatest mortality from measles occurred in Wolverhampton, Leicester, Preston, and Sunderland; from whooping-cough in Portsmouth, Norwich, Salford, and Leeds; and from "fever" in Wolverhampton. The mortality from scarlet fever showed no marked excess in any of the large towns. The 92 deaths from diphtheria included 48 in London, 10 in Sheffield, six in Liverpool, and four in Portsmouth. No fatal case of small-pox was registered last week in any of the 33 large towns, but 11 small-pox patients were under treatment in the Metropolitan Asylums Hospitals on Saturday last, Feb. 24th, and three new cases were admitted during the week. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2009, against numbers decreasing from 3578 to 2052 on the 14 preceding Saturdays; 160 new cases were admitted during the week, against 174, 157, and 159 in the three preceding weeks. Influenza was certified as the primary cause of 52 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had been 423 and 527 in the two preceding weeks, declined again last week to 485, and were 62 below the corrected average. The causes of 67, or 1·2 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Leeds, and in 10 other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Manchester, Blackburn, Halifax, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had risen from 23 0 to 31·0 per 1000 in the six preceding weeks, further increased to 31·7 during the week ending Feb. 24th, and exceeded by 7·5 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 15 2 in Leith and 24 7 in Aberdeen to 39 1 in Dundee and 62·4 in Perth The 931 deaths in these towns included 19 which were referred to diarrhœa, 17 to measles, 17 to whooping-cough, nine to scarlet fever, five to diphtheria, and two to "fever." In all 69 deaths resulted from these principal zymotic diseases, against 61 and 82 in the two preceding weeks. These 69 deaths were equal to an annual rate of 2·3 per 1000, which was 0·3 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of diarrhœa, which had increased from eight to 20 in the three preceding weeks, declined again to 19 last week, and included eight in Glasgow, four in Aberdeen, and three in Edinburgh. The deaths from measles, which had been 19 and 24 in the two preceding weeks, declined again last week to 17, of which nine occurred in Glasgow, five in Dundee, and three in Paisley. The fatal cases of whooping-cough, which had risen from eight to 18 in the five preceding weeks, decreased again to 17 last week, and included nine in Glasgow, three in Aberdeen, and three in Perth. The deaths referred to scarlet fever, which had been three and 11 in the two preceding weeks, declined again last week to nine, of which five were registered in Glasgow, two in Edinburgh, and two in Paisley. The fatal cases of diphtheria, which had been seven in the preceding week, decreased to five last week and were all recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had increased from 172 to 325 in the four preceding weeks, further rose to 362 last week, and were 129 above the number in the corresponding period of last year. The causes of 42, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 29·7 and 42·4 per 1000 in the two preceding weeks, further rose to 51 0 during the week ending Feb. 24th. During the past four weeks the death-rate in the city has averaged 36 7 per 1000, the rate during the same period being 21·1 in London and 26·7 in Edinburgh. The 342 deaths registered in Dublin during the week under notice were 58 in excess of the number in the preceding week, and included 11 which were referred to the principal zymotic diseases against 17 and 15 in the two preceding weeks; of these five resulted from measles, four from diarrhœa, one from scarlet fever, one from "fever," and not one either from small-pox, diphtheria, or whooping-cough. These 11 deaths were equal to an annual rate of 1·6 per 1000, the zymotic death-rate during the same period being 1·8 in London and 1·2 in Edinburgh. The deaths referred to measles, which had declined from 18 to one in the six preceding weeks, rose again last week to five. The fatal cases of diarrhœa, which had been two in each of the three preceding weeks, increased to four last week. The mortality from scarlet fever corresponded with that in the preceding week, while that from "fever" showed a decline. The 342 deaths in Dublin last week included 51 of infants under one year of age and 121 of persons aged upwards of 60 years; the deaths of infants and elderly persons being respectively 11 and 40 in excess of the numbers in the preceding week. Eight inquest cases and four deaths from violence were registered, and 182, or more than one-half, of the deaths occurred in public institutions. The causes of 11, or more than 3 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE under-mentioned Surgeons have been promoted to the rank of Staff Surgeon in Her Majesty's Fleet:—Johnston Hamilton Acheson, John McElwee, D'Arcy Harvey, Reginald Thomas Alexander Levinge, John Christopher Ferguson, and Edward Pain Mourilyan.

The following appointments are notified:—Surgeons: J. P. H. Greenhalgh, lent to Royal Marine Infirmary; J. F. M. McDougall to the *Rodney*; and N. J. Roche to the *Alexandra*.

IMPERIAL YEOMANRY.

The appointments of the undermenioned gentlemen as Medical Officers, with the temporary rank of Captain, are cancelled:—H. Manders, M.D. (Major, 1st Volunteer Battalion Princess Charlotte of Wales's, Royal Berkshire Regiment); R C Dun, M.B.; C. Smith, M.D.; A. C. Fry, M.R C.S.; E. T. Vint M.B.; C. B. Howse, M.R.C.S.; and H. A. Lownds (Captain, 2nd Volunteer Battalion the York and Lancaster Regiment). Francis Wellford, M.B. to be Medical Officer, with the temporary rank of Captain.

ROYAL ARMY MEDICAL CORPS.

Major M. T. Yarr has arrived at Portsmouth for duty. Brigade-Surgeon S. K. Ray, A M.S., retired pay, has arrived n the Eastern District for duty. Major John Semple retires rom the service receiving a gratuity. Lieutenant Douglas as left for South Africa.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant-Colonel C. B. Stoney, having resigned his Militia appointment, ceases to belong to the Army Medical Reserve of Officers.

INDIA AND THE INDIAN MEDICAL SERVICES.

The Queen has approved of the retirement from the service of the undermentioned officers: Lieutenant-Colonel William Flood Murray, Bengal Establishment. Lieutenant-Colonel Andrew Duncan, Bengal Establishment. Lieutenant-Colonel Edward Fawcett, Madras Establishment.

VOLUNTEER CORPS.

Artillery: 6th Lancashire: William Thomas Blackledge to be Surgeon-Lieutenant. *Royal Engineers:* 2nd Cheshire (Railway): Surgeon-Captain T. C. Bailey resigns his commission. *Rifle:* 2nd Volunteer Battalion the Queen's (Royal West Surrey Regiment): Surgeon-Lieutenant P. D. Minchin to be Surgeon-Captain. 3rd Volunteer Battalion the Northumberland Fusiliers: Surgeon-Lieutenant W. H. Vickery to be Surgeon-Captain. 1st Volunteer Battalion the Essex Regiment: Surgeon-Lieutenant A. B. Harris resigns his commission. 2nd Volunteer Battalion the Queen's Own (Royal West Kent Regiment): George Robert Fabris Stilwell, M.B., to be Surgeon-Lieutenant. 3rd (Sunderland) Volunteer Battalion the Durham Light Infantry: Surgeon-Lieutenant J. C. Fenwick to be Surgeon-Captain.

TRANSVAAL WAR NOTES.

The Chelsea Hospital for Women offers special facilities for the gratuitous treatment of the wives of reservists suffering from diseases which come within its province.

The x ray apparatus, the gift of the Duke of Newcastle to the *Princess of Wales* hospital ship, has proved of great service in locating the position of bullets in the wounded. The apparatus was supplied by Harry W. Cox, Limited, of Cursitor-street, W.C. *The x ray apparatus on board the Spartan* and *Trojan* were also supplied by this firm.

Captain G. S. Walker, R.A M.C., died from enteric fever at Ladysmith on Feb. 23rd.

Captain Holt, R.A.M.C., died from wounds received during Sir R. Buller's operations at Modder river on Feb. 21st.

Lieutenant Mackenzie, R.A M.C., was wounded in the Koodoosberg reconnaissance on Feb. 7th.

At a meeting held in Birmingham on Feb. 26th, a committee was formed to assist the general committee of the Royal Army Medical Corps Fund in London. Mrs. Bennett May and Mrs. Lloyd Owen were appointed hon. secretaries.

Major G. E. Hale, R.A.M.C , D.S.O., has been appointed by the War Office military commandant of the bearer company in connexion with the Imperial Yeomanry Hospital.

The medical staff of the Princess Christian Hospital left Waterloo on Feb. 28th for Southampton, where they embark on the *Assaye* for South Africa. The following is a complete list of the medical staff:—Major H. B. Mathias, D.S.O., R A.M.C., the War Office representative, in command; chief surgeon: Mr. J. Paul Bush; medical officers: Dr. G. V. Worthington, Dr. E. A. Nathan, and Mr. A. T. Flemming; dressers: Mr. A. B. Oridland and Mr. E. M. Pearse.

The general committee of the Sick and Wounded Officers' Surgical and Medical Aid Fund, of which the Duke of Abercorn is president, have made arrangements whereby the best professional advice will be at the service of officers returning invalided from South Africa. Leading physicians and surgeons have placed their services at the disposal of the committee, and numerous offers of hospitality to invalids and convalescents have been received. Considerable funds will be required to meet the expenses involved in skilled nursing or special treatment over long periods and of costly surgical appliances. Subscriptions should be sent to the honorary treasurer, Hampden House, Green-street, W.

The following surgeons have been appointed to serve with the Welsh Hospital for South Africa:—Professor Thomas Jones, F R C.S. Eng., Professor of Surgery, Owens College, Manchester, and surgeon to the Manchester Royal Infirmary; Mr. J. Lynn Thomas, F R C S. Eng , assistant surgeon to the Cardiff Infirmary; and Mr. R. H. Mills-Roberts, F.R C S. Edin., surgeon to the Llanberis Quarries Hospital. Alderman Sir David Evans has consented to act as treasurer to the hospital. Meetings are being held and local collections are being made in different parts of Wales and in the large provincial towns to press the claims of the hospital among Welshmen. The committee desire that it should be known that the hospital is intended for the use of the Imperial troops, irrespectively of nationality. A Welsh national concert is to be given in aid of the funds at the Queen's Hall, London, on March 14th at which Mr. Ben Davies has kindly promised to sing.

SIR J. SIVEWRIGHT'S AMBULANCE CORPS.

Mr. Allan Johnson, one of the three British members of the South African Medical Corps organised by Sir James Sivewright for ambulance service with the Boers, sends to the *Times* a full account of the remarkable adventures of that expedition. Although the Transvaal Government had wired to Cape Town "politely but firmly" declining their services they were induced to proceed to Delagoa Bay, where they had an interview with Mr. Pott, the Transvaal Consul, who told them curtly that they were not wanted, declaring that there were no wounded to require their care. Mr. Pott's object appears, however, to have been only to get rid of the British element in the corps. The Afrikander members, who had remained discreetly in the background so long as the corps had to deal with the British colonial authorities at the Cape or at Durban, now claimed complete control over the expedition, and, in spite of the official refusal of the Transvaal Government to have anything to do with the corps, they had no hesitation in accepting the friendly assurances of a Boer whom they met "fortuitously" at Lorenzo Marques that their services, if volunteered not collectively but individually, would be accepted. The British members naturally regarded these strange developments with suspicion, and, believing them to be at variance with Sir James Sivewright's intentions, as they undoubtedly were at variance with the conditions under which the expedition had been organised, Dr. Gray, the leader of the British section, sought to retain the equipment of the expedition until Sir James Sivewright's wishes had been elicited. Sir James, however, telegraphed that they were to be handed over to the Afrikander leader, Dr. Neethling, who proceeded with the other Afrikanders under special passports to Pretoria. Mr. Johnson says, in conclusion, it was clear "that while the Transvaal Government were quite willing to receive any number of Afrikanders into their service they would not look at an ambulance corps which included Britishers, especially if these showed that they meant to stick tenaciously to their pledge to work for the wounded of every sort and race without prejudice in the interest of humanity alone."

ARMY MEDICAL SCHOOL, NETLEY.

The eightieth session of the Army Medical School at Netley commenced to-day, Friday, March 2nd. 35 surgeons on probation (18 for the Indian Medical Service and 17 for the Royal Army Medical Corps) will attend the session. The following are correct lists of the surgeons on probation. It is believed that a large number of probationers are to be nominated for the Royal Army Medical Corps:—

SURGEONS ON PROBATION, R A.M.C. NAMES IN ORDER OF MERIT.

T. Biggam.
H. Richardson.
C H. Carr.
W. L Baker.
T. W. Cotton.
E Bennett.
F. M Parry.
B R Dinnis.
J. S Twigg.
W. J. P. Adye Curran.
J. Powell.
R. L. Argles.
J. G Foster
F. P. Lauder
E. G. Ford.
T. S. Walker.
L. M. Purser.

SURGEONS ON PROBATION, I.M.S. NAMES IN ORDER OF MERIT.

J. D. Graham.
C. A Sprawson.
W. H. Cazaly.
W. V. Coppinger.
P. A. Browne.
A. Spitteler.
M. MacKelvie.
L J. M. Deas.
W. G Hamilton.
J. C. S. Oxley.
H. R. Macnee.
W. Lapsley.
W. D. A. Keys.
A. Chalmers.
J. Good.
W. M. Houston.
G. J G. Young.
S. R. Godkin.

The following district order has been issued at Aldershot: "As the welfare of the patients in hospital is in a great measure dependent on the class of men detailed for duty as orderlies thereto, the general commanding desires that the greatest discrimination should be exercised in the selection of these men and only those of good character and who can read and write are to be employed on this important duty."

THE LEGION OF HONOUR.

We recently mentioned the names of several French medical officers who were made members of the Legion of Honour in recognition of their gallant services and we now have the pleasure of recording yet another addition to the distinguished roll. By a presidential decree dated Dec. 24th, 1899, Dr. Nestor Léonce Parin, medical officer of the second class in the Navy, was promoted to the grade of Chevalier of the Legion of Honour, the feat for which he obtained the reward being thus described: "At Tonkin, on Nov. 29th, 1896, during the action of Pinh-Nan-Tai, Dr. Parin went forward under a brisk fire in order to dress the wounds of four soldiers." The same gazette also records the advancement to the grade of Officer of M. Nicolas Chalmé, apothecary in chief to the Navy, with over 34 years' service, inclusive of five years and seven months afloat. The new officer's knighthood dates from June, 1886.

Correspondence.

"Audi alteram partem."

CLUB METHODS.

To the Editors of THE LANCET.

SIRS,—Possibly the following experience of club methods with their medical officers may be of sufficient interest to warrant its publication. I should first explain that the Hand-in-Hand Benefit Society is a small local society which pays its surgeons twice a year for work done in the same way practically as the more widely-known National Deposit Society—namely, for visit and medicine 2*s.* 6*d.*; consultation and medicine 1*s.* 6*d*; repetition of medicine, 1*s.* After I took over this practice five years ago I was surprised to find my payment at Christmas replaced to the extent of 5*s.* by a receipt for an honorary member's subscription, and with this a note from the secretary addressing me as "Dear Brother" and simply asking for a receipt. There was never at any time any request that I should become an honorary member.

For the first few years I made no objection, but once when the payment for the half-year amounted to 7*s.* 6*d.* I declined having this honour thrust upon me. At the end of last year a payment of £1 1*s.* was due to me and there came back a cheque for 16*s.* and the usual receipt. I returned the receipt and explained that I had no desire to become an honorary member and pointed out that there was nothing in their rules making such a step necessary. I received a reply saying that such a course was customary, but on my insisting the payment was completed. Some days afterwards I received a letter, a copy of which is appended hereto as Enclosure A. My reply to this letter is also appended as Enclosure B. I do not think that any further comment is necessary.

I am, Sirs, yours faithfully,
C. SCOTT WATSON.

Parkside, Wonersh, Guildford, Feb. 24th, 1900.

[ENCLOSURE A.]

Hand-in-Hand Benefit Society,
17, Friary-street, Guildford,
Feb. 14th, 1900.

DEAR SIR,—Your letters of Jan. 25th and Feb. 1st were duly laid before the committee of the above society on Tuesday last and I am instructed by them to inform you that owing to your refusal to pay honorary subscription of 5*s.* your name is to be taken off the list of the societies' surgeons from this date. Therefore, if you have any account against the society from December, 1899, to Feb. 14th, 1900, I shall be glad to receive same.

Yours truly,
Dr. Scott Watson. J. FOSTER, Secretary.

P.S.—I may add that the agent of your district has been informed that your name is taken off the surgeons' list for the Wonersh district and another medical gentleman appointed.—J. F.

[ENCLOSURE B.]

Parkside, Wonersh, Guildford Feb 17th, 1900.

SIR,—I am in receipt of the letter from your committee dated Feb. 14th. Of course, it is a matter of very little importance to me whether my name is taken off the list of the society's surgeons, but the whole proceeding is so extraordinary that I desire to make the following remarks on it to your committee.

In the first place, there is no *rule* that a medical officer shall become an honorary member, and it is distinctly wanting in ordinary courtesy to dock his Christmas payment of the subscription without even asking his permission. Secondly, the subscription is not a large sum, but it is 5 per cent. on a yearly payment of £5, an amount which I certainly did not receive from the society last year and have, I think, very rarely received during the five years I have been here. Third, the members whom I have here are people who, if not in the Hand-in-Hand, would cheerfully pay my ordinary lower fees of 2*s.* 6*d.* or 3*s.* 6*d.* per visit and from 2*s.* to 2*s.* 6*d.* for consultation and medicine at my own house. I have taken the trouble to go over several half-years taken at random. *In one—the first half of 1897—I find that the patients* I attended for you for £4 7*s.* would have paid me as private patients £6 0*s.* 6*d.* and equally without any bad debts. In another half-year *21s. for 28s.; in another £2 9s. for £3 7s. 6d., and so on.*

I want to show that your medical officers, if they are situated as I am, are doing you a distinct and substantial favour by attending your members at the fees you pay. For the privilege of doing you this favour you charge them 5*s.* a year, and not only so but you stop this sum out of their payment for work done without even a "by your leave," and if they object you take their names off the list of the society's surgeons. *This procedure is so curious that I propose to send* an account of it to THE LANCET.

I am, Sirs, yours truly,
Mr. J. Foster, C. SCOTT WATSON.
Secretary, Hand-in-Hand Benefit Society, Guildford.

"PRODROMAL RASHES IN MEASLES."

To the Editors of THE LANCET.

SIRS,—The writer of the interesting annotation on prodromal rashes in measles in THE LANCET of Feb. 24th is not quite accurate when he states that the question of these rashes does not appear to be even entertained in English works. He will find that attention is drawn to the subject both in Dr. J. W. Moore's "Eruptive and Continued Fevers" (p. 138) and in the "Manual of Infectious Diseases" by Dr. Washbourn and myself (pp. 96 and 167). Dr. Dawson Williams also alludes to it in his article on Measles in Dr. Clifford Allbutt's "System of Medicine" vol. ii., p. 111. In these books it is particularly stated that these rashes may lead to errors in diagnosis, and especially to mistaking measles for scarlet fever. Secondly, Trousseau, before Henoch, appears to have been well aware of these eruptions, as may be seen by referring to his "Clinical Medicine," vol. ii., p. 214, of the New Sydenham Society's Translations, where in mentioning the date of appearance of the specific rash of measles he says: "I perceive, gentlemen, that I am causing you to take up an erroneous impression; I already hear some of you reminding me that I have several times shown you in our nursery wards infants in whom at the second day of the fever of measles small efflorescences were visible in situations where the skin was hot and covered with perspiration. On the next day, or the day after the next, there was scarcely a trace of these efflorescences to be found."

I am, Sirs, yours faithfully,
Homerton, Feb. 27th, 1900. E. W. GOODALL.

DESTRUCTION OF SUPERFLUOUS HAIR BY THE ROENTGEN RAYS.

To the Editors of THE LANCET.

SIRS,—Referring to some remarks I made at the meeting of the Thames Valley Branch of the British Medical Association at Kingston-on-Thames on Nov. 15th, on the beneficial therapeutic effects of the Roentgen rays on certain eruptions of the skin, I can now say that those cases are all doing well. In that of a woman, aged 33 years, who consulted me on Oct. 13th for a growth on each side of the chin of about 30 dark hairs about from half to three-quarters of an inch long, I administered seven exposures of the x rays, with the result that she had slight dermatitis, which got well in about a fortnight. All the hairs have disappeared and show no signs of return. I also had opportunities of seeing a case from the London Skin Hospital, Fitzroy-square, of a young girl, aged 23 years, with numerous dark hairs, which had grown freely on both sides of the face, after 18 exposures, had slight dermatitis and in a month after the last exposure the hairs had completely disappeared. Much care has to be exercised in the length of time of exposure and the number of exposures and regulation of ampère metres in the treatment of these cases.

Two other ladies since, one 25 and one 27 years of age, have had six and seven exposures successively and the skin shows slight electrical dermatitis, with the same successful results. The roots and sheath, when examined microscopically, show a drying up of the hair bulb and root sheath. The exposures in all these instances are less than noted by Dr. Neville Wood in his interesting article on a case reported by him in THE LANCET of Jan. 27th. I opine that we are in a position to say that we now have a very useful method of treatment in these hitherto troublesome growths of hair and an improvement on the tedious method of destruction by electrolysis.

I am, Sirs, yours faithfully,
Jan. 30th, 1900. JAMES STARTIN.

THE ORGANISATION OF THE PROFESSION.

GREAT YARMOUTH.—BENEFICIAL EFFECTS OF THE MEDICAL LOCK-OUT.—EVERY PRACTITIONER IN UNION.—WELCOMING AND HELPING THE JUNIORS.

(FROM OUR SPECIAL COMMISSIONER.)

(Continued from page 577.)

WITH regard to the medical officer of the lodge of female Foresters who had been persuaded by the medical union to withhold his resignation for three months pending negotiations a favourable settlement was obtained, though unfortunately it did not last long. At the end of the three months the female Foresters' lodge accepted the terms brought forward by the medical profession and appointed a medical officer on these conditions. But in the course of time this medical officer did not care to continue the work even on the higher and better terms. He found that the women were always ill, or imagined that they were ill, and gave him far too much trouble. In the interval there had been angry controversies between the women and the men Foresters. The latter had engaged in a struggle on behalf of the women and the women had been the first to desert them. Now, the better to fight the medical profession the men's societies had amalgamated with other similar friendly societies and had opened the Great Yarmouth Amalgamated Friendly Societies' Medical Institute, where they employed a salaried surgeon to do all their work. This was an opportunity for the women to return into the fold by joining the institute. Their medical officer, it was urged, wished to resign, what better could they do? And accordingly they joined the institute just opened by the friendly societies.

The Yarmouth branch of the Incorporated Medical Practitioners' Association had also to consider the position of the medical men who were employed by the London and Manchester and other insurance companies. These companies sent out paid canvassers who touted and practically advertised their medical officers. To serve such companies was incompatible with the principles advocated by the medical union, but nevertheless it was necessary to proceed with caution and slowly. It is no use to urge medical men to give up a portion of their income unless there is a well-disciplined and strong organisation to support them. Besides, it was well known that these companies would import strangers. Therefore the resignations were sent in gradually. This, however, did not prevent the insurance companies from importing outside medical men, but by the time they came the union had grown in strength and fixity of purpose, so that the newcomers were boycotted. The medical union also appointed a committee to watch the Midwives Bill. At first they were inclined to oppose the Bill and wrote to that effect to the Members who represent Yarmouth in the House of Commons. The Liberal Member promised to support the arguments of the members of the profession and the Conservative Member fenced with the question. The medical men themselves, however, did not at first know much about this subject. The committee whom they had appointed to study the details thought that it would not be prudent to oppose the Bill in its present stage. This was in 1897. The report of the committee concluded in favour of allowing midwives to attend cases of natural labour where there was no danger and no need to use instruments. They urged that midwives should not be permitted to give certificates of still-birth, and that those midwives who claimed to be placed on the register on the ground of previous experience should first be made to give satisfactory evidence of their proficiency. It was also thought that the penalties ought to be increased from a possible fine of £5 to £20. Both the Members of Parliament now expressed their readiness to support amendments in favour of these suggestions The medical union also agreed to depute their executive to wait on the licensing bodies and on the General Medical Council so as to explain the various grievances which they were attempting to reform.

By the end of 1896 the friendly societies had accepted the proposal to amalgamate, but in practice they did not join simultaneously. The different societies came in one by one as their terms of agreement with their respective medical officers came to an end. They rented a large house, which had formerly been occupied by a well-known medical practitioner. The upper part was used as a residence for their senior medical officer, and the lower part was converted into a surgery, a dispensary, an office, and a waiting-room, &c. By the time all the benefit societies had joined them they had to employ a junior or assistant medical officer. The medical practitioners of Yarmouth at once decided not to meet these medical officers of the Friendly Societies' Medical Institute in consultation. Consequently the institute sent up to Norwich for consultants, but the Yarmouth Medical Union appealed to their Norwich colleagues and sent a deputation to explain matters. To the honour of the members of the profession practising at Norwich it should be noted that they warmly responded and unanimously refused to act as consultants for the Yarmouth Friendly Societies' Medical Institute. The resolution to boycott the medical officers of the institute was adopted on Jan. 29th, 1897, and as a consequence some of the patients had to be sent to London. Unfortunately the metropolis is so immense that the work of organising the profession in London progresses but slowly, otherwise the consultants of the capital would have acted like those of Norwich.

In seeking to organise the profession at Yarmouth great care has been taken to encourage and welcome young practitioners and new-comers. The recently qualified practitioner must begin to work somewhere, and if organisation means only the creation of monopolies for the older and established practitioners the movement will certainly break down. To encourage such selfishness would weaken—indeed, it would completely wreck—the cause. By encouraging younger men and impecunious beginners they soon become loyal and devoted members of the medical union. Otherwise they will be compelled to act as outsiders. The great desire has been to give the struggling practitioner honourable appointments and patients. By keeping the interests of the poorer members of the profession constantly in view and being ever mindful that juniors as well as seniors have to live, much has been done to create a real feeling of brotherhood and genuine devotion to the cause of medical union. Formerly a great amount of work was done by unqualified medical assistants who attended to midwifery cases, &c., but to-day there is not a single unqualified assistant in Yarmouth, and those medical practitioners who employ dispensing chemists keep them strictly to the work of dispensing. While the Yarmouth branch of the Incorporated Medical Practitioners' Association thus deals actively with all ethical and economical questions, there is for the reading and discussion of purely scientific papers the Yarmouth Clinical Society which is open to all. Then for convivial purposes there is the old Medico-Social Society and thus each organisation has its special and distinct purpose and no clashing can occur.

The question of establishing yet a fourth organisation was raised and debated for some time. It was proposed *to follow the example of the practitioners of* Eastbourne and Coventry and to establish a medical service and a scheme to that effect was prepared. But it became very evident that the medical practitioners objected to contract work in any form, and therefore, they asked, why should they themselves organise such work? In some places and under the stress of special circumstances it might be necessary to do so, but it was felt that no such stress existed at Yarmouth. While the Yarmouth practitioners remain in their present frame of mind it seems quite evident that nothing of the sort will be attempted. But circumstances may alter and strong outside pressure *may* be brought *to* bear For *instance, if a* great many members were to secede from the Friendly Societies' Medical Institute some form of medical aid would have to be provided for them. These members would not be taken back on the old terms and many of the senior practitioners would not care to take them back on any terms. Indeed, this is a growing sentiment of which the friendly societies would do well to take into account before they push matters too far. A medical practitioner who has several clubs, at first, and very naturally, hesitates to give them up But when he has once done so, and in the course of time discovers that he can get along just as well without them, nothing will induce him to revert to this form of practice. It is far too irksome and insufficiently remunerative. If a medical service was organised by the profession it is probable that only the junior practitioners would consent to act as its medical officers. The establishment of a medical service at Yarmouth would therefore prove very advantageous to the younger *practitioners.* The members of such a service would have a larger choice of medical men but they would not get the senior practitioners. On the other hand, even the junior practitioners are now so well satisfied with their position that they are not at all keen on the subject. Therefore the project of a medical service is in abeyance: the scheme is ready to be brought out should the necessity arise.

Among the other questions discussed was that of the stamping out of all forms of canvassing. On this the medical union felt strongly and acted with energy. Strict measures were taken to prevent canvassers making use of the names of any medical man. Undeterred by this the National Deposit Friendly Society sent an agent to Yarmouth and endeavoured to establish a branch in that town. This society pays its medical officers according to a tariff that is much higher than usual in such business; but, on the other hand, it recruits a much higher class of members. Of course, they have no wage limit, and therefore the members of the Yarmouth Branch of the Incorporated Medical Practioners' Association all refused the positions that were offered to them. After several vain efforts the society had to abandon the attempt and withdrew its agent from the town. Here, then, was a distinct victory and much future trouble and loss were avoided by making, at the onset, a determined and united resistance. Unfortunately there is generally an exception to the best of rules. Though the members of the profession at Yarmouth are wonderfully united and unanimous there was one medical man who stood out against them. It has always been a matter of great difficulty to know what to do in such cases. To refuse to meet in consultation such a person is about all that can be done, but in this case there was another weapon available. The practitioner in question happened to hold a public appointment, and according to the regulations he was bound to have a deputy. Naturally all the members of the medical union refused to act in this capacity. He thereupon appealed to the medical officers of the Friendly Societies' Medical Institute and offered to become their consultant if one of their two medical officers would act as his deputy. This proposal was accepted and his difficulty seemed to be at an end, but fortunately for the cause of the medical union a difference took place and the medical officers of the institute refused to act as deputy for the Poor-law medical officer, so that the latter had to appeal once more to the members of the medical union. One of the members of the medical union then consented to act as his deputy on his promising to cease his opposition to the medical union. He has already given up the clubs which employed canvassers, and it is probable that at its next meeting he will be elected a member of the Yarmouth branch of the Incorporated Medical Practitioners' Association. This medical union will then possess 17 members, who comprise all the medical men of the town who are in active practice. The two medical officers of the Friendly Societies' Medical Institute are thus absolutely isolated. Those who want to contract for medical aid must either accept the terms laid down by the members of the medical profession or join the Friendly Societies' Medical Institute. In 1898 a young medical practitioner established himself at Yarmouth. No sooner had he arrived than the secretary of the medical union called upon him and persuaded him to join. Soon afterwards he was offered the post of medical officer to a club. The position offered was such that he would have readily accepted it, but he thought that it was his duty first to consult the other members of the profession, and they had no difficulty in explaining to him that he should refuse the appointment. This he did, and now that he is better acquainted with all the circumstances he fully realises that the advice given him was to his own advantage as well as to the advantage of the profession as a whole. Indeed, it is very useful for young men who have not yet acquired experience in these matters, to find, on establishing themselves, that there is a strong union, composed of the most experienced men, ready to give them the best advice and all possible help and support. When thus taken in hand early these new-comers become very faithful and useful members of medical organisations.

In the commencement of the year 1899 it was found that the work of organisation had been so thoroughly done that it was no longer necessary to hold monthly meetings. It sufficed that the executive should meet once a month and the district committee should meet every three months. The question of hospital abuse was now taken in hand. All the members of the hospital staff are also members of the medical union. The ticket system prevails and there are about 4000 tickets distributed in the course of the year giving the bearer a right to six weeks' treatment. Undoubtedly this leads to some abuse among the out patients, though notices are posted on the wall and warnings issued that the hospital is a charity and only meant for the poor. The hospital medical staff have now made arrangements that except in urgent cases they will not take more than 50 new patients in any one day. This gives 12 new patients to each member of the staff and as the number is thus limited they receive fuller attention. By having more time to devote to new patients there is a better chance of discovering cases of abuse and these are reported to the committee of management. Some improvement has been effected, but the present state of affairs is still considered unsatisfactory.

To return to the question of club practice it may be noted that according to the annual report dated Dec. 31st, 1897, there were at that time 27 branches of various registered friendly societies at Yarmouth. These possessed 4534 male adult members, 1129 juveniles or boys under 18 years, and 349 wives and daughters of members. The children under six years numbered 481. This gave a grand total of membership of 6493. The increase during the next 12 months amounted to only 327 more members, which is but a small amount considering not only the natural increase of the population but the fact that the friendly societies freely accepted as members both women and children. Indeed, the increase of adult male members in 1898 only amounted to 45. But many labourers have come to the town since who wish to belong to some medical aid organisation and who know nothing of the disputes. The chief objection made by the members of the friendly societies is not to the payments which the members of the medical profession demand, but to the wage limit and the exclusion of women and children. The adults, whether men or women, pay 4*s.* a year, the juveniles 2*s.* 6*d.*, and there is a sliding scale for children under six years of age. If a young man joins as an adult member when he is 18 years of age the probabilities are that he will give his medical attendant but little trouble for many years, but if a woman joins she is almost certain to be ill during the very first year. As a rule the complaints are not serious and are mostly to be attributed to some form of neurosis, but this does not give the medical attendant any the less trouble. At the Friendly Societies' Medical Institute there is but one waiting-room and here a great number of patients congregate and have to wait for a long time under very unwholesome conditions. Many members complain of being kept waiting so long, and it is a curious and significant fact that the leaders who advocated the formation of this institute are themselves careful not to employ the institute medical officers, but go to private practitioners and pay full fees. At first the institute refused to pay sick allowances on medical certificates given by others than their own medical officers, but what with pressure of work and the ever-increasing number of members who resort to the private practitioners the certificates given by the latter are accepted when countersigned by the senior medical officer of the institute.

In 1898 the Yarmouth Friendly Societies' Medical Institute had 6820 members, with the result that there were 25,166 attendances at the dispensary, 10,955 visits paid to patients at their own houses, and 22,452 prescriptions dispensed. The senior medical officer was paid £305 and the junior medical officer £180. If we divide this total of £485 by the 36,121 visits and attendances the result is a trifle over 3¼*d.* for each medical consultation. As the total amount paid by the members for medical aid during the same year was £1224 18*s.* 5*d.* it will be seen that the institute realised a good profit out of its medical officers' work. Even if we make a liberal allowance for the value of the premises occupied, for the dispensing, and for the drugs it is probable that the medical officers are sweated to the extent of £300 or more a year. The position of the junior medical officer is so arduous and so badly paid that they all leave in a very short time. When the institute was first organised the members were led to believe that they would spend less than *formerly.* This has not proved to be the case and the subscriptions have not been reduced. They had to borrow £300 from the bank to furnish their premises and this complicates the situation. The institute also provides various little plums for its promoters. The secretary receives £20, the porter £36, the treasurer £12 10s., sums which constitute a substantial addition to an artisan's income. The medical officers got midwifery fees of 10s. 6d., but there were only 67 births during the year, so that this does not constitute a large addition to their income. These medical officers depend solely on the institute and have to be careful to give the fullest attention to the members of the committee with the result that the ordinary members complain that they are neglected, especially in times of epidemic; consequently those who can afford it resort to a private practitioner, and the latter are now well satisfied with having got rid of their clubs.

As a case in point, a local practitioner explained to me that he used to attend two branches of the Eastern Star Provident Association. The members were all adult males and paid 4s. a year, so that the dispute about women and children did not affect them, nevertheless one of these branches suddenly left him and without even giving notice. He used to receive from this branch £14 a year. Some time after they had left him one of the members fell ill and sent for him and paid him the ordinary fees. After an illness of six months these amounted to £13 7s., and the bill was duly honoured. Had the practitioner, who gave me this information, been still acting as medical officer to this society the patient in question would only have paid 4s. That is to say, that the ex-medical officer received nearly as much from one patient as he used to receive from the entire branch, and he is well satisfied with being dismissed from club work. Starting from this instance to review his entire practice he found that he had received from the various Yarmouth clubs £325 10s. during the year 1896. Then came the medical lock-out and in 1897 he only received £49 1s. from the clubs, yet his total income for the year was only £40 7s. less than usual. Thus the increase in private practice compensates for the loss of the clubs and there is much less work to do. This experience was confirmed by several other practitioners and they all said that they were very glad to get rid of the clubs. This would not be the case if the clubs consisted of the right class of members. As at present instituted club practice cannot be properly carried out. For instance, one local practitioner explained that he had 100 railway servants under his charge. During the recent epidemic of influenza 11 of them were ill. If 11 per cent. of the members of the institute were to be taken ill simultaneously the two medical officers could not possibly attend all the sick. Indeed, it has been noticed that they do not visit their patients often enough and their visits are so brief that even in cases of influenza they not infrequently find their time too short to take the temperature. Formerly, when nearly all the practitioners at Yarmouth had clubs, the patients used to complain when they were neglected and the medical officer was summoned before the committee of his club. To-day, however, it is not much use complaining to the Friendly Societies' Medical Institute. The committee know full well that their medical officers are overworked, and therefore they feel that they are themselves indirectly to blame for any neglect that may occur. The ordinary members, however, are beginning to understand that the system does not work to their advantage and that they are not always tended with the necessary attention and care. Thus it becomes a matter of public interest that this system should be abolished or thoroughly reformed. The large number of members of the Friendly Societies' Medical Institute who prefer to pay for private practitioners, and do so, is a proof first of abuse and secondly that the medical aid given is not satisfactory. Indeed, the figures given above are a mathematical demonstration that the medical officers of the institute have too much to do, and therefore there must be some negligence. In the course of time, this fact will be more and more clearly realised and then we may expect still further changes. It is fortunate that the medical profession at Yarmouth is so well organised and is fully prepared to meet the exigencies of the situation as from day to day it is developed and modified.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Course of the Epidemic.—Plague in Australia.—The Extent of the Famine.—Lumsden's Horse.

PLAGUE is still on the increase. There have been 1869 deaths returned for the past week as against 1768 for the week previous. The increase is chiefly in Bengal, where 624 deaths have occurred as against 339 for the week before. It is reported that 604 deaths have occurred at Patna and in the district around. These figures are manifestly incorrect, as 87 deaths have been reported for Calcutta alone. In Bombay city the general mortality keeps fearfully high, 2400 deaths having occurred during the past week, a rate of 162 per 1000 per annum. For Feb. 7th 408 deaths have been returned, which is the highest on record. Small-pox appears to be increasing considerably. This simultaneous occurrence of another zymotic fever epidemic with plague is quite a new feature, as hitherto relapsing fever was the only infectious disease which has occurred along with plague. Cholera and dysentery have been exceptionally scarce. Unless the small-pox epidemic develops much more severely I shall expect to see a speedy decline of the general mortality as the high rate has now continued for several weeks and according to the indications of previous outbreaks it should now very soon rapidly decline.

Plague continues to attack various villages in the Punjab in a sporadic form. In Karachi, however, an improvement is reported. There is an increase in the Mysore State and Bangalore City and Cantonment.

In Calcutta the returns show more living cases discovered as well as deaths attributed to plague. In view of the outbreak at this season last year these facts are particularly ominous. The cold season in all parts of India attacked by plague is now practically over, so that its further development should convince those who hold to the seasonal theory that they are wrong. The water famine in Bombay and the general deficiency of the last rainfall in Western India may be put down as assisting the present outbreak in that city, but against such a deduction is the fact that the three previous attacks have not been accompanied by such deficiency and that it does not apply to other places.

A telegram from Colombo, dated Jan. 31st, states that plague has broken out in Adelaide, causing a tremendous scare throughout Australia.

Few people at home realise the extent of the famine which is at present existing in several parts of India. In consequence, however, of the admirable arrangements made for relief the distress is nothing compared with that of former times. In the British Provinces 2,694,096 persons were in receipt of relief last week, chiefly in the Bombay Presidency and the Central Provinces. In the Native States 788,512 were under relief, chiefly in the Native States in Rajputana, Central India, and Bombay. The greatest distress seems to prevail in the Central Provinces where nearly one and a half millions of people are under relief.

As some doubt has been thrown on the physique of the Volunteers proceeding from England to the seat of war it will be of interest to know that "Lumsden's Horse" now being formed in India consists of a very fine body of men. A large proportion are planters well accustomed to the saddle and the gun, who are of robust constitution and possess great physical powers. Leading an open life they are just the men to form an ideal regiment for the work in hand. These qualities, coupled with high spirits, energy, and great enthusiasm, complete the requirements for such a force. I understand that they are well equipped in every respect.

Feb. 7th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

War Notes.

A MEETING was held at the Medical Institute on Feb. 26th for the purpose of forming a local auxiliary to the organisation in London for providing comforts for the men of the Royal Army Medical Corps now in South Africa. The objects of the association were explained and subscriptions invited, as well as contributions of flannel shirts, socks, sleeping helmets, &c. Various officers were appointed and the hope was expressed that the results would be worthy of the profession in the Midland centre.—The students of Mason University College have made application to the War Office for permission to establish a Volunteer corps. It is proposed to form an additional company to the 1st Volunteer Battalion of the Royal Warwickshire Regiment, the membership being restricted to students. Over 90 names have been sent in and much enthusiasm has been exhibited. If the sanction of the War Office is obtained it is expected that the new corps will be in an efficient condition by the opening of the first term of the Birmingham University in October next.

The Fight with Tubercle.

Sir James Crichton Browne lectured to the members of the Midland Institute at Birmingham on Feb. 26th, taking the above title as his subject He advocated muscular exercise and stated his approval of military training for this purpose. Tubercle in milk, meat, and food was discussed and the vitality of bacteria was pointed out. The necessity for clean and dry dwellings, wider streets, and the purification of the slums was insisted upon with much eloquence.

Feb. 27th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Proposed Joint Parochial Hospital for Tuberculosis.

THE select vestry at their recent meeting discussed the draft order of the Local Government Board referred to in THE LANCET of Feb. 24th regarding the erection of a joint hospital for the treatment of tuberculosis by the select vestry and the West Derby and Toxteth boards of guardians, and it was practically decided to withdraw from the provisional arrangement which had been entered into with those two boards. The spirit of irresolution displayed by the select vestry in the matter of the proposed joint hospital has been a source of perplexity and irritation to the West Derby and Toxteth boards of guardians who, I understand, have announced their determination to proceed with the erection of a joint hospital independently of the select vestry.

The Liverpool School of Tropical Diseases.

The committee of the Liverpool School of Tropical Diseases have arranged to despatch a new expedition to the West Coast of Africa which will proceed up the river Niger and investigate further Major R. Ross's theory of the transmission of malarial fever by means of the mosquito. The *personnel* of the expedition has not yet been finally decided upon, but it will be composed of gentlemen who have devoted much attention to the question. The expedition will start at the end of March. Mr. Alfred L. Jones, the chairman of the school, has again kindly placed great facilities for travel at the disposal of the committee.

The Liverpool Eye and Ear Infirmary.

The eightieth annual report of the Eye and Ear Infirmary showed that 753 patients occupied beds last year compared with 709 during the previous year. 582 important operations were performed, as against 576 in 1898. In the out-patient department there were 5879 new eye cases and 2010 new ear cases. These have been attended to and prescribed for 20,054 and 6934 times respectively. The debit balance at the close of the year stood at £368 12*s.* 1*d.* and it would have been further increased but for the timely legacy of £250 from a deceased subscriber. The committee are indebted to the Hospital Saturday and Sunday Fund for the sum of £504. The committee regret that they are obliged to treat both legacies and donations as annual income, instead of paying off the balance of the mortgage debt of £1000, and creating a reserve fund, but at present they have no alternative. The decision of the corporation in regard to the payment of rates has added to the yearly expenditure of the hospital. The committee announced that Mr. Hugh E. Jones, who had filled the position of house surgeon and assistant surgeon, had now become an honorary surgeon. Allusion was made in a former issue of THE LANCET[1] to the change in the by-laws, at the instance of the committee, prolonging the term of office of the honorary surgeons to the age of 60 years and also giving privileges to the assistant surgeons after a term of years' service. No allusion has been made in the annual report to this important change. It was to be expected that the managers of the charity would have informed the subscribers at the annual meeting of these alterations of the by-laws, which, possibly, may require their sanction.

Extension of the Stanley Hospital.

The new out-patient department to which reference was made in THE LANCET of Feb. 24th was opened on Feb. 22nd by the Lord Mayor, in the presence of a numer gathering of ladies and gentlemen. At the conclusion of meeting the Lord Mayor handed to the treasurer a cheque £50 to be devoted to the needs of the hospital, so much to be deducted from the amount as would make his daughter a life governor of the institution.

Feb. 27th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Professorship of Practice of Medicine in Edinburgh.

THE following are the candidates for this position: Dr. John Wyllie, Dr. Byrom Bramwell, Dr. Alexander James, and Dr. G. A. Gibson. Other names have been mentioned, but these gentlemen, it is understood, are the only persons openly in the field. The appointment will be made in April.

Scottish South African Hospital.

At a meeting of a sub-committee of the Scottish South African Hospital held on Feb. 23rd in Edinburgh in the City Chambers it was recommended that Professor Chiene should be appointed to act as head of the hospital and that Mr. David Wallace should be appointed as second in command to Professor Chiene; also that the four assistant surgeons should be Dr. C. M. Cooper, Dr. A. H. Watt, Dr. G. L. Chiene, and Dr. James Miller. It was also recommended that Miss Beveridge, matron of the Longmore Hospital, should be appointed as matron of the South African Hospital. Sir J. R. Andrew Clark, late Surgeon-Major A.M S., who will accompany the hospital to South Africa as the representative of the Army Medical Department is arranging matters of detail with Professor Chiene.

Lecture on Bacteriology.

On Feb. 20th Dr. Klein, lecturer on General Anatomy and and Physiology at St. Bartholomew's Hospital Medical School, delivered a lecture in connexion with the Edinburgh Philosophical Institute on "Bacteriology: its Aim and Object."

Epidemic of Influenza in Edinburgh.

At a meeting of the Public Health Committee of Edinburgh Town Council held on Feb. 20th Sir Henry Littlejohn presented a report on the present epidemic of influenza in the city. Since the beginning of January there had been 82 deaths in Edinburgh due to influenza or its complications. Of this number 41 deaths occurred in January and 41 since the beginning of February. There was thus an increase in the death-rate from influenza. Moreover, the disease, which originally appeared to be confined to the districts of Morningside and Grange, had now spread to other parts of the city. The deaths from influenza this year show a marked increase over the number which occurred as the result of the disease in 1892.

Feb 27th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Health of Dublin.

THE committee appointed to inquire into the causes of the high death-rate of Dublin continue to meet each day in the City Hall. A large amount of information has been gathered from the crowd of witnesses examined, but nothing new or startling has transpired. Some interesting evidence was given on Feb. 26th by Dr. E. W. Hope, the medical officer of health of the city and port of Liverpool, and by Dr. W. R. Smith, the medical officer of health of Woolwich, London, both of whom made instructive comparisons between the state of things in Dublin and that which prevails in Liverpool and in London. Dr. Hope stated that the tenement houses in Liverpool were very much smaller than those in Dublin and were in a far better condition as regards sanitation. He looked upon the closet accommodation in the Dublin houses as "extremely bad." In Liverpool they had 35,000 people living in insanitary houses, but there appeared to be far more in Dublin. In the witness's opinion, in order to put Dublin on fair terms for the purpose of comparison with English towns they should include the surrounding townships. If the city proper was considered without its natural extensions it should be compared with the central and more insanitary portions of English towns. In reply to Alderman Meade Dr. Hope stated that he did not know of a single city similarly circumstanced to Dublin, where the better classes lived outside and the poor lived in the centre; in fact, there was not a single one. On the question of the Notification of Infectious Diseases Act the witness stated that it was a matter of the greatest astonishment to him to learn that it was imperfectly carried out in Dublin, and that in some of the neighbouring townships which were geographically a continuation of Dublin it was not in force at all. He stated that in Liverpool it had never been necessary to prosecute a medical man for non-observance of the provisions of the Act. In fact, he did not know what they could have done there without the invaluable coöperation of the medical profession. Dr. Hope stated that he wished to say this with the greatest publicity and the greatest emphasis. On this question of the notification of infectious diseases, while agreeing with the general evidence of the last witness, Dr. W. R. Smith was no less emphatic; he thought it was most unfair to the sanitary authority that the Public Health Department were not presented with full information as to the presence of disease within their midst.

---

[1] THE LANCET April 15th, 1899, p. 1057.

The New Registrar-General for Ireland.

Mr. Robert Edwin Matheson has been appointed by the Lord Lieutenant Registrar-General for Ireland in succession to the late Dr. T. W. Grimshaw. Mr. Matheson has been connected with the staff of the Registrar General's office since 1865, and is, of course, more than familiar with the practical work of the department. He has been a member of the Irish Bar since 1875 and has filled the position of secretary to the Registration Office for many years. He has, moreover, held the responsible post of assistant registrar-general since 1879, acting as skilled assistant and legal adviser to the late Dr. Grimshaw. Mr. Matheson is the author of many works dealing with legal and statistical matters, and he is recognised on all hands as a man of marked ability in the special province to which he has devoted himself. It is worthy of remark that he was one of the Census Commissioners in 1881 and in 1891 and that he will have an opportunity next year, when the general census takes place, of again giving his valuable services to the public in connexion with that important statistical work. There are obvious reasons why the post of registrar-general should if possible be held by a physician, but in the absence of any medical candidate highly qualified for the position Mr. Matheson's appointment has given general satisfaction.

The Belfast Workhouse.

The half-yearly report of the Local Government Board inspector (Mr. Agnew) on the workhouse at Belfast has just been made public. He says that the Union Children's Hospital has twice the proper number of inmates for the available air-space, and he considers its position to be unsuitable. He reports that the quality of the beef supplied to the institution is inferior and he says that the number of the nursing staff is still under the required standard, the night nursing staff in particular being very insufficient. Further, in contravention of the Local Government Board's order, 62 healthy paupers are employed as attendants on the sick by day and 22 by night. Mr. Agnew reports that large numbers of the inmates classified as infirm men would not only be able to work but would be healthier and happier if they were employed at some light occupation. He thinks that stone-breaking, oakum-picking, and wood-chopping should be engaged in, and that a severe labour test should be applied to the large number of healthy inmates in the Belfast Workhouse. The Local Government Board request the guardians to take this important question into their careful consideration. It is really preposterous that, in a city like Belfast, where, owing to the large number of industries, everyone who is able and willing to work can get employment, taxpayers should be saddled with the support of healthy lazy paupers who find the Belfast workhouse a most agreeable hotel. Mr. Agnew's report has been referred by the guardians to sub-committees for further consideration.

The Adulteration of Milk in Belfast.

Several contractors to the Belfast Workhouse have been heavily fined for the adulteration of the milk-supply with water. The resident magistrates are determined to put down the practice and have inflicted fines of £50, as smaller amounts do not seem to produce any effect.

The South Charitable Infirmary, Cork.

The constitution of the Board of Governors of the Cork South Charitable Infirmary has been completely altered by the new Local Government Act. The board now consists of 29 members. The subscribers send 12 representatives, the county council nine, and the city council eight. The new board has issued its first annual report, containing some interesting items, from which it appears that the subscriptions represent a third of the total income, and that the expenditure exceeded the receipts by £107. There were 11,011 attendances in the extern departments. The daily average of intern patients, which was the highest for many years, was 77 as against 74 for 1898. The total number of intern patients was 1108. During the year the electric light had been installed at a cost of £101. Through the munificence of the Countess Murphy a very handsome chapel had been erected for the use of the Roman Catholic patients. The board recorded with regret the death of Dr. W. O. Townsend who had been consulting physician and had given 40 years' "faithful service to the institution, being esteemed as a painstaking and earnest member of the staff...... The unselfish devotion of the medical staff is ever a gratification to the governors whose confidence and goodwill they fully enjoy in the discharge of their onerous duties." The medical and surgical report recorded that although the most formidable surgical operations were performed the death-rate was only 2 per cent.

Feb. 27th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Typhoid Fever in Paris.

TYPHOID fever is the universal subject of conversation at this moment in Paris. A number of cases, of which four have ended fatally, have occurred in a *lycée* and the Minister of Education has given orders for all the pupils to be sent home. This order has given rise to much public discussion in the press and elsewhere. Another *lycée*, situated in a totally different quarter, was also said to be infected, but the report was false, for the only cases of illness which have occurred are some of influenza. Taking advantage of the public interest in the matter Dr. Thoinot read a paper before the Academy of Medicine which has been a great deal talked about. At present he said there was nothing like an epidemic, properly so-called, of typhoid fever in Paris; at all events, the death-rate from the disease is not to be compared with that of last year, but the statistics certainly show a lamentable increase in the complaint. In 1895 the number of cases notified to the Prefecture of Police was 1389, in 1896 it was 1243, in 1897 it was 1342, in 1898 it was 1288, and in 1899 the number ran up to 4329. The number of deaths, which was 700 in 1894 (the last year in which there was a real epidemic), was 270 in 1895, 260 in 1896, 250 in 1897, 255 in 1898, and 754 in 1899. These figures are not relatively large if the population of Paris be taken into consideration, but they are much too high considering the sacrifices which the city of Paris has made to ensure that all the water used for alimentary purposes should be spring water and that proper drainage facilities should be insured. Dr. Thoinot considers that it is obvious that each new case arises from some contamination either in the water-pipes, the reservoirs, or the gathering grounds. In this connexion he refers to the remarkable researches of M. Martel who has for the first time made a complete study of underground water-courses, and who has, in fact, created a new science called "*spéléologie*." Dr. Thoinot has made a study of the various sources of the water taken up by the city of Paris for its drinking-water supply and comes to the conclusion that there is no trust to be placed in those sources of origin called "*vauclusiennes*"—that is to say, those in which the water traverses chalk beds and reappears on the surface after a long course underground but does not undergo filtration. There is special danger in those cases where the population around the head-waters have defiled them in any way. This state of of matters is to be found in a great number of Parisian sources of water supply. Dr. Thoinot pointed out that the headwaters of the Avre lie in an uninhabited country and that the quarters of Paris deriving their supply from this source have escaped the typhoid infection, while those deriving their supply from the Vanne have exhibited a high death-rate. The remedy is simple; the most complete precautions must be taken to prevent contamination of the head-waters or their tributaries and accurate chemical and biological examinations should be made. If any source of contamination is recognised the gathering ground must be removed to a point above it.

The French Edition of the "Index Medicus."

Last week there occurred in Paris an event the interest of which extends far beyond the frontiers of France—namely, the appearance of the first number (that for January, 1900) of *Bibliographia Medica* a work which it is intended shall carry on in Europe the traditions of the *Index Medicus*, the well-known publication of American bibliographers which was formerly published at Washington but ceased some six months ago. For the first time, not in France alone but also in Vienna and Berlin, there has been set on foot a bibliographical review comparable to the great work of Flechter and Billings, while it may even be adduced that the present work is superior in one way—namely, in the system of classification adopted. This great effort could not have met with success but through the International Institute of Scientific Bibliography at Paris, of which the director is Dr. Marcel Baudouin, the well-known journalist. The January number, which appeared on Feb. 15th, contains the greater part of the international bibliography of the medical sciences for January, 1900, and such a complete *tour de force* of editing and printing could not have been carried through except by using a staff of more than 150 persons who are employed in the press of the Institute of Bibliography at Paris. The new publication, which will deal with the whole of the international bibliography of the medical sciences, is founded on principles analogous to those of the American *Index Medicus* and will carry on the remarkable scientific traditions of that work which was so valuable. Thanks to the directors, Dr. C. Potain, member of the Institute and professor of the Faculty of Medicine at Paris, and Dr. Charles Richet, who is also a professor, notable improvements have been made in the editing and in the classifying of the subjects—which last is now practically perfect, so that search for any particular subject is rendered easy and rapid. The work, which will be issued monthly, as was the *Index Medicus* will contain some 4000 references per number of 80 pages at least, so that the number of references for the year will be about 50,000. The editors contemplate issuing special bibliographies as yearly and not monthly publications. These numbers, of which only a few copies will be issued, will be published by subscription. All the most modern methods of typography will be employed and the composition will be done by a machine, a method which offers great advantages for certain kinds of printing, but should occasion arise no extra expense will be spared. The annual subscription will be 50 francs a year for France and 60 for foreign countries, in place of 125 francs which was the subscription for the last American edition.

Feb. 27th

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Strophanthus as a Sedative.

DR. FEILCHENFELD writing to the *Centralblatt fur Chirurgie* recommends the administration of tincture of strophanthus previously to the production of anæsthesia by chloroform, as pre-anæsthetic excitement is thereby avoided. This is the case not only in cardiac failure but also in neurasthenic patients who are very much afraid of undergoing an operation. He gives five drops of tincture of strophanthus on two evenings and on the morning before the operation. Strophanthus is preferable to the bromide of potassium commonly used in these cases.

Collective Investigation on Carcinoma.

On the invitation of Professor von Leyden a committee lately met in Berlin in order to arrange a great collective investigation on carcinoma. The committee, which is still in process of formation and will be augmented by other members, included representatives of the Imperial Health Office, the Government Medical Department, and the Statistical Office. Professor von Leyden was elected chairman and Dr. George Meyer and Dr. Kirchner were elected secretaries.

A Radical Cure for Erysipelas.

A curious case is reported by Dr. Mosbacher of Bochum in the *Munchener Medicinische Wochenschrift*. He was consulted by a workman for erysipelas of the face and prescribed an ointment of 10 per cent. ichthyol. The next morning the wife of the patient (a Pole) came to Dr. Mosbacher complaining that the medicine had produced such severe diarrhœa and colic that her husband was unable to persevere with it. Dr. Mosbacher, greatly astonished, went to the house and found that instead of using the ointment in the ordinary way the man had taken it by the mouth. The erysipelas had nearly disappeared and the patient in broken German expressed his gratitude for the somewhat strong but very efficacious medicine which had done him so much good. Dr. Mosbacher adds that notwithstanding this success he has refrained from administering ichthyol internally.

Medical Congresses.

The Congress of Internal Medicine will, as you have already announced, meet this year in Wiesbaden under the presidency of Professor von Jaksch of Prague. The principal subjects to be discussed are: the Treatment of Pneumonia (introduced by Professor Korányi of Budapest and Professor Pel of Amsterdam) and Endocarditis (introduced by Professor Litten of Berlin).—The meeting of the Balneological Society will be held from March 8th to 13th at Frankfort. Professor Winternitz will read a paper on Phototherapy, Professor Schott of Nauheim on the Treatment of Diabetic Diseases of the Heart, Dr. Groedel of Nauheim on the Balneological Treatment of Diseases of the Kidney, Dr. Pariser of Homburg on Chronic Nervous Diarrhœa, Professor Kisch of Marienbad on Cardiac Complaints consecutive to Diseases of the Uterus, and Dr. Abbée of Nauheim on Arterio-sclerosis and Angina Pectoris.—The Surgical Congress will meet as usual in Berlin in the week following Easter, Professor von Bergmann of Berlin in the chair. Professor Czerny will read a paper on the Treatment of Unoperable Carcinoma, Professor Krönlein on the Results of Operations for Carcinoma of the Intestines, Professor Rehn on Resection of the Anus, Professor Israel on Operations for Renal and Ureteral Calculi, and Professor Augerer on Operations for Abdominal Contusions.—The German Committee for the International Medical Congress at Paris has been formed. Professor Virchow will be the chairman, Dr. Posner and Dr. Eulenburg will be the secretaries, and Dr. Bartels will be the treasurer. The other members are Dr. Aub of Munich (President of the Practitioners' Association), Professor von Bergmann of Berlin, Professor von Bruns of Tübingen, Dr. von Coler (general-staff-surgeon of the army), Dr. Curschmann of Leipsic, Professor Erb of Heidelberg, Dr. Ewald of Berlin, Dr. Leut of Cologne (President of the Committee of Medical Chambers), Professor von Leyden, Professor Liebreich and Professor Waldeyer of Berlin, Professor Ziemssen of Munich, and others.

The late Professor Meyer.

Dr. Ludwig Meyer, professor of psychiatry and director of the University Lunatic Asylum at Göttingen, died in that city on Feb. 8th. Professor Meyer, who was born in 1826, was one of the leading specialists for mental diseases and was the founder of the modern treatment of lunatics in Germany. After holding the appointment of assistant physician to the lunatic department of the Charité Hospital in Berlin he went from there to Hamburg as chief physician to the lunatic department at the General Hospital. He was one of the earliest and most fervent advocates of the non-restraint system in Germany, and very soon after entering on his Hamburg appointment he sold by public auction all the appliances previously used for the restraint of lunatics. He also allowed free visiting of the lunatics by their friends, just as in the case of patients of other classes. It was under his auspices that the great asylum at Friedrichsberg, near Hamburg, was established and at a later period the asylum at Göttingen, where he was appointed professor. He held that a modern asylum ought to be built according to the principles of a hospital and not of a gaol. Apart from his labours on behalf of the insane he did much work in the pathology of mental diseases and in conjunction with the late Professor Griesinger he edited the *Archiv für Psychiatrie*

The late Professor Leichtenstern

Professor Leichtenstern, the chief physician to the Cologne General Hospital, died from influenza on Feb 23rd Though not on the staff of a university he did much work in his special branch, internal medicine His principal subject was the ankylostomum duodenale which he was the first to observe in Germany He published numerous articles in the medical journals on the antitoxin treatment of diphtheria, on tuberculin, on cerebro spinal meningitis, and many other topics He was co editor of Ziemssen's Handbooks of General and Special Therapy and of Gerhard's Handbook of the Diseases of Children Professor Leichtenstern was the most distinguished consultant in Cologne

Feb 26th

ROME

(FROM OUR OWN CORRESPONDENT)

Alive under the Coffin Lid

I MAKE no apology for returning to this ghastly theme The tragic "case in point reported in THE LANCET of Feb 24th from Lecce (Apulia) has thrilled the kingdom with horror "from the Alps to Etna'—horror shared by the foreign resident who may, as the result of illness, be equally the victim of Italian usage which makes burial follow so closely on death, real or apparent Popular interest in the theme is now accentuated by indignation, combined with panic, and increased vigilance over the circumstances intervening between the death certificate and the offices of the undertaker is leading to the discovery of cases only less gruesome than that of the Apulian peasant woman The latest of these comes from no less a quarter than the Ligurian Riviera, that lovely stretch of coast indented with sun traps of which Genoa and Spezia are the chief towns In the village of Roccabruna near Porto Maurizio an old countryman, Raffaele Rainoldi by name, fell ill, failed to recover, was certified as dead, and was laid in the coffin, with the despatch characteristic of Italian use and wont on such occasions The lid over him was actually being screwed down when he was felt to move and then heard to speak Medical aid was at once invoked by the family, half beside itself with mingled joy, surprise, and horror, and, thanks to restoratives skilfully applied the old man came round, recovered full consciousness and inspired hopes of his recovery These, however, were not realised He lingered for two days and then died death being this time not "apparent' but real Coincident with the chronicling of these cases the lay press is opening its columns to the discussion of the familiar devices—some of which are actually in force in mortuary chapels on both sides of the Alps—by which the individual laid out as dead and even enclosed in the coffin can still have air to breathe and the power to attract notice and assistance But none of these methods are of other than doubtful efficacy—the apparatus, for one thing, being too delicate and complicated not to get easily unworkable A better "device would be the insistence on a reasonable interval—such as prevails in England—between the death certificate and burial or cremation, and also on a more careful and less haphazard examination of the "dead" before certifying him as such

The Crusade against Tuberculosis

All the omens augur favourably for the success of the "Congresso contro la Tubercolosi to be held at Naples between April 25th and 28th next In the first place, there is a widespread intelligent, and even enthusiastic public sympathy with its object This feeling is fostered by the Government, which through the Minister of the Interior has announced a competition open to all the engineers of Italy, for the best plan for a sanatorium designed for the tuberculous poor The competitors must lodge their plans at the Ministry of the Interior not later than April 30th, 1900 at 12 o clock noon, and the author of the "first best' plan will receive 5000 lire (£200) and the author of the second best 3000 lire (£120) Again, as to the Congress itself, no effort has been spared to render it a worthy sequel to its predecessors held at Paris and Berlin Queen Margherita is its "high patroness" and the Minister of Public Instruction is its president Its organising committee, presided over by Dr Enrico De Renzi, Professor of Clinical Medicine in the University of Naples, includes some of the most authoritative names in Italy Its programme, finally, of which I have been favoured with an early copy, attests the care with which the whole subject has been surveyed and its discussion apportioned among those best fitted to undertake it The Congress will consist of four sections, the first dealing with Etiology and Prophylaxis, having the Rector Magnificus of Padua (Dr De Giovanni) as president, with such men as Murri of Bologna, Celli of Rome, Manfredi of Naples, and others hardly less distinguished to assist him The second section takes up the pathological and clinical side of the subject and is appropriately presided over by Professor Maragliano of Genoa, also adequately reinforced by no less authorities than Grocco of Florence, Bizzozzero of Turin, Marchiafava of Rome and Senise of Naples The third section devotes itself to Therapeutics and has for its president Professor E De Renzi, who will have as assessors Queirolo of Pisa, Cervello of Palermo, and Galvagni of Modena The fourth section deals with Sanatoria and its president is Professor D Capozzi of Naples, also worthily supported by men like Forlanini of Turin, Rummo of Palermo, Carlo Fedeli of Pisa, and others of "light and leading" in that *métier* All physicians, nature students, sanitary engineers, promoters of public hygiene, and social philanthropists will be welcome at the Congress, and have only indeed to send in their names to the "Segreteria del Comitato, nella Prima Clinica Medica, Ospedale di Gesù e Maria, Naples," *whence they will receive* a ticket of admission, price 20fr, which entitles them to the "Atti" and other publications of the Congress, to reductions in the railway and steamboat fares, to the trips to Pompeii, the Gulf of Naples and Palermo, and to all the privileges open to the "Congressisti,' Italian and foreign In connexion with the Congress the magnificent "Esposizione d Igiene,' under the patronage of the Prince of Naples, will also be open—a collection unrivalled I believe, in richness and variety, representing the high water mark of modern hygienic resource

Feb 27th

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Department of Agriculture on the Production of Milk.

MAJOR ALVORD chief of the dairy division of the Bureau of Animal Industry, Washington, states that since July, 1895, there has been a dairy division under his care, the function of which is to acquire and disseminate information useful to dairymen Up to this time there has been but little surplus dairy products in the United States with the exception of cheese, but the prospect of a greater surplus in the future being good this division has been looking for foreign markets It proposes to make a good display at the Paris Exposition this year The first attempt to count the cows in the United States was made in 1840, and though this attempt has been made at each decennial census no approximate total has been received A great effort will be made at the next census to make a fairly accurate count It is probable that there are from five to five and a half millions of cows kept in the States for the purpose of producing milk for food, or about one cow to every 14 persons of all ages Milk is better handled now than it was a few years ago, especially in the matter of transportation and distribution; and milk has improved as to quality, as shown by the proportion of butter fat and total solids and its greater freedom from bacterial contamination This improvement is attributed to individual dairymen and companies rather than to legislation There has been some unnecessary alarm concerning the danger of milk as a food A careful study of the milk supply of the United States as a whole has convinced Major Alvord that the actual *presence* of disease germs in such milk supply is very rare and that the cases of real injury from these germs are rarer still, most of the evidence on this subject is negative and in favour of milk rather than against it It is generally conceded that the adding of preservatives to milk is most undesirable, as the process puts a premium on carelessness and dishonesty. Major Alvord affirms that he is strongly disposed to make the *same statement* regarding sterilisation and Pasteurisation, these methods may be employed on occasions but never as a rule. He would advocate at the present time the use of pure natural milk as being far better than all other preparations of milk as food. As to the value of skimmed milk as a food, he remarks that 100 pounds of skimmed milk contained more valuable food for the human being than 100 pounds of "whole" milk, and yet the sale of this article was prohibited in New York city because the city authorities had not felt like exerting themselves sufficiently to regulate properly a most desirable traffic. Skimmed milk was sold in Boston and very largely in the Connecticut Valley to the milk operatives, and the latter partook very largely of this product, greatly to their advantage. Another great inconsistency on the part of the authorities of New York city was that they freely admitted the sale of condensed skimmed milk but not of natural skimmed milk.

Women Nurses in Military Hospitals.

A Bill has been introduced into Congress to require the permanent employment of women nurses in army hospitals. It provides that there shall be a superintendent of women nurses, who shall be a woman graduated from a general hospital training school for nurses, having a course of instruction lasting not less than two years, who shall be appointed by the Secretary of War at a salary of $2000 per annum; that the nurses shall be graduates of general hospital training schools having courses of instruction lasting not less than two years; that they shall be appointed by the surgeon-general under regulations approved by the Secretary of War; that they shall receive $40 per month when on duty within the limits of the United States and $50 when on duty outside the limits of the United States.

The Losses of the Volunteer Troops in the Spanish-American War.

The Adjutant-General of the army has recently issued a statistical exhibit of strength of the volunteer forces called into service during the war with Spain, with losses from all causes. The total number of volunteers accounted for on muster rolls is 10,017 officers and 213,218 men enlisted; total, 223,235. Of officers, 18 were killed in action; 90 were wounded, of whom three died; 119 died from disease, four by accident, one by drowning, three by suicide. Of the men, 4544 were discharged for disability; 190 were killed in action; 1189 were wounded in action (78 of whom died from their wounds); 3729 died from disease, 97 by accident, 21 by drowning, 11 by suicide, and 30 by murder or homicide.[1] Among the officers mustered in were 1010 general and staff officers, including 143 belonging to the medical department of the volunteers. The only casualty among these medical officers was one death from disease. Of the staff officers three were killed, one belonging to the quartermasters' department, one to the subsistence department, one to the signal corps.

Progress of the Plague

In view of the progress of the bubonic plague, the United States Marine Hospital Service has taken measures to prevent its introduction into this country. 15 officers of this bureau have been detailed for service in foreign seaports, and three are already on duty at Cadiz, Barcelona, and Naples. The other officers are to be stationed at London, Liverpool, Southampton, Queenstown, Glasgow, Havre, Hamburg, Genoa, Antwerp, Rotterdam, Bremen, and Marseilles. These officers will inspect all vessels bound for the United States and keep the bureau informed as to the sanitary condition of the various cities.

Death-rates in Cities and States.

According to the recent records of the Marine Hospital Service the most unhealthy town in the United States was Liverpool, N.Y., with a death-rate per 1000 of 44 17, the population being 1200. Millerstown, Pa., with a population of 1162, reported only one death from any cause in 1898. Homestead, Pa., bears away the palm of healthiness; with a population of 10,000 there were 27 deaths in 12 months. Cleveland, Ohio, had a death-rate of 13 63; New York City, 19 28; Boston, 20 09; Baltimore, 19 10; Washington, 20 74; Chicago, 14·08; St. Louis, 14 28; and San Francisco, 19·41. The twin cities of Minneapolis and St. Paul had a death-rate of only 9 16 against that of New Orleans of 26·91. The most healthy conditions exist in the North-West and the region between the Mississippi river and the Rocky Mountains.

The New President of the New York State Medical Society.

At its recent meeting in Albany the Medical Society of the State of New York, U.S.A., elected to the presidency Dr. A. M. Phelps of New York City. The new President has been chosen from the surgical side of the profession and is a distinguished worker in orthopædics. He is a graduate of the University of Michigan, and is now professor of surgery in the University of Vermont (and professor of orthopædic surgery in the New York Post-Graduate School of Medicine.

The Physical Fitness of Railway Employés.

At a recent meeting of the New York State Association of Railway Surgeons the general claim agent of a western road stated that the last report of the Inter-state Commerce Commission informs us that there were 189,396 miles of railroad in this country and that 874,558 men were employed in the operation and maintenance of the same; that last year 489,444,189 passengers were carried and 741,705,946 tons of freight moved; that during the year 1898 there were 1958 employés killed, 31,761 injured, and 4680 other persons killed and 6176 injured. This frightful loss of life, together with the great loss of property, suggested that some standard of efficiency should be demanded form the employés. If a system of examination and the adoption of an age-limit were established the following benefits would be secured:—1. The company would secure the services of men who were physically capable of performing their duties properly and who would in all probability be able to do so for many years. 2. Men who were physically unfit for the work would be kept out of the service and the risk their employment would necessarily entail would be avoided; and at the same time the company would be protected from fraudulent claims for injury which this examination would detect. 3. The number of accidents and resulting expense would be reduced. 4. By reducing the number of accidents and making the business less dangerous a higher class of men would be encouraged to enter the service. 5. In case of injury it was well known that a sound man would get well quicker and make a better recovery than an infirm or diseased one, a fact which reduces the expense of adjusting his claim as well as the cost of caring for him.

Feb. 18th.

Obituary.

SAMUEL HYDE, M.D. ST. AND., M.R.C.S. ENG., L.R.C.P. EDIN.

By the death of Dr. Samuel Hyde, which occurred on Feb. 8th, Buxton loses one of her best known practitioners. Samuel Hyde was the son of Francis Hyde of Buxton, and entered King's College, London, as a medical student in 1872, when he was aged 21 years. In 1875 he obtained a Certificate of Honour in Obstetric Medicine, and qualified as a Member of the Royal College of Surgeons of England in 1877. He then started in practice at Buxton and for a considerable portion of the last 23 years was associated with the "Peak Hydro-Thermal" establishment. He devoted himself entirely to his practice and never took any part in the public affairs of the town. He was one of the original members of the British Balneological Society, was chairman of its council, and later became editor of the journal of the society. He wrote largely on the various subjects connected with balneology and was author of, amongst other works, "Buxton: its Baths and Climate," which reached a fourth edition in 1898; "Notes from Spa Practice," 1895; "The Therapeutic Value of the Buxton Waters," 1895; "The Causes and Treatment of Rheumatoid Arthritis," 1896; and "On the Uses of Animal Extracts in the Treatment of Chronic Joint Affections." Besides these he contributed various papers upon balneological subjects to the periodicals, among others an "Analysis of 200 Cases of Sciatica," which appeared in THE LANCET of May 9th, 1896. During the early part of last summer Dr. Hyde developed symptoms of intestinal trouble which, however, passed away. At the beginning of the winter, however, obstruction of the bowels gradually supervened, for the relief of which an inguinal colotomy was performed. The mischief was found to be malignant in nature and he gradually sank, dying on Feb 8th, aged 50 years He was buried in the cemetery at Burbage upon Feb 13th by the vicar of Buxton in the presence of a large number of friends He leaves a widow and one daughter

---

[1] "Murder or homicide" are the words which our correspondent has written, but how so many murders or homicides among the troops came about we are at a loss to guess.—ED. L.

JOSEPH WILLIAM YOUNG HOWISON LAVIES,
L F P S GLASG, M S A

THE death is announced from acute pneumonia of Mr J W Y H Lavies All old King's College men who were his contemporaries will sincerely grieve for his comparatively early decease, for he was one of the most popular men of his time during his career at King's College He was the son of a medical man, Dr J Lavies of St George's road, and after qualifying he settled down into practice and rapidly gained the affection and confidence of an increasing circle of patients But the rapid onset of pneumonia consequent on a chill caught a few days before led to his death at the early age of 46 years

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND —The following gentlemen passed the Preliminary Science Examination for the Licence in Dental Surgery, in Chemistry, Physics and Practical Chemistry —

Percy David Anderson and Hermann Bryan Victoria Science and Art Schools Southport George Stanley Bateman Birkbeck Institute William Bateman Dougan Owens College Manchester Frederic Neilhart Fox Municipal Schools of Science, Art, and Technology Gloucester Arthur William Gant Hymers College, Hull Wilfred Ernest Griffin Guy's Hospital William Richard Parker School of Science Technology and Art, Liverpool Ernest Harriman Tice and Stanley Arthur Tice, South West Polytechnic Institute Chelsea.

Eight gentlemen were referred to their studies for three months.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS —The following gentlemen having passed the necessary examinations have been admitted Diplomates in Public Health —

John Allison M D C M Edin F R C S Edin Edinburgh University Arthur Douglas Cowburn L R C P Lond M R C S Eng M D Brux University College Hospital Hugh Erushaw Finch, M B B Ch Oxon Oxford University and London Hospital Harry Percival Foulerton L R C P Lond., M R C S Eng St George's Hospital Shridhar Bheckajee Gadgil L M and S Bombay Grant Medical College Bombay and University College, London Harry William Henshaw L R C P Lond M R C S Eng St Bartholomew's Hospital John Newton Martin L R C P Lond M R C S Eng St Bartholomew's Hospital and University College London William Dunmore Murray M B C M Glasg Glasgow University and Jenner Institute Ernest Jackson Smyth L R C P Lond M R C S Eng M D B S Lond University College Hospital Alfred Spitteler M B, C M Medical College Madras and University College, London David Jones Thomas L R C P Lond M R C S Eng London Hospital; Robert Edwin Goonetilleke L R C P & S Edin M D Brux Ceylon Medical College Edinburgh University and Kings College London Frank Harris White L R C P Lond M R C S Eng, L S A Lond London Hospital

Three gentlemen were referred to their studies for six months.

SOCIETY OF APOTHECARIES OF LONDON —In February the following candidates passed in the subjects indicated —

Surgery —C B S Amos (Sections I and II) Royal Free Hospital C A W Egan Dublin and Charing-cross Hospital W J H Hepworth and O F Lemin (Section I) London Hospital R V A Mosley (Sections I and II) Leeds S Page (Section I), Birmingham A Y St Leger (Section I) Cambridge and St. Mary's Hospital N Walmisley St. Bartholomew's Hospital and A J Watson (Section I) St Mary's Hospital

Medicine —C B S Amos (Section II) Royal Free Hospital J F Hodgson Manchester J W H Morrison (Sections I and II) Durham R V A Mosley (Sections I and II) Leeds, and A C Oliver (Section I) Charing cross Hospital

Forensic Medicine —J F Hodgson Manchester, J W H Morrison Durham R V A Mosley Leeds and A C Oliver Charing Cross Hospital

Midwifery —W Alcock Sheffield C B C Chill, Charing Cross Hospital J I Halstead and J F Hodgson Manchester G J W Keigwin London Hospital A F Malaher St Thomas's Hospital R V A Mosley Leeds F A Q rke Birmingham; J O S Ral ligh St George's Hospital and M J Ryan St Bartholomew's Hospital

The diploma of the Society was granted to the following candidates entitling them to practise Medicine Surgery and Midwifery —C B S Amos C A W Egan W J H Hepworth R V A Mosley and N Walmisley

FOREIGN UNIVERSITY INTELLIGENCE —*Amsterdam* Dr J H Eberson has been recognised as *privat docent* of Diagnosis —*Berlin* Dr Julius von Michel, Professor of Ophthalmology in Wurzburg, has been offered and has accepted the posts of Director of the University Eye Clinic and Professor of Ophthalmology, in succession to Dr Schweigger, who is retiring at the close of the current winter session Dr von Michel was formerly assistant to Professor Horner in Zürich and subsequently taught ophthalmology both in Leipsic and Erlangen Dr Karl von den Steinen, formerly assistant to Professor Westphal in the Charité has been appointed Extraordinary Professor of Anthropology —*Copenhagen* Dr Reiss having attained the age of 70 years is retiring from the chair of Medicine —*Innsbruck* Dr H Malfatti has been appointed Extraordinary Professor of Medical Chemistry —*Lund* Dr J Borelius has been appointed Professor of Surgery —*Vienna* Dr Julius Neumann has been recognised as *privat docent* of Midwifery and Gynæcology

CITY ORTHOPÆDIC HOSPITAL —A series of lectures upon Elementary Anatomy and Physiology, Nursing (especially of Orthopædic cases), Application of Splints, Bandages, and Antiseptic Dressings, and Treatment of Patients Before and After Anæsthetics, &c, will be delivered weekly at the City Orthopædic Hospital, Hatton garden, E C, by Mr Noble Smith, Mr John Poland, Mr Chisholm Williams, Mr Jackson Clarke, and Mr Henry Davis The lectures will be given on every Tuesday from March to July inclusive at 5 30 P M, and will be free to all nurses

FESTIVAL DINNER OF THE SOCIETY FOR TRAINING TEACHERS OF THE DEAF AND FOR THE DIFFUSION OF THE GERMAN SYSTEM —In the absence of Lord Londonderry through illness, Lord Egerton of Tatton on Feb 21st took the chair at the festival dinner held by the Society for Training Teachers of the Deaf and for the Diffusion of the "German' (pure oral) System at the Hotel Cecil, Strand The society owes its bankers £3250, and a further sum of at least £15 000 is required to carry out a scheme of establishing a school for poor children to form adequate opportunity of practice to the students at the Training College The objects of the society are to train teachers on the pure oral system and to diffuse the knowledge of the system among parents of deaf children, educational authorities and the public The society has trained and certificated 113 teachers of the deaf, and these now compete with the school, so that the society has to fill its school mainly with children whose parents cannot afford fees that are remunerative In the course of the evening the secretary announced that £5300 had been subscribed After the usual loyal toasts the Chairman proposed the Army, Navy and Reserve Forces' Captain Philpotts, R N, M P, responded for the navy, Colonel Grubb for the army, and Captain Holt Stilwell for the reserve forces Viscount Duncannon, C B, proposed the "Houses of Parliament,' and was loudly cheered when he said that they would shortly have to discuss the future constitution of a great empire in South Africa Sir John Kennaway, Bart, M P, in responding to the toast of the "Houses of Parliament referred to the time when representatives of the British colonies will be seen at Westminster taking their share in the burden and direction of the great British empire The Chairman proposed the toast of the "Society for Training Teachers of the Deaf and for the Diffusion of the 'German' system,' and said that though other systems, such as the sign system and the combined, were much easier than the German system or, as he preferred to call it, the "pure oral system' the difference was very great Other systems precluded the deaf from becoming like other people, but what was wanted was to make the deaf as far as possible like other people and this was attained by teaching the pure oral system This system, however, had not spread widely because of the expense He understood that there was some contemplation of the foundation of scholarships by the county councils for the training of the deaf Dr Symes Thompson in replying to the toast, said that the pure oral system was based on true physiological principles and must be eventually accepted by the whole world It had been found necessary in the training school at Ealing to give special teaching in the anatomy and physiology of the organs of speech and hearing He described how the pupils were first taught to watch the lips of the teachers so as to be able to articulate letters and the process was then carried on into the construction of sentences Sir John Dorington Bart, M P, Mr Diggle Mr Soames, M P Sir Frederick Milner, Bart, M P, Mr B St John Ackers, and Mr Edward Bond, M P, also spoke

University of Cambridge.—The degree of Master of Arts is to be conferred on Mr Frederick Gowland Hopkins, B Sc., M.B. Lond., M.R C.S Eng., L.R C P. Lond., late demonstrator of physiology at Guy's Hospital, and now University lecturer in clinical physiology at Cambridge.—A prize of the value of £20 for the best M.D. thesis presented during the academical year by a graduate who has taken honours in arts has been founded by Mr. R. Horton-Smith, Q.C., in memory of his son. Raymond J. Horton-Smith was a scholar of St. John's College, and highly distinguished himself both at Cambridge and St. Thomas's Hospital. After taking the degrees of M.A. and M B. he died last autumn at the age of 27 years in the height of his brilliant promise.—The proposed agreement between the University and Addenbrooke's Hospital, which was approved by the Governors of the latter last January, is now offered by the Council of the Senate for adoption by the University. In consideration of an annual contribution of £300 the Governors will elect the Regius Professor of Physic and the Professor of Surgery to the staff, and will offer all reasonable facilities for clinical teaching examinations. An advisory council will also be appointed, on which the town, county, and University will each be represented by five governors. If, as seems probable, the arrangement is adopted certain difficulties of long standing between the two bodies will be happily removed.

Lunacy in New South Wales.—In the annual report for 1898 Dr. Eric Sinclair, Inspector-General of the Insane in New South Wales, states that the number of insane persons under official cognisance on Dec. 31st, 1898, was 4073, who were distributed as follows:—3901 (including 53 criminals) were in the seven hospitals for insane, 40 were in licensed houses, 123 were absent on leave under the provisions of the Lunacy Act, and nine were in hospitals for the insane in South Australia. The number on Dec. 31st, 1897, was 3957, so that the increase during the year was 116. The total increase for the 20 years beginning with 1879 was 2165, or an average of 108 a year. The estimated population of the colony being 1,346,240, the proportion of insane persons to the population was 1 in 330. The hospitals for the insane were overcrowded, and in view of this circumstance, as well as of the annual increase, Dr. Sinclair recommended the providing of additional accommodation. The statistical tables showed that 620 cases were admitted for the first time during the year, 110 were readmitted, 322 were discharged recovered, 39 were discharged relieved, and 246 died. Of the deaths, 21 were attributed to epilepsy and convulsions, 45 to general paralysis, and 27 to pulmonary consumption.

Vital Statistics of Queensland.—According to the annual report for 1898, issued by the Registrar-General of Queensland, the estimated population of the colony, on Dec. 31st, 1898, was 498,523, and was composed of 9989 Chinese, 8589 Pacific Islanders, 3269 Japanese, 358 Javanese, 2242 "other Asiatics," and 474,076 "all other nationalities." From this it will be seen that coloured aliens comprise less than 5 per cent. of the total population, of which the Chinese contribute just 2 per cent. The population of the city of Brisbane within the five-mile radius was 107,840. There were 2972 marriages celebrated in 1898, giving a marriage-rate of 6 03 per 1000. The Queensland marriage rate has been declining steadily since 1863, when it was 14·5 per 1000. The highest marriage-rate in the Australasian colonies during 1898 was in Western Australia, where it was 9 89 per 1000, as compared with 10 65 per 1000 in 1897. The oldest bride was 60 and the youngest was 15 years of age; in former years, however, there have been instances of brides aged 13 years. There were only 13,933 births registered during 1898, which was a smaller number than in any other year of the past decade, and gave a birth-rate of 28 3 per 1000. The relative number of illegitimate births has increased during the last two years; in 1894 the illegitimacy rate was 4 52 per 1000, in 1897 it was 6 02, and in 1898 it was 6 04. The deaths numbered 6243, comprising 3771 males and 2472 females, against 3483 males, 1940 females, and 5423 persons in 1897. The infant mortality, computed from the ratio of the number of deaths under one year to the number of births, was 11 05 for 1898, and the mean for the last decade was 10 61. In the classification of the causes of death the three most fatal diseases were phthisis, pneumonia, and enteritis, the proportion per 10,000 of total deaths assigned to them being respectively 674, 580, and 545. Cancer is found to be increasingly prevalent. Among the less usual causes of death nine fatal cases of caisson disease are recorded.

For the twenty-seventh time, at a meeting of the Rural District Council of the Eastern Division of the Corwen Union, Mr. James Pratchett Drinkwater, M.R.C.S. Eng., L.S.A., was elected medical officer of health.

Royal College of Surgeons in Ireland: Fellowship Examination.—Mr. D. A. Fitzgerald having passed the necessary examination has been admitted a Fellow of the College. The following gentlemen have passed the primary part of the examination: Mr. F. H. McC. C. Crawley, Mr. K. L. G. Gunn, Mr. S. H. Law, Mr. A. Charles, Mr. T. A. Dillon, and Mr. A. H. B. Hartford.

Presentation to a Medical Man.—Mr. J. P. Bush of Clifton Park, Clifton, Bristol, who has been appointed chief surgeon of the Princess Christian Hospital, shortly to leave for South Africa, was presented on Feb. 22nd by his friends, previously to going on active service, with a compact case of surgical instruments, the outer case being of silver and appropriately inscribed.

Queen Charlotte's Lying-in Hospital.—The Earl of Hardwicke presided at the annual meeting of governors of this hospital on Monday, Feb. 26th. The report stated that during the year 1150 patients had been delivered in the hospital and 1011 at their own homes. The committee were receiving into the hospital as patients the wives of soldiers and sailors on active service with the forces in South Africa. Nearly 50 of these women had been helped. The expenditure had amounted to £4390 7*s.* 9*d.* and the ordinary income to £3378 19*s.* 7*d.* The Prince of Wales's Fund had made a grant of £300 to the hospital and £50 to the convalescent home. The event of the year had been the opening of the new nurses' home by the Duke and Duchess of York in July last. The chairman, in moving the adoption of the report and accounts, made an urgent appeal for contributions towards the £5000 still needed for the work to the hospital and the new nurses' home.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

New Factory Legislation

The Home Secretary has made it known that his Bill for the amendment of the Factory Acts which he hopes shortly to introduce will provide new machinery for bringing into force the special rules applicable to dangerous trades, such, for instance, as the earthenware trade, and will also deal with the question of arbitration in connexion with which there has recently been so much difficulty.

The Medical Service of the Royal Navy.

In the statement of the First Lord of the Admiralty explanatory of the Navy Estimates for the year 1900-1901, reference is made to several changes which have been effected or are in contemplation in connexion with the medical service of the navy. It is announced that the numbers of Inspectors-General and Deputy Inspectors-General of Hospitals and Fleets have been increased and the conditions which are required for promotion to these ranks have been modified. The period of the course of instruction at Haslar Hospital for Surgeons on entry has been extended and the award of prizes at the end of each session introduced. The number of medical officers allowed to undergo periods of study at medical schools has been considerably increased and the privilege extended to the senior ranks. An additional professor has been appointed to the instructing staff at Haslar in connexion with the study of diseases of foreign stations. The last paragraph in the statement is perhaps the most important. It announces that medical officers newly entered will in future be required to provide themselves only with a pocket case of instruments as all ships bearing medical officers and naval and marine barracks will be supplied with surgical instruments at the public cost within the next three years. When Mr. Goschen came to introduce the Navy Estimates in the House of Commons he referred to some of these topics and gave the assurance that the Admiralty are doing what they can to give the medical officers in the navy greater opportunities for studying and informing themselves generally with reference to the progress of medical science, and also to relieve them of burdens which seem to the Admiralty to be unjust

HOUSE OF COMMONS

THURSDAY, FEB 22ND.

Enlistment for the Royal Army Medical Corps

Sir WALTER FOSTER asked the Under Secretary of State for War whether, seeing that no recruit could be enlisted for the Royal Army Medical Corps if he was over five feet five inches in height, however otherwise eligible he might be, this restriction which prevents enlistment of men otherwise eligible in that branch of the service could be removed.—Mr WYNDHAM The maximum standard for the Corps is five feet five inches but a taller man who might for special reasons be eligible would be taken as "specially enlisted."

Nursing Orderlies in South Africa

Sir WALTER FOSTER asked the Under Secretary of State for War if the number of nursing orderlies employed in field and general hospitals in South Africa was only one orderly for every seven patients, and if, in the interests of efficiency, it could be increased to one for five patients.—Mr WYNDHAM The proportion of orderlies to beds is as stated—*one to seven*—*and the Secretary of State is advised that that* is sufficient In a field hospital the bearer company can supply additional orderlies as soon as an action is over, and as patients are always transferred as soon as possible to the base hospital the beds are rarely all full In a general hospital many of the cases are always slight and there is a regular staff of nursing sisters

Netley Hospital.

Captain NORTON asked the Under Secretary of State for War whether it had been brought to his notice that the dining halls at the Royal Victoria Hospital, Netley, were supplied with wooden forms without any back support which were unsuitable for invalids, and if he would consider the advisability of substituting barrack chairs.—Mr WYNDHAM Not long since the opinions of Principal Medical Officers as to the requirements of military hospitals were collected and reported upon by a committee The change suggested was not among those proposed The question, will, however, be considered

Housing of the Working Classes

Mr. CHAPLIN introduced a Bill to amend Part III of the Housing of the Working Classes Act, 1890 He explained that the main provision of the measure was to enable local authorities to establish or acquire lodging houses for the working classes outside their respective districts and that further it simplified procedure under the Act.

FRIDAY, FEB 23RD

Plague and Famine in India

Lord GEORGE HAMILTON, replying to a question on this subject, said: The number of deaths in Bombay city from plague during the week ending Feb 16th was 683. The number for the corresponding week in the preceding year was 712 As regards the famine the latest estimate of the area affected is now 445 000 square miles and that of the population affected 61 500,000 as against 530,000 square miles and 49,000,000, which were the figures given by me in answer to a question on the 1st of this month The number of persons in receipt of relief is now about 4 000 000 as against 3 000 000 in the corresponding week of 1897 On the other hand the relief arrangements are more advanced than they were in 1897, the people are more ready to accept relief, prices are on the whole less high, and the death rates in the famine districts so far as yet known are lower,

Sanitary Inspectors

On the motion of Mr PERCY THORNTON a Bill was introduced and read a first time to amend the law as to the qualifications and tenure of office of sanitary inspectors and to make other relative provisions Among other things the Bill gives sanitary inspectors an appeal from their employers to the Local Government Board

The Purity of Water supplies

Mr. CORNWALLIS asked the President of the Local Government Board if he intended to introduce a Bill this session to safeguard to consumers the supply of drinking water by companies and others.—Mr CHAPLIN replied that he was preparing a Bill upon the subject and had every hope of introducing it

MONDAY FEB 26TH

Anti Enteric Vaccine

Mr POWELL WILLIAMS replying to a question addressed to him by Sir JAMES FERGUSSON, said that anti enteric vaccine is placed on board all transports proceeding to South Africa

The Anti Vivisectionists and Mr R. E Lloyd

Mr WEIR asked the Secretary of State for the Home Department if he would state how often within the last two years the Physiological Laboratory, University College London, had been visited by the Government Inspector, was he aware that Mr R E Lloyd, B Sc., in the *Journal of Physiology* dated Feb 2nd refers to experiments which he made upon three cats and four monkeys, the animals being allowed to linger for two months before death ensued would he ascertain whether these experiments were made without the use of anæsthetics, and, if they were, would he say when a certificate enabling Mr Lloyd to dispense with the use of anæsthetics was granted, and, whether any of these experiments were made in the presence of a Government inspector.—Sir MATTHEW WHITE RIDLEY The Physiological Laboratory at University College was visited by the Government inspector three times in 1898 and once in 1899 During the last quarter of 1899 no experimental work was being carried on there As regards the last three paragraphs of the question, I think the article in the *Journal of Physiology* has been misunderstood It does not appear that Mr Lloyd performed any experiments on living *animals at all and he refers in the* paper only, so far as his own work is concerned, to microscopical examination of some brains removed after death from animals upon which experiments had been previously made under anæsthetics by a person holding the proper certificates

The Care of the Teeth.

Mr WEIR asked the Vice-President of the Committee of Council on Education, having regard to the fact that a large percentage of the young men who enlist in Her Majesty's army are subsequently rejected on account of bad teeth, would he consider the expediency of arranging for a fully-qualified dentist to attend periodically at each school under the control of the Council for the purpose of inspecting the teeth of all lads over the age of 10 so that they may be encouraged to take such steps as are necessary for the preservation of their teeth.—Sir JOHN GORST: The Committee of Council regard this as a matter for the consideration of local authorities and managers of schools, but the suggestion of the hon member shall be considered.

TUESDAY, FEB 27TH

Civil Surgeons at the War

Sir WALTER FOSTER asked the Under-Secretary of State for War whether a supplementary list could be placed in the Army List of civil surgeons employed with the army in South Africa, and whether a list of the field hospitals, bearer companies, and general hospitals employed in South Africa, could be placed in the Army List after the medical officers in the Army List, showing the names of officers with each hospital or company.—Mr WYNDHAM It is not the practice to insert the names of civilians attached to the army in the Army List. It would be exceedingly inconvenient to do so seeing the temporary character of their engagement In regard to the proposal in the second paragraph, the changes constantly in progress following the disposition of the troops would render it quite impossible to keep such a statement up to date

WEDNESDAY, FEB 28TH

The Midwives Bill.

The second reading of the Midwives Bill, which stood as the second order at this sitting of the House, was not reached until after the time for the discussion of contested business and consequently, when formal objection was taken, the order was postponed If the objection be persisted in there will be little or no chance of any progress being made with the Bill this session Notice of a motion for the rejection of the measure has been given by Mr T P. O Connor.

Appointments.

Successful applicants for Vacancies Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o clock on the Thursday morning of each week, for publication in the next number.*

ALEXANDER, T. A., L R C P., L.R.C S Irel, has been re appointed Medical Officer for the Saham Toney Sanitary District of the Swaffham Union

ALLAN, C. M., M A, M D, M S Edin, has been appointed Public Vaccinator for the Longton District of the Stoke upon Trent Union, vice Alfred Averill

DUNLOP, THOMAS M B, C.M. Edin, D P H, Camb, has been appointed Medical Officer of Health to the Aldershot Urban District Council

ECCLES, H D, L R.C P Lond, M R C S, has been appointed Public Vaccinator for the District of Mangonui, New Zealand

HEBBLETHWAITE, ALFRED G, M R C S, L R.C P Lond., has been appointed Public Vaccinator for Keighley and District

LINES, D H F, M B, Ch B Melb, has been appointed Assistant House Surgeon to the Hobart General Hospital, Tasmania, vice C. T. MacGowan

LININGTON, W W, F R C S Eng, has been appointed Honorary Assistant Medical Officer to the Victoria Hospital, Folkestone

MERCER, W. B, M B, C M Camb, L R C P Lond, M R C S, D P H. Vict., has been appointed Medical Officer of Health for the Rishworth Urban Sanitary District, vice H C Hine, resigned

MILNER J, L.R C P Edin, M R C S, has been re-appointed Medical Officer for the Bradenham Sanitary District of the Swaffham Union

O BRIEN, D P, L R C P Irel, L.R C S, F R C S Irel has been appointed Government Medical Officer at Ravenswood, Queensland

PAUL, L. G, Ph D, has been appointed Public Analyst for the Borough of Huddersfield

PORTER, A H, L.R C P L.R.C S Edin, L.F P S Glasg has been appointed Public Vaccinator for the District of Waihi, New Zealand

PRIOR, SAMUEL, M B, C M Glasg, has been appointed Medical Officer for the Kirkheaton District of the Huddersfield Union, vice D Robertson, resigned

RITCHIE, R H, M B, Ch B Melb, has been appointed Officer of Health for the Borough of Horsham, Victoria, Australia, vice W. J. Cross

SCARLETT, ELLA CAMPBELL, M D Brux., L M, L S A, has been appointed Assistant Surgeon to the Household of H M. the Emperor of Korea.

STEEGMANN, EDWARD J, M B, D P H, has been appointed Assistant Lecturer on Hygiene and Public Health at St. Mary's Hospital Medical School, London

STEELE, H F, L.R.C P Lond, M R C S, has been re appointed Medical Officer for the Oxborough Sanitary District of the Swaffham Union

STODDART, I. WALLIS, F I C, F C S, has been appointed Public Analyst to the Radstock Urban District Council

THOMAS A W, L.R.C P, L R C S Edin, has been re-appointed Medical Officer for the Igburgh Sanitary District of the Swaffham Union.

THOMPSON, J, M B, B S, has been appointed Resident Medical Officer to the Perth Public Hospital, Western Australia.

THORP, C G M B, Ch M Edin, has been appointed Resident Surgeon to the Victorian Eye and Ear Hospital, Melbourne, Victoria, Australia.

VICKERS, CHARLES WILLIAM, M R.C S, L.R.C P Edin, L S A, D P H. Lond., has been re-appointed Medical Officer of Health for Paignton (Devonshire).

WALSH J, M D Dub, has been appointed Medical Officer for the Leighton Buzzard Union.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

Bedford County Hospital, Bedford.—Assistant House Surgeon for six months. Salary £25 for that period, with board, lodging, and washing.

Birmingham and Midland Eye Hospital, Birmingham.—Assistant House Surgeon. Salary £60 per annum, with apartments and board.

Birmingham and Midland Ear and Throat Hospital, Edmund-street, Birmingham.—House Surgeon, tenable to Oct. 31st, with re-appointment for a further six months, conditionally. Salary at the rate of £40 per annum for the first period, and if re-appointed at the rate of £60 per annum, with board, lodging, and washing.

Birmingham and Midland Skin and Urinary Hospital.—Clinical Assistant.

Bradford Royal Infirmary.—House Surgeon, unmarried. Salary £110 per annum, with board and residence.

Cardiff Infirmary.—Resident Medical Officer for three years. Salary £100 per annum, with board, washing, and furnished apartments. Also Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing, and apartments.

Central London Ophthalmic Hospital, Gray's Inn-road, W.C.—House Surgeon. Salary £50 per annum, with board and residence in the hospital.

Chelsea Hospital for Women, Fulham-road, S.W.—Registrar. Honorarium 20 guineas per annum.

Cheltenham General Hospital.—Junior House Surgeon for two years; unmarried. Salary £45 per annum, with board, lodging, and washing.

Cotswold Sanatorium for the Open-air Treatment of Tuberculosis.—Assistant Medical Officer. Salary commencing at £120 a year and all found.—Apply to Dr. Pruen, Sherborne Lodge, Cheltenham.

Cumberland and Westmorland Asylum, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £100 a year, with board and residence.

Devon County Asylum, Exminster. Third Assistant Medical Officer. Salary £100, rising to £125.

Durham County Asylum.—Assistant Medical Officer, unmarried. Salary £140, rising by yearly *increments* to £160, with board, lodging, washing, and attendance. Apply to Medical Superintendent, Winterton, Ferryhill.

East London Hospital for Children and Dispensary for Women, Glamis-road, Shadwell, E.—House Surgeon. Board, residence, &c., provided, and an honorarium of £25, *conditionally*. Also Medical Officer for the Casualty Department for six months. Salary at the rate of £100 per annum. Luncheon is provided at the Hospital.

Farringdon General Dispensary, 17, Bartlett's-buildings, Holborn-circus, London.—Resident Medical Officer. Salary £100 per annum, with apartments and attendance.

French Hospital and Dispensary, 172, Shaftesbury-avenue, London.—Resident Medical Officer. Salary £80 per annum, with full board. Must speak French.

General Hospital, Nottingham.—Assistant House Physician for twelve months. Salary £100, with board, lodging, and washing in the hospital.

Great Northern Central Hospital, Holloway-road, London.—Junior House Surgeon for six months. Salary at the rate of £30 per annum, with board, lodging, and washing in the hospital.

Hamlet of Mile-end Old Town, London.—Assistant Resident Medical Officer at the Workhouse *Infirmary*, Bancroft-road, Mile-end, E., and also as Assistant Medical Officer for the Workhouse and School, unmarried. Salary £120, with board, lodging, and laundry and an allowance of 2*d*. per day in lieu of beer. Applications to the Clerk to the Guardians, Offices, Bancroft-road, Mile-end, E.

Hants County Asylum, Fareham.—Third Assistant Medical Officer, unmarried Salary £125 per annum (increasing to £150 after twelve months' service), with furnished apartments, board, washing, and attendance.

Holborn Union.—Assistant Medical Officer, as a Clinical Assistant, at the Infirmary, Archway-road, London, N., for six months. Salary £80 per annum, and the usual residential allowances.—Apply to the Clerk, Offices, Clerkenwell-road, E.C.

Kent and Canterbury Hospital, Canterbury.—Assistant House Surgeon, unmarried. Salary £50 a year, with board and lodging.

King's College, London.—Professorship of Materia Medica and Therapeutics.

Macclesfield General Infirmary.—Junior House Surgeon. Salary £70 per annum, with board and residence at the institution.

Manchester Children's Hospital.—Junior Resident Medical Officer for six months, unmarried. Salary at the rate of £80 a year, with board and lodging. Apply to the Secretary, Dispensary, Gartside-street, Manchester.

Manchester Hospital for Consumption and Diseases of the Throat and Chest.—Honorary Surgeon.

Metropolitan Hospital, Kingsland-road, N.E.—House Physician, House Surgeon, Assistant House Physician, and Assistant House Surgeon for six months. Salary for House Physician and House Surgeon at the rate of £40 a year each. Salary of Assistant House Physician and Assistant House Surgeon at the rate of £20 a year each.

Newport and Monmouthshire Hospital, Newport, Mon.—House Surgeon. Salary £100 per annum, with board and residence. No stimulants provided.

Rochdale Infirmary and Dispensary.—*House Surgeon*; unmarried. Salary £90 per annum, with board, residence, and washing

Royal Hospital for Children and Women, Waterloo Bridge-road, London.—Resident Medical Officer for twelve months. Salary £70 per annum, rations, and laundry.

Royal Hospital for Diseases of the Chest, City-road, London.—House Physician for six months. Salary at the rate of £40 per annum, with furnished apartments, board, and washing.

Royal Isle of Wight County Hospital, Ryde.—Resident House Surgeon. Salary £50 per annum, and a fee of £10 10*s*. for annual course of lectures to the nurses.

Royal National Hospital for Consumption, Ventnor.—Clinical Assistant. Board, residence, and laundry provided. Also Resident Medical Officer, unmarried. Salary £150 per annum, with board and lodging in the hospital.—Applications to Dr. Parry at the Hospital, Ventnor.

Royal Surrey County Hospital, Guildford.—House Surgeon and Assistant House Surgeon. Salary, House Surgeon, £80 a year, with board, residence, and laundry. Salary, Assistant House Surgeon, £30 a year, with board, residence, and laundry.

Salisbury Infirmary.—Assistant House Surgeon, unmarried. Salary £50 per annum, with board, lodging, and washing.

Sheffield Royal Hospital.—Two Assistant House Surgeons (Senior and Junior), unmarried. Salary £50 each per annum, with board (exclusive of wine and beer), washing, and lodging.

South Devon and East Cornwall Hospital, Plymouth.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

Southport Infirmary.—Resident Junior House and Visiting Surgeon for six months. Honorarium at the rate of £50 per annum. Residence, board, and washing provided.

Stockport Infirmary.—Assistant House and Visiting Surgeon. Salary £70 per annum, with board, washing, and residence. Also Junior Assistant House Surgeon. Salary at the rate of £24 per annum, with board, washing, and residence. Appointments tenable for six months.

St. Thomas's Hospital, Westminster-bridge, S.E.—Assistant Physician.

Sunderland Infirmary.—House Surgeon. Salary £80, rising £10 annually to £100, with board and residence.

Taunton and Somerset Hospital, Taunton.—Assistant House Surgeon for six months. Salary at the rate of £30 per annum, with board, lodging, and washing.

University College of South Wales and Monmouthshire.—Demonstrator and Assistant Lecturer in Anatomy. Salary £120.

University of Edinburgh.—Chair of Medicine: Professor of Medicine.

Victoria Hospital for Consumption, Edinburgh.—Resident Physician. Rooms, board, &c., and honorarium £20 per annum. Also Non-resident Clinical Assistant in Charge of Out-patients. Salary £60 per annum.

West Bromwich District Hospital.—Resident Assistant House Surgeon.—Salary £50 per annum, with board, &c.

West Ham Hospital, Stratford, E.—Junior House Surgeon for one year. Salary £75 per annum, with board, residence, &c.

West London Hospital, Hammersmith-road, W.—House Physician and House Surgeon for six months.

Worksop Dispensary Hospital.—Resident Surgeon, unmarried. Salary £120 per annum, paid monthly, with increase when hospital is opened. Rooms, coal, gas, furniture, and housekeeper provided. Apply to Mr. Charles A. Whall, Worksop.

York Dispensary.—Resident Medical Officer, to visit the sick poor at their own homes; unmarried. Salary £110 a year, with board, lodging, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

Dickson.—On Feb. 25th, at Scarsdale-villas, Kensington, the wife of T. Hugh Dickson, M.A., M.B., of a daughter.

Hardyman.—On Feb. 25th, at Pulteney-street, Bath, the wife of George Hardyman, M.B., F.R.C.S.E., of a son.

Keele.—On Feb. 20th, at St. Paul's-road, Highbury, the wife of David Keele, M.R.C.S., L.R.C.P., of a son.

Routch.—On Feb. 24th, at Bridge View, 137, Upper Grosvenor-road, Tunbridge Wells, the wife of Frederick Routch, L.R.C.P., L.R.C.S. Edin., L.F.P. & S. Glasg., of a daughter (prematurely).

MARRIAGES.

Cobb—Walker.—On Feb. 21st, at All Saints', Leamington, Ernest Herbert Cobb, M.R.C.S., L.R.C.P. Lond., elder son of Mr. James F. Cobb of Cornwall-terrace, Regent's Park, to Eleanor, second daughter of the Rev. F. J. Walker, late Rector of Frodesley, Shropshire.

Hollis—Lassell.—On Feb. 27th, at St. John's Wood Presbyterian Church, Harry Hollis, M.D. Cantab., of Wellingborough, to Eleanor, third daughter of the late William Lassell, jun., of Liverpool.

Kekwick—Prain.—On Feb. 22nd, at Blackness House, Dundee, John Kekwick, L.R.C.P., M.R.C.S., L.D.S., son of the late J. W. Kekwick, Carlisle, to Catherine, eldest daughter of John Easton Prain.

Pitts-Tucker—Le Doux.—On Feb. 24th, at St. Luke's, Redcliffe-square, Francis Augustus Pitts-Tucker, M.R.C.S., L.R.C.P. Lond., fourth son of Mr. T. J. Pitts-Tucker of Barnstaple, to Antoinette Augusta (Tony), third daughter of G. R. Le Doux of London.

DEATHS.

Duke.—On Feb 22nd, at Villa Albert, Cannes, Douglas William Duke, M.R.C.S., aged 51.

Scattergood.—On Feb 22nd, at Park square, Leeds, Thomas Scattergood, M.R.C.S., L.S.A., aged 74 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MEDICAL CERTIFICATES FOR THE LONDON SCHOOL BOARD

WE have from time to time commented severely upon the discourteous attitude which the London School Board show, through its officials *towards the medical profession* We had thought that *owing to the* resolution passed on Jan. 21st, 1897 (THE LANCET, Jan. 30th, 1897, p 331), this discourtesy would cease But on Feb. 17th a member of the staff of the Royal Westminster Ophthalmic Hospital attended the South Western Police-court to express his dissatisfaction at the unnecessary demands of the School Board officers Mr Burton, the superintendent of the Lambeth Division, had summoned a man named Braby for not sending his child to school and it transpired that the child was under treatment at the hospital and that the surgeon had given a certificate to the effect that the child was unfit to attend school He had, however, not filled up one of the official school board certificates but the form in use at the hospital The School Board must remember that certificates are given not because the Board has any right to demand a certificate, for it has none, but purely out of courtesy and with a desire to save the child or its parents from a prosecution Secondly, the Board has no right to demand to know what is the nature of the illness from which a child is suffering It is quite sufficient that the child should be returned as unfit to attend school The nature of an illness, except in certain cases of an infectious kind, is a confidential matter between the medical man and his patient The magistrate agreed that the surgeon was quite within his rights in using only the hospital form He did not fine the parent of the boy and directed Mr Burton to withdraw the summons and *to take* out another if the boy did not attend school when able to do so Mr Sharpe once complained of the School Board having to undergo odium on account of such prosecutions As long as the Board disregards medical certificates it will be liable to such odium Instead of harassing the parents of children who are certified to be under medical treatment the Board would better employ its time in clearing the streets of small urchins who hawk newspapers and other things. Possibly this might bring a further rise in the rates, but that is a matter which never causes the Board the least uneasiness The medical man, in the particular case under consideration, deserves every credit for attending the court, and thanks are also due to the magistrate for his decision in the matter

WANTED, A HOME.

To the Editors of THE LANCET.

SIRS,—Could some of your readers tell me of a home where a girl, aged 20 years, of the servant class, suffering from melancholia, could be admitted as soon as possible? The father could pay from 6s to 10s. a week for her I am, Sirs, yours faithfully,

Feb 26th. T E, L R.O P & S

AN IMPROVED "ESMOND' CYCLE SADDLE

THE Esmond Cycle Saddle Company of Botolph House, Eastcheap, London, E C, have still further improved their "Esmond" saddle and the tests to which we have put it are highly satisfactory in their results In its old form the saddle had a backward and forward swing while it also partially rotated laterally These movements are still maintained but in addition the back of the saddle is now supported on two springs For travelling over rough ground and for climbing hills the saddle is one of the best we have tried while in all cases the usual discomforts are reduced to a minimum Not the least of the advantages of this saddle is the fact that if properly adjusted there cannot possibly be any "bumping" or slipping on the seat

THE ASSUMPTION OF MEDICAL TITLES

ON Feb 25th, Harry Edwin Collis of Cambridge street, Hyde Park, was summoned at the instance of the General Medical Council for wilfully and falsely pretending to be a Doctor of Medicine and for unlawfully using the titles "Doctor" and "M D" In November, 1899, the General Medical Council received from Keble College, Oxford, a pamphlet published from C bridge-street, Hyde Park. In consequence of this the defendant s premises were visited and on the door, the railings, and the letter box were found brass plates bearing the name "Dr Washington Evans" As this gentleman had been struck off the Register in 1885 the solicitors to the General Medical Council caused a letter to be written to "Dr Washington Evans, Cambridge-street." A letter was received in reply signed in the name of "Washington Evans" and mentioning terms for treatment This letter the defendant admitted was written by himself. The brass plates were removed after the summons was issued Mr Freke Palmer, for the defence, said that Dr Evans had died in November, 1899 and the widow had asked the defendant to carry on the business for her He did so entirely for her benefit. The business had now been stopped Mr Curtis Bennett is reported as saying that the worst feature of the case was that defendant had no qualifications for carrying on the business, and but for these proceedings he would probably still be conducting it. Defendant was fined 40s and five guineas costs Mr Collis may have been actuated by motives of pure humanity and anxiety to assist a widow, but this does not excuse fraud Personation of a dead man is a serious offence in any case, and when the personation necessarily entails an assumption of qualifications and knowledge which the personator does not possess the offence is doubly grave

"THE CLERGYMAN AND THE MEDICAL MAN."

WITH reference to the letter upon this subject which appeared in our columns on Feb 17th we see that our contemporary, the *Chemist and Druggist*, of Feb 17th, prints the "Sure and Certain Cure for Influenza" as it appears in a Glasgow paper It there reads as follows: "Pure Phenol Calvert's No. 1, prepared for internal use Dose: two tablespoonfuls in a wineglassful of water three times in 24 hours. ." An ounce of pure carbolic acid in an ounce of water would probably be fatal

"MEDICAL ATTENDANCE IN BOURNEMOUTH"

To the Editors of THE LANCET

SIRS —Having read "One of the Ailing's" complaint and your reply in THE LANCET of Feb. 24th I still think that reform is desirable in this matter As a resident in London it has often forced itself unpleasantly upon me that if after, say, 1 P M I required medical advice it was useless to visit a medical man on that day until the evening As I understand the matter they are to be consulted up till midday, after this they are either at hospitals or visiting their patients. As to hospitals, I suppose it would be difficult to vary the time of attendance, but surely some of the profession might visit patients in the morning and thus be available for consultations in the afternoon I am, Sirs, yours faithfully,

Feb 26th, 1900 A PATIENT

WHO IS TO PAY?

To the Editors of THE LANCET

SIRS,—I should like the benefit of your opinion in the following case I am sent for to attend a single girl of 18 years of age at her confinement I deliver with forceps and ultimately, at the girl's request, send in my bill of two guineas to the father who defies me and will not pay The girl, I may say, left her home and went to stay with some people in the next street and was delivered there She has remained with them ever since and has left for another town with them. The girl s father is, I am informed, in possession of a sum which was paid him by the father of the child I am told that I cannot successfully sue the girl s father and as the girl has nothing it would be useless to sue her The father says his house was open to her and that he did not want her to go anywhere else Can you advise me what to do? I am, Sirs, yours faithfully,

Feb 24th, 1900 DISPUTED ACCOUNT

*** We can only recommend our correspondent to employ a solicitor and follow his advice —ED L.

A CASE OF INTRACTABLE ULCER

To the Editors of THE LANCET.

SIRS,—I wish to gain the assistance of some of your readers in the following case. The patient is very debilitated and is suffering from an ulcer of about the size of a shilling situated on the inner side of the tibia The ulcer is the result of an injury and is of some three months' standing The patient has had eczema of the same leg which was very intractable. Iodoform ointment and dressings have been tried, but with little benefit It occurred to me to try the "Oxygen Treatment," but I should like to have the opinion of others before doing so and should be grateful for full particulars as to mode of application

I am, Sirs, yours faithfully,

TIBIA

*** The address of the Oxygen Home is 2, Fitzroy square, W, and full information will be given on application to the secretary.—ED L.

"DESCRIBED AS A DOCTOR."

THE *Morning Herald* of Thursday Feb. 15th contained the following paragraph —

> PERJURY BY A DOCTOR
>
> Lionel George Peyton Holmes, described as a doctor, pleaded guilty to an indictment charging him with having committed perjury in an action tried in the Mayor's Court, Guildhall —It was stated that Holmes gave evidence in an action tried recently in the *Mayor's Court, when he swore that he was a Licentiate of the* Society of Apothecaries and qualified to give medical advice He gave his name as George Holmes in which name, it appeared, that some time ago a certificate was issued, but, it was alleged, not to the accused.—Mr Overend on behalf of prisoner, stated that he had acted as a dispenser to medical men His present position meant a very serious thing to his future —The Common Serjeant passed a sentence of three months' imprisonment, as an offender in the Second Division

It is singularly unfair to head such a paragraph "Perjury by a

Doctor." The practice of calling any person who has dabbled in drugs or castrated cats a "doctor" is on a par with that which obtains of describing every rowdy street-walker as an "actress." Holmes's counsel stated his client's position, and the prisoner should have been described accordingly.

DIFFICULTIES UNDER THE VACCINATION ACT.

To the Editors of THE LANCET.

SIRS,—Can you advise me if anything can be done under the following circumstances? I find that the percentage of vaccinations I get to do are not what they should be, due to this fact—a local medical practitioner arranges to vaccinate any child in one place only for the sum of 1s.; he thus brings the public vaccinators into disrepute because they must do four places, and also he, I think, to a large extent invalidates the benefit of the Act. I may add that this has been going on for years, but has greatly increased since the New Vaccination Act came into force. I know that other public vaccinators around complain of the same thing. Can it not be stopped?

I am, Sirs, yours faithfully,

Feb. 17th, 1900. A P. V.

*** According to the instructions of the Local Government Board dated Jan. 7th, 1897, a public vaccinator must "in all ordinary cases of primary vaccination, make such insertions of lymph as will produce at least four separate good-sized vesicles, not less than half an inch from one another," and if these instructions are not carried out the public vaccinator would incur the risk of losing the Government grant, while if such instructions were habitually disregarded there might be question as to whether the vaccinator would be allowed to continue in office. We fear there is at present no remedy for the obviously unfair state of things referred to by our correspondent, and, moreover, the practice is likely to lead to the creation of a large and very imperfectly protected number of children. The moral responsibility of these practices rests with the medical men who condescend to employ them. Until "vaccination" is defined by law there is, we fear, no legal remedy. We shall, however, continue to condemn in our columns such apology for vaccination.—ED. L.

◆

M.P.S.—The matter is not referred to in the Medical Acts. There is a regulation of the General Medical Council to the effect that six months of the fifth year of study may be spent with a *registered practitioner*. The General Medical Council in November, 1897, agreed that notices relative to the employment of unqualified persons as assistants or otherwise should be inserted as an advertisement in the medical journals. (*See* THE LANCET, Dec. 11th, 1897, p 93 of the advertisement columns.) In this notice the Council pointed out that after a certain lapse of time any practitioner employing an unqualified assistant or "covering" should be deemed guilty of "*infamous conduct in a professional respect*," and added that the foregoing notices "do not apply so as to restrict the proper training and instruction of *bonâ-fide* medical students and pupils .. . under the immediate personal supervision of registered medical practitioners" The Council further decided that they "do not think it necessary or expedient .. ... to lay down regulations intended to meet all the particular cases which may arise. As in all other instances, the Council must deal with each case on its merits."

Hygiene.—Our correspondent is advised to consult, in addition to the books he mentions, Surgeon-Major A. M. Davies's "Handbook of Hygiene." London. Griffin and Co., price 12*s.* 6*d.* The articles on Climatology and on Plague and other *Infectious Diseases* in Allbutt's System of Medicine will also be found useful. The most recently published instructions upon plague were contained in a circular issued by the Local Government Board for Scotland dated Jan. 15th, 1900, upon which we commented in THE LANCET of Jan. 20th, p. 179.

X. Y. Z.—We cannot attempt to guess what view the General Medical Council may take when both sides of the question are placed before them.

R. I.—We have not the information. The reading room of the British Museum is not difficult of access.

Rural.—There is an excellent historical sketch in the "National Dictionary of Biography."

Mr. A. Cooper Fenn.—Our correspondent is thanked for his letter.

T T.—We have already made a reference to the case.

Singer should consult his medical man.

F.R.C.P. Ed.—Yes.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Norfolk Standard, Blackburn Telegraph, Bradford Observer, Sheffield Independent, Bristol Times and Mirror, Manchester Evening Chronicle, Manchester Courier, Brighton Gazette, Daily Gleaner* (*Kingston, Jamaica*), *Pioneer Mail, Times of India, Scotsman, Citizen, Builder, Architect, Sanitary Record, South Wales Daily News, Public Health Engineer, Birmingham Daily Post, Kentish Observer, Lincoln Echo, Liverpool Daily Post, Leeds Mercury, Hertfordshire Mercury, Bristol Mercury, Local Government Chronicle, Yorkshire Post, Reading Mercury, City Press, Teesdale Mercury, Scientific American, Dewsbury Reporter, Ripley Advertiser, Health, New Zealand Herald, Star, British Dental Journal, Morning Advertiser, Portsmouth Times, Surrey Advertiser, Local Government Journal, Mining Journal, Burnley Gazette, Essex County Standard, Australasian Medical Gazette, Weekly Free Press and Aberdeen Herald, Southwark Record, Isle of Wight Herald, Wakefield Herald, Lichfield Mercury, Gloucestershire Echo, Rangoon Gazette, Oban Times, Cork County Eagle, Birmingham Daily Post,* &c., &c.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 1st, 1900.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall.	Solar Radia in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8 30 A.M.
Feb 23	29·53	S.W.	0·10	72	57	45	50	51	Raining
" 24	29·69	S.W.	0·03	78	58	51	51	53	Overcast
" 25	29·77	S.W.	0·10	67	55	50	52	53	Cloudy
" 26	29·59	S.E.	0·01	67	57	46	46	47	Raining
" 27	29·42	E.	0·37	56	53	47	49	50	Raining
" 28	29·81	N.E.	0·20	50	50	44	44	45	Raining
Mar. 1	30·13	N.E.	0·07	72	39	38	37	39	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M..

TUESDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (7th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.)

THURSDAY (8th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (10th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (5th).—MEDICAL SOCIETY OF LONDON.—9 P.M. Sir W. M. Banks: Practical Observations on Cancer of the Breast. (Lettsomian Lecture)

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40, Leicester-square, W.C.)—7 P.M. Council Meeting. 8 P.M. Communications:—Mr. B Neale: (1) A Case of Multiple Necrosis of the Mandible of Dental Origin, with Notes on the Surgical Aspect of the Case by Mr. F. Marsh; (2) Prophylactic Lower Dentures. Cases and Specimens will be shown by Mr. H. Baldwin, Mr. H. R. F. Brooks, and Mr. M. Henry.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish square, W.)—4.30 P.M. Cases and Specimens will be shown by Prof. U. Pritchard, Mr. R. Lake, Dr. H. Tilley, Mr. A. Cheatle, Mr. W. C. Bull, and Dr. J. Horne Adjourned Discussion on the Cases shown at the last meeting by Dr. D. Grant, Mr. A. Cheatle, and Mr. E. Waggett. Discussion of Cases and Specimens shown at the Meeting.

Society of Arts.—8 p.m. Mr. E. S Shepherd: Photography of Colour.

TUESDAY (6th).—Pathological Society of London (Laboratories of the Royal Colleges of Physician and Surgeons, Victoria Embankment, W.C.)—8.30 p.m. Papers and Demonstrations:—Dr. Brodie and Dr. Dixon: The Influence of Drugs on the Pulmonary Circulation and the Bronchial Muscles. The Production of Asthma.—Dr. Brodie: The Action of Diphtheria Toxin on the Spleen.—Dr. Pavy: The Production of Glycosuria by Exalted Respiration.—Dr. Pavy, Dr. Brodie, and Mr. Sian: Phloridzin Glycosuria in an Artificially Perfused Kidney.—Dr. Bain: Observations on Metabolism in Rheumatoid Arthritis.—Dr. Grube: The Pathology of Diabetic Coma.—Dr. Cadman: The Arrangement of Fibres in the Rootlets of the Ninth, Tenth, and Eleventh Cranial Nerves.

WEDNESDAY (7th).—Obstetrical Society of London.—8 p.m. Specimens will be shown by Mr. G. W. B Lawrence (introduced by Dr. Blacker) Dr. Macnaughton-Jones, and others. Demonstration:—Mr. A Keith (introduced by Dr. Lewers): Dropsical Parasitic Twin Fœtus of Peculiar Form. Paper:—Dr. J. Phillips: A Case of Extra-uterine Gestation in which Fœtal Death occurred at Term after Spurious Labour and Abdominal Section was performed from four to five months later.

THURSDAY (8th).—Ophthalmological Society of the United Kingdom.—8 p.m. Cases and Card Specimens. 8.30 p.m. Papers:—Mr. W. M. Beaumont: Family Tendency to Ophthalmoplegia Externa.—Mr. A. L. Silcock: Meningitis followed by Panophthalmitis.—Mr J. H. Fisher: Pigmented Tumour of the Eyeball, Death from Multiple Pigmented Carcinomata nearly 14 years after Excision of the Eye.—Mr. H. W. Dodd: Green Vision.—Mr. W. H. Jessop: Embolism of both Central Retinal Arteries.

Medical Society of London (Whitehall Rooms, Hotel Métropole).—7 p.m. Anniversary Dinner.

British Gynæcological Society (20, Hanover-square, W.).—Specimens will be shown by Mr. S. Bishop, Dr. G. Elder, and Dr. Macnaughton-Jones. Papers:—Dr. R Worrall: Pregnancy complicated with Myomata and Ovarian Cyst.—Dr. M. Laurie: The Indications for the Removal of the Uterine Appendages.

FRIDAY (9th).—Clinical Society of London (20, Hanover-square, W.).—8.30 p.m. Papers:—Dr. Caton: The Prevention of Valvular Disease in Acute Rheumatism.—Dr. Hale White and Mr. Tripp: A Case in which the attempt was made to Remove a Dermoid Tumour which growing in the Spinal Canal pressed upon the Spinal Cord.—Dr. F. E. Batten and Dr. Prickett: A Case of Acute Encephalitis in a Child following Influenza.

British Laryngological, Rhinological, and Otological Association (11, Chandos-st., Cavendish-square, W.)—4.30 p.m. Discussion on Conditions of the Throat and Larynx Simulating and Predisposing to Tuberculosis (opened by Mr. Lennox Browne).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (5th).—Royal College of Surgeons of England.—4 p.m. Prof. A. W. M Robson: The Surgery of the Stomach.

London Throat Hospital (204, Gt. Portland street, W.).—4.30 p.m. Mr. Waggett: Accessory Sinus Suppuration (Post Graduate Course.)

Medical Graduates' College and Polyclinic (22, Chenies street, W.C.)—4 p.m. Dr. Galloway: Consultation. (Skin.)

Royal Institution of Great Britain.—5 p.m. General Monthly Meeting.

West London Post-Graduate Course (West London Hospital, W.)—5 p.m. Dr. Ball: Methods of Treating Throat, Nose, and Ear Affections.

TUESDAY (6th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 p.m. Sir W. H. Broadbent, Bart.: Consultation (Medical.) 6 p.m. Dr S Taylor: Class. Applied Anatomy and Physical Diagnosis. Demonstration I.

National Hospital for the Paralysed and Epileptic (Queen-square, W.C.)—3.30 p.m. Mr. Gunn: Optic Neuritis.

Royal Institution of Great Britain.—3 p.m. Prof. E. Ray Lankester: The Structure and Classification of Fishes.

WEDNESDAY (7th).—Royal College of Surgeons of England.—4 p.m. Prof. A. W. M. Robson: The Surgery of the Stomach.

St. John's Hospital for Diseases of the Skin (Leicester square, W.C.)—4.30 p.m. Dr. Eddowes: Seborrhœic Eczema and Rosacea. (Post-graduate Course.)

Medical Graduates' College and Polyclinic (22, Chenies street, W.C.).—4 p.m. Mr. J. Berry: Clinical Demonstration.

Hospital for Consumption and Diseases of the Chest (Brompton).—4 p.m. Dr. Habershon: Cases of Cardiac Hypertrophy.

THURSDAY (8th).—Royal College of Physicians of London.—5 p.m. Dr. F. J. Waldo: Summer Diarrhœa with special relation to Causation and Prevention. (Milroy Lecture.)

West-end Hospital for Diseases of the Nervous System (73, Welbeck street, W.).—5 p.m. Clinical Demonstration:—Mr. H. W. Dodd: Cases of Visual Disorder in relation to Diseases of the Nervous System.

The Hospital for Sick Children (Gt. Ormond-street, W.C.).—4 p.m. Mr. H. S. Collier: Demonstration of Selected Cases.

Charing Cross Hospital.—4 p.m. Dr. M. Murray: Demonstration of Medical Cases. (Post-graduate Course.)

Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.)—4 p.m. Mr. J. Hutchinson: Consultation. (Surgical.)

London Skin Hospital (40, Fitzroy-square, W.).—4 p.m. Mr. J. Startin: Baldness and its Causes.

West London Post Graduate Course (West London Hospital, W.)—5 p.m. Dr. Ball: Methods of Treating Throat, Nose, and Ear Affections.

FRIDAY (9th).—Royal College of Surgeons of England.—4 p.m. Prof. A. W. M. Robson: The Surgery of the Stomach.

Royal Institution of Great Britain.—9 p.m. Prof. F. Clowes: Bacteria and Sewage.

Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.)—4 p.m. Mr. R. Lake: Consultation. (Eye, Ear, Nose and Throat.)

SATURDAY (10th).—Royal Institution of Great Britain.—3 p.m. Right Hon. Lord Rayleigh: Polarised Light.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of The Lancet should be addressed *exclusively* "To the Editors," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of The Lancet *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

The Index to Vol. II. of 1899, which was completed with the issue of Dec 30th, and the Title-page to the Volume were given in The Lancet of Jan. 6th.

VOLUMES AND CASES.

Volumes for the second half of the year 1899 are now ready. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of The Lancet at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach The Lancet Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to The Lancet Offices.

Subscribers, by sending their subscriptions direct to The Lancet Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from The Lancet Offices or from Agents, are:—

For the United Kingdom.		To the Colonies and Abroad.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

Subscribers abroad are particularly requested to note the rates of subscriptions given above. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of The Lancet necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of The Lancet have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—The Manager, The Lancet Offices, 423, Strand, London, England.

Communications, Letters, &c., have been received from—

A.—Messrs. R. Anderson and Co., Lond.; A. B. C.; Messrs. Allen and Hanburys, Lond.; Mr. R. B. Anderson, Lond.

B.—Mr. R. Baker, Lond.; Mr. H. J. Bromley, *Lond.*; T. B. Browne, Ltd., Lond.; Mr. A. N. Barnley, Wigston Magna; Sir William Banks, Liverpool; Mr. T. D. Bennett, Lond.; Messrs Barclay and Sons, Lond.; Dr. T. Bottalico, jun., Naples; Dr. A. Blair, Helmsley; Mr. A. Benthall, Lond.; Bedford County Hospital, Secretary of; Mr. T. S. Balestra, Lond.

C.—Mr. C. V. Coates, Lond.; City of Bristol Asylum, Registrar of; Chelsea Hospital for Women, Secretary of; *Cornish Post and Mining News*, Editor of; Cork Sack Manufacturing Co., Bristol; Mr. C. Clausen, Turin; C. W.; County Hospital, Fareham, Hants, Secretary of; Cardiff Infirmary, Secretary of; Dr. G. B. Clark, Lond.; Major J. A. Cunningham, I.M.S., Delhi; Mr. J. G. Clegg, Manchester.

D.—Mr. E. R. Dale, Salisbury; Mr. W. H. Dixon, Cape Town; *Mr. H. A. Duffett, Sidcup*; Dr. A. Duncan, Lond.; Dr. W. Duncan, Lond.; Messrs. Dean and Son, Lond.; Dr. J. H. Dauber, Lond.; Messrs. Duncan, Flockhart, and Co., Edinburgh.

E.—Mr. A. Elliot, Edin.; Mr. O. H. Edwards, Widnes.

F.—Mr. C. A. Francois, Durban; Messrs. E. Fischel and Co., Lond.; Messrs. B. Finch and Co., Lond.; Mr. P. J. Freyer, Lond.; Mr. A. C. Fenn, Dover; Dr. A. M. Fraser, Portsmouth; Dr. Forbes-Leslie, Lond.; Rev. W. Farrer, Lond.

G.—Mr. J. Gordon, Glasgow; Mr. A. R. Galloway, Aberdeen; Mr. H. J. Glaisher, Lond.; Gordon *Technical College, Geelong*, Australia, Secretary of; Messrs. Gordon Alexander, and Co., Lond.; Gledhill's Medical Agency, Lond.

H.—*Mr. C. A. Hanley, Lond.*; Dr. W. H. Hewlett, Wivenhoe; Messrs C. J. Hewlett and Son, Lond.; Messrs. Hamilton and Co., Lond.; Mr. J. Henderson, Manchester; *Mr. Reginald Harrison*, Lond.

I.—Inventor; Income-Tax Adjustment Agency.

J.—Dr. A. B. Judson, New York; Mr. Napier Jones, *Lond.*; Mr. Mr. W. H. Jalland, York; Mr. R. F. Jowers, Brighton.

K.—Mr. A. A. Knight, Lond.; Mr. F. Kinton, Lond.; Kent and Canterbury Hospital, Canterbury, Secretary of; *The King*, Editor of.

L.—Dr. D. Lawson, Banchory; Messrs. Lee and Nightingale, Liverpool; Mr. J. F. Lehmann, Munich; Mr. H. K. Lewis, Lond.; London Press Exchange; London Skin Hospital, Secretary of; Dr. R. P. R. Lyle, Newcastle; Messrs. Leathwait and Simmons, Lond.

M.—Mr. N. G. Morrison, Leeds; M. A.; Mr. S. C. Mitter, Fenchuganjee, India; Milk Preparations Co., Brentwood; Maltine Manufacturing Co., Lond.; Dr. W. Mackie, Elgin; Macclesfield General Infirmary, Secretary of; W. S. Merrell Chemical Co., Lond.; Medical Graduates' College, Lond.; *Medical Review*, Lond.; Manchester Hospital for Consumption, Secretary of; Mr. W. Marriott, Lond.; Mr. J. H. Menzies, Lond.; Dr. G. Mackern, Buenos Ayres; Messrs. Macfarlan and Co., Edinburgh; Dr. Patrick Manson, Lond.

N.—Mr. A. J. Newton, Erith; Mr. J. Neumann, Lond.; Messrs. Nicolay and Co., Lond.; Mr. L. Neppach, Westport, U.S.A.; Mr. V. H. Norman, Great Yarmouth; Nervous.

O.—Dr. M. W. Oldham, Mansfield; Messrs. Offord and Co., Lond.; Mr. C. J. Owens, Lond.; Mr. F. Orchard, Lond.; Oxford Incorporation, Clerk of; Mr. T. P. O'Connor, Lond.; Dr. D. J. O'Brien.

P.—Mr. J. F. Pedley, Rangoon; Mr. Y. J. Pentland, Edinburgh; Messrs. Parke, Davis, and Co., Lond.; Dr. H. P. Potter, Lond.; Mr. J. Poland, Lond., Dr. L. A. Parry, Brighton.

Q.—Queen Charlotte's Lying in Hospital, Secretary of.

R.—Mr. E. J. Reid, Lond.; Royal Surrey County Hospital, Guildford, Secretary of; Royal Isle of Wight County Hospital, Ryde, Secretary of; R. L. G.; Mr. S. H. Rentzsch, Week St. Mary; Messrs. Reynolds and Branson, Leeds; Dr. Roche, Dublin; Mr. Hamilton Russell, Melbourne; Dr. C. Reismann, Wynberg; Mr. Mayo Robson, Leeds; Dr. C. Ruata, Perugia.

S.—Mr. H. W. Scriven, Lond.; Stockport Infirmary, Secretary of; Messrs. W. H. Smith and Son, Lond.; Messrs. Smith, Elder, and Co., Lond.; Surgical Supply Association, Manchester; Messrs. Street and Co., Lond.; Smith's Advertising Agency, Lond.; Messrs. Sampson Low, Marston and Co., Lond.; Southport Infirmary, Secretary of; Mr. A. Sparke, Carlisle; Dr. F. J. Smith, Lond.; Surgeon, Bolton; Dr. K. Scott, Lond.; Mr. F. Spurr, Lond.

T.—Mr. Conrad Thies, Lond.; Mr. V. Taylor, Lond.; Messrs. D. B. Taraporevala, Sons, and Co., Bombay; Surgeon W. H. Thomson, R.N., Queenstown; Mr. T. Taylor, Ardwick; Dr. W. Thyne, High Barnet.

U.—Mr. R. Underwood, Marseilles; Unqualified, Exeter.

V.—Messrs. Viarra and Co., Lond.; Mr. S. Vyse, Lond.

W.—Mr. W. R. Williams, Bristol; orcester Diocesan C.E.T.S., Hon. Secretary of; Westbrooke House, Alton, Medical Superintendent of; Messrs. W. and T. Walker, *Liverpool*; Mr. A. Willis, Soham; Mr. D. Williams, Mountain Ash; Mr. T. M. Watt, Lond.; Dr. J. K. Watson, Weybridge; Messrs. Watkins and Osmond, Lond.; Mr. J. J. Weaver, Southport; West Ham Hospital, Stratford, Secretary of.

X.—X. Y. Z.

Y.—Mr. R. Young, Lond.

Z.—Zymotic.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. F. O. Angear, Chatham; Dr. J. L. Allen, Altrincham; A. D. La T.; A. L.; A. O.; A. P.

B.—Dr. W. Bower, Hendon; Dr. F. Bagshawe, St. Leonards-on-Sea; *Bell, Surbiton*; *Boron* Battery Co., Liverpool; Mr. C. Bird, Lond.; Mr. C. F. Burton, Whitby; Mr. G. D. Barton, Wimbledon; Mr. G. A. Brown, Tredegar; Dr. N. Bardswell, Lond.; Mons. O. Berthier, Paris; Mr. A. Bolton, King's Norton.

C.—Dr. R. Craven, Chipping; Dr. A. Crawford, Lond.; Mr. E. Cole, Lond.; Mr. E. P. Court, Margate; Mr. J. B. Cameron, Lond.

D.—Mr. J. Dalebrook, Seville; Mr. R. Davy, Bow, North Devon; Mr. J. T. Davenport, Lond.; Messrs. Davy, Hill, and Son, Lond.; Messrs A. De St. Dalmas and Co., Leicester; Devon County Asylum, Exeter.

E.—Mr. J. Elder, Edinburgh; Dr. R. Edwards, Colwyn Bay.

F.—Dr. C. H. Ferguson, Stockton Heath; Messrs. Fairchild, Bros. and Foster, Lond.; F. W. A.; Dr. A. H. Frere, Stradbroke; Messrs. Ferris and Co., Bristol; F. J. M.; F. W. A.; F. D.; French Hospital, Lond., Secretary of.

G.—Mr. J. R. Greenhalgh, Bournemouth; Mr. W. T. Gardener, Sydenham; Gazette News Co., Blackpool, Dr. T. Greer, Belfast; Goswell road (89), Lond.; G. D.; Glasgow Royal Infirmary, Secretary of.

H.—Mr. R. F. Hiley, Spilsby; Dr. J. Hay, Liverpool; Hovis Bread Flour Co., Macclesfield; Dr. A. B. Hughes, Deal; Dr. L. K. Herschel, Bordighera, Italy; Mr. H. W. Hart, Bournemouth; Miss H.; Mr. E. Hudson, Folkestone; Messrs. Hooper and Co., Lond.; H. D.

I.—Mr. P. A. B. Isherwood, Ramsgate, I. P. I.

J.—Mr. J. Jackson, Denholme, Mr. E. O. Jones, Amlwch; J. O.; J. F. H., J. V. U. S., J. P. A., J. S., Lond.

K.—Messrs. Keith and Co., Edinburgh; K. D.

L.—Mr. E. Leavy, Geraldton, Queensland; Mr. H. W. Lewis, Epsom; Mr. W. M. Locke, Newport.

M.—Mr. W. A. Mushé, Lond.; Dr. A. Morison, Lond.; M. E. G.; Dr. A. W. Montgomery, Edmonton; Dr. R. McDowell, Belfast; M. C., Belfast; Messrs. E. MacGeorge and Co., Lond.; M. D., Lond.

N.—Dr. T. E. Nuttall, Accrington; Mr. C. H. Newman, Lond.; National Hospital for the Paralysed, Lond., Secretary of; Northern Medical Association, Glasgow, Secretary of; Messrs. Niblett, Sutherland, and Marcuson, Lond.

P.—Dr. S. T. Pruen, Cheltenham; Messrs. Pounceby and Co., Lond.; P. T.; Messrs. Potter and Sacker, Lond.; Dr. W. Pasteur, Lond.

R.—Mr. F. Rautch, Tunbridge Wells; *Mr. J. M. Randle, Ivybridge*; Dr. W. P. Richardson, Corbridge-on-Tyne; R. J. M. D.; Royal Devon and Exeter Hospital, Secretary of; Mr. C. D. Roe, Lond.; Royal Hants County Hospital, Winchester, Secretary of; Retreat (The), Buntingford, Medical Superintendent of; Messrs. Richardson Bros. and Co., Liverpool; Messrs. J. Robbins and Co., Lond.

S.—Miss E. A. Smith, Shrewsbury; Mr. W. L. Stuart, Croxley Green; Dr. R. Sturgis-White, Cradley; Messrs. Sparks, Treharne, and Son, Lond.; St. John Ambulance Association, Lond.; S. G. W.; Dr. Sutherland, Uttoxeter; Mr. J. P. Stilwell, Yateley; Mr. F. E. Saunders, Lond.; Surgeon, Lond.

T.—T. S.

W.—Dr. J. Wallace, Stonehaven; W. P.; W. L.; Messrs. Wright, Layman, and Umney, Lond.; Mr. W. H. Williams, Sherborne; W. F. G.; W. O. S.; W. M. M.; W. C.; *Wilts County Mirror*, Salisbury; W., Sheffield; Weston-super-Mare Hospital, Secretary of; Wolverhampton General Hospital, Secretary of.

EVERY FRIDAY.

THE LANCET.

PRICE SEVENPENCE.

SUBSCRIPTION. POST FREE.

For the United Kingdom.		To the Colonies and Abroad.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 6 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

Terms for Position Pages and Serial Insertions on application.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (*to ensure insertion the same week*) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière, Asnières, Paris.

Three Lectures

ON

THE SURGERY OF THE STOMACH.

Delivered in the Theatre of the Royal College of Surgeons of England on March 5th, 7th, and 9th, 1900,

By A MAYO ROBSON, F.R.C.S. Eng.,

MEMBER OF THE COUNCIL AND HUNTERIAN PROFESSOR OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND; EMERITUS PROFESSOR OF SURGERY IN THE YORKSHIRE COLLEGE; AND SENIOR SURGEON TO THE LEEDS GENERAL INFIRMARY

LECTURE I.

Delivered on March 5th.

Mr Vice-President and Gentlemen,—My first duty is to thank the Council for doing me the great honour of electing me to this important chair a second time and for permitting me to take as the theme of my lectures a subject which, though until recently considered of purely medical interest, is, as I shall hope to show, one in which surgery may lay claim to many conquests, and one which in the future is destined to become more and more surgical, from the fact of many of the diseases being only capable of relief or cure by operative treatment. My excuse for giving these lectures must rest on the experience I have had in this branch of surgery, thanks to my position on the staff of a large general hospital and to the kindness of my many medical friends, for I have operated on about 150 stomach cases and have seen a very much larger number where a question of surgical treatment arose, but in which operation was either declined or not advised. When beginning the preparation of these lectures it soon became manifest that it would be impossible to cover the whole ground of stomach surgery in the time at my disposal. I propose, therefore, to devote the greater part of the time to the so-called benign diseases and only to discuss very briefly the operative treatment of malignant disease.

Anatomical Considerations.

This is not the time to enter minutely into the anatomy of the stomach, but it may be useful to refer to a few facts bearing on its surgery.

The stomach varies more in size, position, and relations than any other organ in the body, for it may be so contracted, as in stricture of the œsophagus, as to be hidden from the surface and tucked up under cover of the ribs and the liver, it being then little more than a thick-walled canal; or so dilated, as in some cases of stenosis of the pylorus, as to occupy every region of the abdomen, even extending into the true pelvis Specimens on the table illustrate these variations. Normally only a small part of the body of the stomach and pylorus are in contact with the abdominal wall, fully two-thirds lying under cover of the ribs nearly vertically. The cardiac orifice is on the left of the ninth dorsal vertebra and the pyloric sphincter on the right of the eleventh or twelfth vertebral bodies about an inch to the right of the middle line, its position on the surface of the abdomen corresponding with the angle between the xiphoid and right costal cartilages The channel of entrance is vertical, but that of exit passes downwards, backwards, and to the right. The lesser curvature, which is directed to the right, is nearly altogether on the left of the middle line. The lower border or greater curvature lies normally well above the umbilicus and is also nearly altogether on the left of the linea alba.

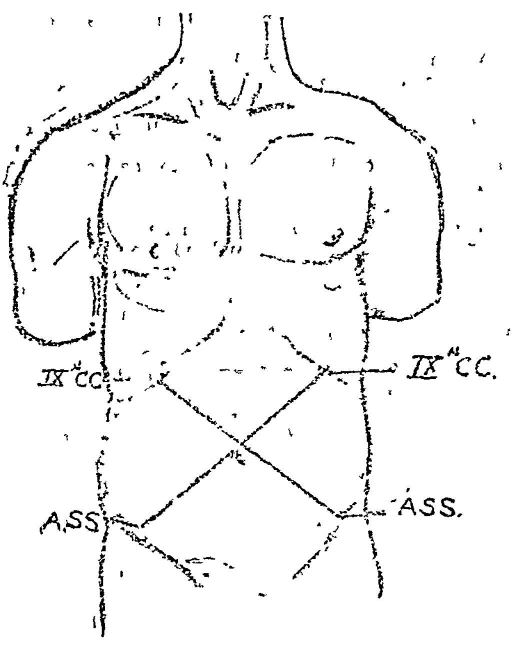
On opening the stomach to explore the cardiac orifice it must not be forgotten that the cardiac end of the stomach not only *extends some distance to the left* of the orifice of entrance, but that it reaches quite an inch above it, like a dome, and lies under cover of the left lung. The cardiac orifice is the only fixed portion of the stomach and corresponds to the seventh left costal cartilage near the sternum. The pylorus, on the other hand, is very moveable and if fixed is abnormal It may be at the middle line, or if the stomach is distended it may be two inches to the right of the middle line, and I have seen it lying behind the pubes. The pylorus is sometimes spoken of as the pyloric valve, but it is really a sphincter and the channel should easily admit the passage of a finger. Its patency may be ascertained without opening the stomach by invaginating a portion of the anterior wall of the stomach and pressing a finger into the channel at the time that the left hand is fixing the pylorus. If there be any growth or thickening this is readily felt at the same time. Another method of ascertaining the patency or otherwise of the pyloric orifice is to pick it up in the longitudinal axis between the index finger and thumb, when the digits will readily feel between them the pyloric ring and estimate its size and condition. In the normal healthy condition the lesser omentum readily allows the pylorus to be drawn into view and brought forward, but if there be disease the lesser omentum is frequently shortened and the pylorus fixed deeply under cover of the liver so that it can only with difficulty be exposed and manipulated. Under these circumstances an operation such as pyloroplasty may have to give place to gastro-enterostomy. The thickness of the walls of the stomach gives a good hold for sutures and renders it peculiarly amenable to surgical treatment, and the great vascularity of the organ completely does away with the fear of gangrene after the application of sutures, though at the same time its vascularity makes it specially prone to violent hæmorrhage from ulceration.

The lymphatics empty themselves into the glands situated in the free border of the lesser omentum and in front of the great vessels of the abdomen; they are of first-rate importance in cancer of the stomach when gastrectomy is under consideration, as are also the glands in the great omentum. They should always be examined before excising a growth of the pylorus or stomach, as in case of their being found enlarged a less severe operation will afford equal or even greater probability of relief than would a futile attempt to do a radical operation. The nerves of the stomach, derived from the pneumogastric and the sympathetic, are very abundant, and not only account for the very severe pain caused by ulceration but also for the severe collapse produced by injury; but it is a mistake to suppose that manipulation of the pylorus is always attended by the severe shock suggested by the experiments made by Mr. Crile, for in many cases I have freely handled the stomach and pylorus and operated on them without my patient experiencing more shock than would be expected after any abdominal operation. When the pylorus is adherent and the parts have to be much dragged on severe shock is not infrequently seen, but this is due to interference with the sympathetic nerves and other structures behind the pylorus.

The relation of the sympathetic nerves with the seventh, eighth, and ninth spinal roots accounts for the superficial tenderness of the epigastrium in ulceration and for the reflected left shoulder blade pain. This is well shown in pyloric adhesions complicating cholelithiasis where, though the pain is originally on the right, passing to the right infrascapular region, as soon as the pylorus becomes involved in the inflammation or tied down by adhesions, the pain passes also to the left infra scapular region.

The usual method of dividing the abdomen into nine regions is purely arbitrary and is probably continued because it has been so long in use; but the fact of there being as many as 30 different methods of subdivision shows that as yet a really satisfactory one has not been arrived at. I venture to suggest the use of two lines, from the lowest points of the right and left anterior superior spines of the ilium to the opposite costal margins at the most prominent part of the ninth costal cartilage respectively, the lines crossing near the umbilicus, thus dividing the surface of the abdomen into a right and left and an upper and a lower region, the immediate neighbourhood of the umbilicus, within a circle of two inches diameter, being known as the umbilical region Possibly this method of mapping out the abdomen has been suggested previously; if so, I am unaware of it It is the one to which I shall refer in my subsequent remarks. The umbilical region contains (1) the termination and division of the aorta and part of the vena cava, (2) coils of the small intestine, (3) the stomach when dilated, (4) the transverse colon when full, (5) the remains of the umbilical vein, (6) the remains of the urachus and of the omphalo-mesenteric duct (both at times patent), (7) the termination of the duodenum, and (8) the great omentum The superior abdominal region contains (1) the liver, (2) the stomach (including the pylorus), (3) the gall bladder and bile ducts, (4) the spleen, (5) the duodenum, (6) the transverse colon, (7) the aorta and vena cava, (8) the solar plexus and semilunar ganglia, (9) the cœliac axis, (10) the pancreas, (11) the lesser omentum (with the free border containing the vena portæ, hepatic artery, and common bile-duct), and behind it the foramen of Winslow, and (12) the upper part of the great omentum. The inferior region contains (1) a part of the small intestine (chiefly ileum), (2) the bladder and the lower ends of the ureters, (3) the prostate, (4) the rectum, (5) a part of the sigmoid flexure of the colon, (6) the uterus and its appendages, (7) the iliac vessels, (8) the lymphatic glands, (9) the hypogastric sympathetic plexus, (10) the lower part of the great omentum, (11) the inguinal canals (with the spermatic cord in the male and the round ligaments in the female), (12) the cæcum and the vermiform appendix, (13) the lower part of the psoas muscles and their sheaths, and (14) the lower part of the iliac fossæ. The right abdominal region contains (1) the upper part of the cæcum and the ascending and hepatic flexure of the colon, (2) a part of the small intestine, (3) the right border of the great omentum, (4) a little of the right lobe of the liver, (5) the right kidney and adrenals and the commencement of the right ureter, (6) a part of the psoas muscle and sheath, and (7) the upper part of the right iliac fossa. The left abdominal region contains: (1) the lower and outer part of the spleen, (2) a part of the stomach if dilated, (3) the left kidney and ad-renal and the commencement of the ureter, (4) the descending colon and the splenic and sigmoid flexures, (5) a part of the small intestine, (6) the left border of the great omentum, (7) a part of the left psoas muscle and sheath, and (8) the upper part of the left iliac fossa.

FIG. 1.



The abdomen divided into four regions, upper, lower, left, and right. The transverse lines run through the ninth costal cartilages and through the anterior superior spines of the ilium

DIAGNOSIS.

Although diseases of the stomach naturally come under the notice of the physician at first the time has passed when the surgeon may feel content to accept and act on the diagnosis already made for him by his medical colleague, leaving with the latter the responsibility of a possible error; rather, he must himself go over the whole of the medical evidence and be prepared to supplement it by surgical methods, should such be required to elucidate the case or to render possible an accurate diagnosis.

The diagnosis of any stomach case necessitates both a general and a special inquiry, the former involving the questions of age, sex, occupation, habits, mental, moral, and physical condition, and the history both of the patient and of the disease; and the latter, which is the only part which we need now consider, including all the information that the surgeon can elicit by a physical examination.

Inspection.—Inspection will always constitute our first effort in diagnosis and it is important that the patient should be in the dorsal decubitus, lying comfortably in a warm room with the abdomen exposed to view. Dilatation of the stomach can often be ascertained by inspection, and it may in extreme cases be seen to occupy all the five regions of the abdomen, as shown in the diagram If the dilatation is atonic the swelling persists without visible peristalsis; but if it is due to contraction of the pylorus visible peristalsis from left to right can frequently be plainly seen. Tumours of the pylorus and of the body of the stomach are frequently visible through the abdominal wall, and in an early stage they can be seen to move downwards on inspiration; this more especially applies to cases of cancer, as in tumours depending on ulcer of the pylorus adhesions form early and fix the stomach under cover of the liver. Inspection will reveal the shallow, rapid costal breathing induced by pain at the commencement of peritonitis and by distension in the later stages, just as it will demonstrate the sighing respiration in internal hæmorrhage and the irregular catching breathing in diaphragmatic peritonitis or subphrenic abscess. It will also show the fixed and bulging ribs in subphrenic abscess and the swelling in the upper abdominal region when the pus tends to make its way forward.

Palpation.—Palpation immediately follows inspection, and of all methods which are adopted for diagnosis it is the one that we can least afford to omit. With the patient supine in bed or on a couch, the head slightly elevated on a cushion and the knees drawn up, the muscles of the abdomen are relaxed as much as possible. They can then easily be kept relaxed by talking to the patient so as to divert his attention. The flat warm hand placed on the abdomen at once perceives any irregularity or abnormality. If the upper abdomen is rigid it will raise the suspicion of local peritonitis, especially if there is tenderness on pressure. Should there be a tumour, its nodular character, if malignant, will easily be felt, and if it be an early stage of cancer of the pylorus it will in all probability be freely moveable. If there be malignant disease of the body of the organ it will move downwards on respiration but not freely from side to side. It will be found better, as a rule, to slide the hand over the abdomen and not to raise it from the surface, thus avoiding fresh defensive contraction of the muscles which will occur if the hand be raised and replaced on the abdomen. It may sometimes be advisable to employ gentle massage in order to elicit the presence of a tumour of the body of the stomach or of the pylorus due to muscular spasm, as in pyloric stenosis. In some cases of ulcer a distinct tumour may be present at one time, owing to the contraction of the muscular coat and absent at another, the tumour only being felt distinctly when the spasm is present. In diagnosing between atonic dilatation of the stomach and that due to obstructed pylorus the vermicular contractions felt under the palpating hand are of the first importance. Where, as occasionally happens, palpation is impossible on account of rigidity of the muscles or obesity an anæsthetic may be advisable. Bimanual examination with one hand in the loin and the other on the surface of the abdomen will frequently give increased information as to the size of the tumour. A tender and rigid epigastrium suggests ulcer of the stomach and the situation of the tenderness is frequently a good guide to the site of the ulcer; for instance, if the tenderness be under the left costal margin and the left rectus be rigid, especially if the patient be relieved by assuming the dorsal decubitus, in all probability the ulcer will be on the anterior surface; whereas if the tenderness is on the right of the middle line between the umbilicus and the right costal margin the probability is that the pylorus is the affected part. When there are symptoms of ulceration without marked epigastric tenderness and with increase of pain on dorsal decubitus, and relief is found by lying on the face, the probability is that the ulcer is on the posterior wall of the stomach Palpation will usually bring out the character of the tumour as to smoothness, irregularity, softness, or hardness. A nodular character of the tumour, especially if associated with fluid in the peritoneum, usually indicates malignant disease. Pulsation in an epigastric tumour is often felt, and if it is due to cancer it will be non-expansile and dull on percussion. Fixation of a tumour is suggestive of perigastritis, especially if associated with tenderness, but it may also be dependent on infiltration due to malignant disease While palpating the abdomen it is important to distinguish between surface tenderness which may be reflected and deep pain directly due to the disease which is being sought for A change of posture will then be useful—for instance, with the patient on the left side a pyloric tumour will frequently change its position considerably, especially is this so in the early stage of pyloric cancer *A modification of palpation is succussion*, which is of considerable use in determining the presence of a splash in a dilated stomach It may be safely asserted that if the stomach splash be obtained three hours after a meal the stomach is abnormally dilated Palpation of the stomach may be made more distinct by distending the cavity of the stomach with air In this way one can diagnose hour glass contraction as well as ordinary dilatation, and can also estimate the size of the cavity or cavities In subphrenic abscess on the right side palpation will show if the liver is depressed and this will form a link in the chain of evidence going to show that the abscess is between the diaphragm and liver and not in the liver itself

Percussion —Deviation from the normal size of the stomach can usually be ascertained by percussion, first with the patient recumbent and afterwards by mapping out the region of dulness when the patient is erect after he has drunk freely of water After distending the stomach with air, either through a tube introduced by the mouth or by giving a dose of carbonate of soda in solution followed by one of tartaric acid, percussion readily demonstrates the outlines of the stomach and shows the position of any tumours both with regard to the orifices and to the greater or lesser curvatures, and it also enables the diagnosis to be made between a pancreatic and a stomach tumour Percussion is also of use in demonstrating the presence of free fluid in the peritoneal cavity due to the rupture of a gastric ulcer, and for showing the absence of liver dulness under similar circumstances when free gas is present in the peritoneal cavity It must not be forgotten that dulness in the flanks may be dependent on distension of the colon with fluid and the similarity to free fluid in the peritoneum may be increased by change of posture increasing the dulness in the dependent area and creating resonance in the elevated area Again, resonance in the flanks may be created by distension of the colon with gas and excessive distension of the colon may lead to error in diagnosis by pushing the liver well under cover of the diaphragm thus leading to the belief that liver dulness is abolished by free gas in the peritoneal cavity I have known this to occur in a case of extra-uterine gestation which was thought to be due to the rupture of a gastric ulcer Where a tumour is manifest to inspection or rendered evident by palpation percussion is useful in eliciting the presence of a hollow viscus in front of it, as in diagnosing between a pancreatic and a gastric tumour, for in the former case light percussion will give resonance in front of the tumour, whereas in the latter light percussion will reveal dulness and *vice versa*

Auscultation —Auscultation is of much more importance in the diagnosis of chest than of abdominal conditions, but *it is sometimes useful in demonstrating* the splashing sounds in gastric dilatation and the gurgling or metallic sounds in subphrenic abscess containing gas In the diagnosing of stricture of the œsophagus, where gastrostomy is in question, the gurgling sound on fluid reaching the stomach is usually delayed several seconds in the presence of stricture Before performing gastrostomy for organic stricture it is of the first importance to be certain of the diagnosis Dr Ogston pointed out that in a healthy person food occupies four seconds in passing from the mouth to the stomach and if the ear be placed three inches below the angle of the left scapula an amphoric rushing sound is heard when fluid enters the stomach With one finger on the pomum Adami, with the ear in the situation mentioned, and with a watch in the hand it will usually be found when there is stricture of the œsophagus that 14 or 16 seconds elapse before fluid reaches the stomach This is a valuable addition to the ordinary well known means of diagnosis Spasm of the pharynx or of the œsophagus at times closely resembles organic stricture, hence before proposing gastrostomy an examination should be made with the patient anæsthetised

Pain —Though pain may be absent in some few examples it is present at some stage of the disease in the greater number of stomach ailments calling for surgical treatment and its character and course frequently afford the most valuable means at the disposal of the surgeon for interpreting and diagnosing ailments which present few physical signs The history of the onset of pain may show the local origin of a more general trouble For instance, in the diffused pain of general peritonitis due to the rupture of a gastric ulcer it is of the utmost importance to know whether it was preceded by pain after food and by epigastric tenderness, so that an exploration of the abdomen may be made over the site of disease and thus a great saving of time effected in the operation In one case of ruptured gastric ulcer that I had to operate on there were absolutely no previous symptoms pointing to stomach disorder, and thinking, from the profound collapse, the sudden onset, the presence of fluid in the abdomen, and the history of a missed period, that the case was one of ruptured extra uterine gestation my first incision was made above the pubes As a rule, however, the pain from perforated gastric ulcer, though ultimately diffused, will have been first felt in the epigastrium and the history will point to pain after food and probably to indigestion of long standing; there will also frequently be a history of reflected pain in the left scapular region, but in some cases of pyloric disease with adhesions to the gall bladder and liver I have found the reflected pain passing to the right scapular region Obscure recurrent abdominal pains may be dependent on a stricture or kink of the pylorus produced by adhesions, which though not sufficient to cause obstruction may produce considerable distress and disability The local and reflected pains afford much help in this class of cases

Instrumental aids to diagnosis —In subphrenic abscess the exploring syringe affords useful aid in diagnosing the presence of pus and enabling the surgeon to decide on the exact site of the incision for its evacuation Œsophageal bougies are employed in cases of dysphagia not only for treatment, but to ascertain the site of obstruction and its nature when the question of gastrostomy arises I prefer instruments made after the pattern of *bougies à boule* employed in urethral cases, they are not generally known but to my mind they present great advantage both in the ease and the safety with which they can be utilised and the facility with which they can be employed to dilate a stricture Messrs Rauschke of Leeds made my first set some years ago, and they have since copied them for other surgeons In case of starvation from stricture of the œsophagus the question of gastrostomy has to be considered, but it must first be shown that the disease is incapable of being overcome by other means Simple stricture is rare and may frequently be efficiently treated by dilatation Cancerous strictures, on the other hand, cannot be safely dilated and will require other treatment If there be a history of steady loss of flesh and gradually increasing dysphagia in a middle aged or elderly patient malignant stricture will be suspected, and if on passing a bougie it be arrested just before entering the stomach the diagnosis is rendered very probable, but if there be slight bleeding caused by the bougie when gently used little doubt will be left Spasm is most frequent in the pharynx, though it may occur in any part of the œsophagus It usually occurs in subjects younger than in those who are afflicted by malignant stricture, and nearly always in women It is, however, frequently associated with other nervous symptoms, it varies in intensity, and it usually yields to the passage of bougies without difficulty If, however, a bougie cannot be passed in a case where spasm is suspected an anæsthetic will at once settle the doubt as under its influence a full sized bougie usually *reaches the stomach when the stricture is due to spasm* alone Electric illumination may sometimes be useful It is accomplished by an apparatus consisting of a small electric lamp fixed to the end of a bougie which is passed into the stomach If the stomach is full of water an illuminated area is seen which corresponds exactly to the limits of the organ It is best demonstrated in the erect posture in a dark room In this way abnormal dilatation of the stomach can be detected and a tumour appears as a dark spot in the light field With regard to the x rays, I have found both the screen and skiagram of use in demonstrating the position of impacted coins and other foreign bodies The gastro endoscope has, however, not yet proved to be of any service

Vomited matters and the contents of the stomach —With regard to vomit, the first thing to consider is the quantity vomited at one time Nurses should be trained to estimate this carefully and also to preserve specimens on all occasions In dilated stomach vomiting usually occurs only once daily, sometimes only on every second or third day, and the quantity at one time is correspondingly large In ulcer of the stomach a considerable portion of the last meal may be brought up within an hour or two of its ingestion and the pain it has caused is thereby relieved. The smell should be considered. A yeasty smell is characteristic of dilated stomach; a habitually fœtid odour is characteristic of cancer of the stomach; and a feculent odour is characteristic of intestinal obstruction. Vomit is usually acid in reaction, but it may be alkaline in some cases of chronic dyspepsia or when there is much blood present. The most important abnormal constituent of vomit is blood. In large quantities its nature is obvious and the event is usually characteristic of simple ulcer, but in cirrhosis of the liver profuse hæmatemesis may occur owing to rupture of dilated veins. In smaller quantities the vomit has a characteristic dark appearance resembling coffee-grounds, and this may be due to cancer or ulcer. When the existence of blood in vomit is doubtful the most reliable guide is the hæmin test. Some of the material is filtered and the filtrate evaporated to dryness. Powder the residue and place a little on a glass slide, add a drop of glacial acetic acid, and heat gently; cover with a cover-glass, and examine under a high power for small dark-brown crystals of hæmin. A crystal of common salt is not necessary here, as there are chlorides present. In cancer of the stomach blood is frequently present in the vomit; often in small, sometimes in considerable, but rarely in large, quantity. Pus is sometimes, but rarely, vomited. In considering both pus and blood in a fluid said to be vomited it must be remembered that when large quantities of fluid are expelled from the lungs—e g., on the rupture of an empyema into the lung or in severe hæmoptysis—the sensation to the patient is often as if vomiting had occurred. The presence of food and the absence of frothiness will help to distinguish true vomit, while vomited blood is generally much darker than blood from the lungs. But the only reliable way is to inquire carefully into the facts of the occurrence. Pus in the vomit may arise from an empyema of the gall-bladder or a pancreatic abscess, or some other abscess bursting into the stomach or œsophagus.

Examination by the microscope is of secondary importance. In dilatation of the stomach the sarcina ventriculi is frequently to be seen, together with yeast-cells. In cancer red blood corpuscles can often be found. In reference to the diagnosis of malignant disease of the stomach the relative abundance or absence of free hydrochloric acid has been pointed out as of importance by Ewald. The patient takes a "test breakfast," consisting of a cup of weak tea and a little dry toast. An hour later the stomach-tube is passed and the contents of the stomach are drawn off. These are tested for free hydrochloric acid by Gunberg's test. The reagent consists of two parts of phloroglucin and one part of vanillin in 30 parts by weight of absolute alcohol. A few drops of the filtered contents of the stomach are mixed with an equal quantity of the reagent and the whole is evaporated to dryness in a porcelain dish. If free HCl be present red crystals will form; should there be much peptone present no crystals but a red paste will result. The absence or deficiency of free hydrochloric acid occurs in several morbid states, but its presence is a strong point against a diagnosis of malignant disease of the stomach. Hyperacidity is as characteristic of ulcer as diminished acidity is of cancer. Dr. Vaughan Harley[1] advocates the estimation of the motor power of the stomach in the following way. To test the motor power Leube's meal is the best. A fasting patient is given a quarter of a pound of freshly minced meat and a little bread, and from four to seven hours later the stomach contents are examined. Normally there is no residue five or six hours after this meal. In increased gastric irritability when the motor power is increased the stomach may be found empty between the third and fourth hour. In delayed motility without pyloric stenosis there is a residue after seven, eight, or even 16 hours.

Exploratory incision.—In only a very small percentage of cases is simple exploratory incision as a means of diagnosis necessary or even justifiable, and there can be no doubt that in some cases it has served as a cloak for carelessness or incompetence. A careful physical examination, and time and care in studying the history of the case will usually enable either an exact diagnosis or an approximate one to be made; and in the odd case the experienced surgeon can usually say that it is one likely only to be relieved by surgical treatment, though possibly the exact pathological condition may be a matter of some doubt. Where there is doubt, and delay will not be injurious, a second or even a third examination should be made, as it is well known that at a second visit new facts may be brought to light, the patient's memory may be stirred up, and small data really important but thought by the patient or friends to be too trivial to mention at the first visit may form the key to the situation; moreover, the mind of the surgeon may on the next visit focus his attention on different points or group his data differently, and so perhaps arrive at a truer conclusion. In case of doubt a consultation is advisable, in order that the case may be considered from a non-operative point of view. It must not be forgotten, however, that the surgeon must bear the responsibility that awaits the decision, and he should be careful, if a positive diagnosis cannot be arrived at and operation is decided upon, to be able to answer two questions in the affirmative. First, Can I perform an exploratory operation without adding serious risk to the life of the patient already threatened by the disease? Secondly, Is it possible that good will result from the exploration? At times the surgeon may be called on to explore the abdomen for a tumour of the stomach which it is just possible may be removed, but where it is impossible to say beforehand whether the glands are involved or the disease has invaded the adjoining parts to such an extent that the removal of the growth would be useless. Under such circumstances, when the tumour is exposed, the great gift (usually a matter of common-sense combined with experience) of "knowing when to stop" comes in, for although having made an exploratory incision may, and probably will with due precautions, have involved no risk to the patient, any interference with the tumour may inflict such injury on the growth that the surgeon is compelled to convert his harmless exploratory procedure into one of the most serious operations which, if not causing death on the table or shortly after, can lead to no ultimate good. This is sheer meddlesomeness, and for the credit of surgery, if from no higher motive, should be avoided. Very frequently, however, it is impossible to decide what surgical operation is required until the stomach is exposed and handled. I find that I have performed an exploratory operation on the stomach on eight occasions. All were in malignant cases and the presence of glands or secondary nodules rendered further operation inadvisable. All the patients in these cases recovered. In some case of abdominal injury, either gunshot, stab-wound, or even injury without external wound, the severe shock, the vomiting of blood, and the general condition of the patient may lead to a suspicion that the stomach has been injured and an exploratory operation may be justified, since in case of rupture of the stomach such an injury, if not repaired, would inevitably prove fatal.

The following is a case in point. A youth was admitted to the Leeds Infirmary suffering from shock with vomiting of blood following on a stab-wound over the stomach. As there was free fluid in the peritoneal cavity it was thought that bleeding was going on and that possibly the stomach contents had become extravasated. An exploration showed a wound of the superior mesenteric vein with bruising but no wound of the stomach. The vein was ligatured and the abdomen cleared of blood and the patient made a good recovery.

At times all the symptoms of perforating ulcer may be present without a previous history of ulceration and all that can be said is that a peritoneal catastrophe has occurred which threatens life. Under such circumstances an exploratory operation may be required. A case of this kind came under my care where a lady was seized with violent abdominal pain at the railway station. As she became profoundly collapsed she was removed to the station hotel and was seen by a medical man who called me in. The only obtainable history was that there had been no stomach symptoms, but that the patient had missed her last menstrual period for nearly a fortnight. As there was free fluid in the peritoneum, which was thought to be blood due to a ruptured extra-uterine gestation, and as the liver dulness was present, the abdomen was opened over the pubes, when free non-odorous gas escaped, showing that the case was a ruptured gastric ulcer. The opening was therefore closed and another made over the stomach, when a perforated ulcer was found and closed and the abdomen was cleansed, the patient making a good recovery.

Incision for exposure of stomach.—Although incision in the middle line between the xiphoid and umbilicus gives the readiest access to the stomach in the greater number of cases, especially if there is doubt as to what may be required, it is not always the best site, for three reasons 1 It is apt to be followed by yielding of the scar and hernia unless long rest is enjoined after the operation 2 The round ligament of the liver with its irregular adipose envelope is apt to be in the way and to prove confusing 3 To prolong the incision for further investigation is inconvenient because of the umbilicus, These difficulties, of which the first only is of importance, are obviated by an incision through the inner margin of the rectus just to the right or left of the middle line An incision on either side gives ample room, but if the pylorus is to be attacked, it is preferable on the right, if gastro enterostomy has to be done it is better on the left Afterwards the abdominal wall is sutured layer by layer and there is no fear of hernia or a weak scar being left; moreover, there need be no fear of extending the incision if more room be required The oblique incision along the costal margins is undesirable because it divides muscle so freely and exact repair by suture is difficult, especially in the case of the rectus, which so freely retracts, hence permanent weakening of the abdominal wall and ventral hernia are more likely to follow As a matter of fact, with due care in applying sutures any one of these methods may be employed and the operator should select that which will give him the best access to the parts to be manipulated Personally I prefer the vertical incision through the inner edge of the rectus where practicable

---

[1] Practitioner, October, 1899.

Gastrotomy —"Gastrotomy" is the term applied to the operation of opening the cavity of the stomach It is one of the oldest operations on the stomach, having been practised by Matthis of Brandenburg so long ago as 1602 for the removal of a knife that had been accidentally swallowed But as a diagnostic method with a view to further treatment gastrotomy is a modern procedure Exploratory gastrotomy has only been performed within the last few years and by its means an extensive and minute examination of the interior of the stomach may be made with thoroughness and safety, so that in any case calling for operation, where by other means a positive diagnosis cannot be arrived at, the surgeon is justified in opening and exploring the stomach It will be convenient that I should now consider the operation of gastrotomy as a whole, bearing in mind that one of its purposes may be simply exploratory It may be performed (1) for the removal of foreign bodies from the stomach, (2) for the removal of foreign bodies from the lower end of the œsophagus, (3) for dilating a stricture of the œsophagus, (4) for dilating a stricture of the pylorus, (5) for the removal of a polypus or other tumour projecting into the stomach, (6) for exploration in case of intractable or bleeding ulcer; or (7) for curetting a cancer of the pylorus as in Bernays' operation

The preliminary incision of the parietes has been described and for gastrotomy it requires to be rather free Flat sponges or gauze pads should then be packed around the stomach so as to avoid soiling the peritoneal cavity The edges of the wound having been retracted the stomach can now be palpated, and if anterior palpation affords no guide a tear may be made in the gastro colic omentum which will admit the fingers to palpate the posterior surface The stomach may now be drawn forward, surrounded by a sheet of sterilised gauze, and opened by a free incision in its longitudinal axis Divided vessels must be seized and ligatured and the liquid contents of the stomach must be mopped or syphoned out or pushed into the duodenum On retracting the edges of the gastric incision the interior of the stomach will be brought into view and may be further explored by the electric cystoscope if thought necessary, as, for instance, in hæmatemesis from a small bleeding ulcer If the posterior wall be the affected part it may be invaginated by the fingers inserted through the omental slit pushing it forward into the wound A tumour may now be removed an ulcer excised, a bleeding point ligatured or cauterised, the pylorus explored and divulsed, the œsophageal opening exposed and dilated, or other treatment may be carried out For foreign bodies in the stomach there is, of course, no need to make the omental wound, and an anterior incision may at once be made and the object seized and removed The incision in the stomach can be rapidly closed by a continuous catgut suture for the mucous margins and a continuous silk suture for the serous edges, a few Lembert's silk sutures sometimes being applied over all for greater security, the exposed parts may then be gently sponged over, the pads or sponges removed, and the abdominal wound closed without drainage Beyond teaspoonfuls of water for the first 24 to 48 hours all feeding is best done by enemata, and after 48 hours the amount of liquid food may be increased Later, pultaceous food may be given, but it is better not to give solid food for a week, after which the treatment is as in any other abdominal case Dr Keen[2] insists on the necessity in this as in all similar operations on the stomach, of washing out the organ before it is opened, of bringing it out of the abdominal cavity, and of protecting the peritoneum by a wall of iodoform gauze Lavage is, however, undesirable in gastrotomy for hæmorrhage

The removal by gastrotomy of foreign bodies lodged in the stomach has been attended with considerable success A preliminary distension of the stomach with fluid or air is neither advantageous nor desirable The indications for operation are the presence of a foreign body which can neither be safely dissolved nor passed, and which is actually producing or is likely to produce serious symptoms I have described in THE LANCET[3] a case in which "42 cast-iron garden nails one and five eighths of an inch long, 93 brass and tin tacks from half an inch to one inch long, 12 large nails (some brass headed) three collar studs, one safety pin, and one sewing needle were removed by gastrotomy, the patient a girl, 12 years of age making a complete recovery and being now in good health (The articles named are on the table) The value of transfusion of saline fluid in shock was well demonstrated in this case Although the operation was not very prolonged and practically no blood was lost the patient was much exhausted from excessive vomiting before operation and was pulseless after its termination, yet transfusion restored the pulse and rendered recovery possible Dr A C Bernays described a case in which, through an incision of five inches in the linea alba, he successfully removed a table knife from the stomach of a man who had swallowed it within an hour previously The patient was fed by the rectum only for four days and afterwards by the mouth Professor Loreta mentions the case of a woman who, having swallowed needles with suicidal intent suffered severe pain Gastrotomy having been performed, some needles were removed from the stomach and others were drawn out of the left lobe of the liver The patient recovered without a bad symptom and was entirely freed from her suffering Among other foreign bodies removed by gastrotomy are masses of hair forming a dense ball The most remarkable specimen of this kind is on the table, it was successfully removed by Mr Paul Swain It weighs 5 lb 3 oz Schoff[4] has collected 16 cases of hair ball in the human stomach, of which eight were removed by operation, all successfully The following statistics show the mortality in gastrotomy for foreign bodies to be 15 per cent in a series of 79 cases (in which there were 12 deaths), but the later cases show a smaller rate, and with the improved technique of to day it will doubtless diminish considerably, Crede[5] and Fricker[6] have collected 54 cases with 10 deaths, Heydenreich[7] has collected 13 cases with two deaths; Schoff[8] has collected eight cases, with no deaths, and Mayo Robson,[9] A C Bernays Halliwell[10], and Loreta have each recorded one case, with no death

The following specimens from the Hunterian Museum, now on the table show the effect on the stomach of various foreign bodies accidentally or intentionally swallowed No 2377 shows the remains of a knife swallowed two months before death No 2378 shows the blades and iron portions of three or more clasp knives swallowed by a man and voided per anum, the man recovered, No. 2379 shows the stomach from a married woman, aged 41 years, who had suffered from hæmatemesis at 17 years of age and several times later, ultimately three weeks' incessant vomiting led to death A post mortem examination showed the pylorus behind the pubes the duodenum being distended by a mass of pins weighing nearly a pound and causing obstruction There were no peritoneal adhesions The bent pins removed from the last specimen are shown in No 2380 No 2381A shows a roll of black human hair 12 inches long and weighing 5 lb. 3 oz. removed from a girl, 20 years of age, by Mr. Paul Swain[11]; the patient recovered.

---

[2] Philadelphia Medical Journal, May 7th 1898.

[3] THE LANCET Nov 3rd 1894 p 1028.

[4] Wiener Medicinische Wochenschrift, Nov 16th 1899

[5] Archiv für Klinische Chirurgie, 1896.

[6] Deutsche Medicinische Wochenschrift 1897

[7] *Semaine Médicale*, 1891

Wiener Klinische Wochenschrift, Nov 16th, 1899.

[9] *THE LANCET*, *Nov* 3rd 1894, p. 1028

[10] THE LANCET, Dec. 23rd, 1899, p 1772

Gastrotomy may be performed for the removal of foreign bodies impacted in the lower end of the œsophagus when all attempts to recover them by the mouth have failed. At the American International Medical Congress Dr. Maurice H. Richardson[12] read a paper on the Possibility of Operation on the Œsophagus through the Stomach. He had verified his statements by experiments on 60 bodies and had in one case operated successfully on a man, 37 years of age, who had 11 months previously swallowed a denture of four teeth which had become impacted at the lower end of the œsophagus. The patient had lost 50 pounds in weight and it was found to be quite impossible to extricate the plate by means of forceps introduced through the mouth. After the stomach had been opened the hand was inserted; on reaching the cardiac opening the finger discovered the plate about two inches above the diaphragm. By means of digital manipulation it was detached and withdrawn. The stomach was then carefully sutured and the abdomen closed. The patient rapidly gained weight and was soon able to resume his work. The conclusions Dr. Richardson arrived at from experiments were: that the oblique incision below the rib margin is the best; that the stomach, after being withdrawn from the abdomen a little, so as to avoid soiling the peritoneum, should be opened to the right of the convexity of the lesser curve; that the assistant should by traction on the stomach put the lesser curve on the stretch; and that the sulcus so formed is always a certain guide to the cardiac orifice. When a foreign body is impacted in the cardiac orifice it is about six inches below the opening made in œsophagotomy; and if it be firmly impacted and requires much force to detach it the safer plan will probably be to perform gastrotomy and draw it downwards a little way than to perform œsophagotomy and draw it forcibly a distance of six inches past very important structures. Dr. Ball of New York[13] recorded an operation in which he successfully detached an impacted peach-stone from the lower end of the œsophagus in a thin boy, aged 16 years, and then by attaching a piece of string to a sponge and dragging the sponge upwards from the gastrotomy opening to the mouth he was able to bring the stone with it.

Gastrotomy as a preliminary to forcible dilatation of the pyloric or cardiac orifice of the stomach was suggested by Richter and put in practice by Loreta in September, 1882. In stenosis of the pylorus divulsion has given way to pyloroplasty for the double reason of pylorodiosis having a greater death-rate and of its being liable to be followed by relapse, though it may yet be advisable in those cases of stenosis due to spasm and hypertrophy of the pyloric sphincter and in those milder forms where the sphincter may be dilated without gastrotomy by invaginating the stomach wall and gradually pushing the finger through the pyloric opening. The subject will be more fully considered under simple dilatation of the stomach.

In simple cicatricial stricture of the œsophagus near the cardiac orifice, if dilatation by bougies is impossible or has failed to keep open the stricture, the operation of gastrotomy may be performed and an attempt made to dilate the orifice from below. The operation has proved very successful. Gissler[14] has collected 10 cases and Kendal Franks 21 cases, all the patients recovering. The operation may be performed in one or two stages; in the latter case a large gastrotomy opening must be made and the dilatation proceeded with later. The one-stage operation is to be preferred, as the finger can then palpate the cardiac orifice and a mechanical dilator may be used if necessary. For subsequent operation the gastric fistula may be left if it be thought that there may be a difficulty in keeping the passage patent by bougies introduced through the mouth. The dilator that Loreta employed was after the pattern of Dupuytren's lithotomy dilator, only longer and incapable of dilating beyond five centimetres. Kendal Franks used an Otis's urethrotome from which the knife had been removed. Weiss's rectal dilator may be conveniently employed. Abbé has recently devised a method of dividing a simple stricture of the lower end of the œsophagus or of the cardiac orifice of the stomach by passing a string through the stricture from below until it emerges at the mouth, then by putting the string on the stretch and running it rapidly upwards and downwards the stricture is soon divided. The stomach and the abdominal openings are then closed and the stricture is kept permeable by the regular passage of bougies. The diagnosis is of the first importance, as in malignant disease the operation will be useless. In simple stricture of the cardiac orifice there will probably be a history of corrosive fluid having been swallowed some time previously and the symptoms will also be of longer duration than if the stricture be malignant.

Gastrotomy for the removal of a polypus or other growth projecting into the cavity of the stomach or occluding the pylorus is an operation seldom required, since simple tumours of the stomach are uncommon. The following is a good example. A middle-aged man with a long history of dyspepsia and loss of flesh came under my care for dilated stomach, which was producing the usual symptoms. The pylorus appeared to be thickened and on opening the stomach the lumen of the pylorus was seen to be occupied by a polypoid projection with a wide base, so that the passage of the stomach contents onward was almost completely prevented. The removal of the growth by scissors and the suture of the longitudinal wound transversely led to such relief that the patient gained weight at the rate of half a pound a day, and in three months he weighed between two and three stones more than before operation. The growth proved to be an adenoma. The specimen is on the table. Chaput[15] reported a case in which he excised a pedunculated adenoma from the posterior wall of the stomach, and O. B. Lyman[16] reported a case of removal of a pedunculated carcinoma of the stomach through a gastrotomy opening. Mr. Bennett[17] reports an interesting case of the kind where the removal of a simple papilloma that occluded the pylorus from time to time and led to intermittent dilatation cured the patient, a man, 35 years of age, who had been ill for four years.

Gastrotomy for exploration in the case of intractable gastric ulcer not yielding to ordinary treatment will be considered more conveniently when we discuss ulcer of the stomach.

Gastrotomy for partially removing cancerous growths in the stomach by the curette is an operation that has been performed by Dr. Bernays of St. Louis. He has recorded[18] some cases in which he had given relief by this method, but in view of the better results from gastrectomy or gastro-enterostomy it is scarcely likely that this operation will continue to hold a place in surgery, both from its uncertainty and from the danger of hæmorrhage and perforation; moreover, the relief given by the operation can only be of a very temporary nature.

GASTRIC ULCER.

Although in its earlier phases gastric ulcer comes under the care of the physician, many of the complications to which it gives rise demand surgical intervention and, in fact, can only be treated satisfactorily by surgical means. According to Brinton and Welch ulcer of the stomach occurs in 5 per cent. of all necropsies. According to Lebert, as quoted by Dr. Dreschfeld, death occurs in 10 per cent. of all gastric ulcers, 6½ per cent. occurring from perforation and 3 per cent. from hæmorrhage. Habershon says that perforation occurs in 18 per cent. of all cases of ulcer of the stomach and Brinton in 15 per cent., to which must be added the mortality of fatal hæmorrhage, which, according to Müller, occurs in 11 per cent. of all cases of ulcer, the average of all authorities being 5 per cent.; so that allowing 15 per cent. to represent the mortality from perforation and 5 per cent. that from hæmorrhage, the mortality of gastric ulcer treated medically is at least 20 per cent. But Tricomi[19] gives even a larger mortality as an argument in support of his views to treat all obstinate cases of gastric ulcer surgically; and Brinton gives the mortality from all causes in gastric ulcer as 50 per cent. It is quite unnecessary that I should enter into the numerous theories which have been advanced as to the causes of gastric ulcer or give a detailed account of its pathology, I shall therefore confine my remarks to such points as I consider have a surgical bearing.

For the present, passing over malignant, tuberculous, and syphilitic ulcers, the special form of ulcer which produces the complication calling for surgical treatment is the simple ulcer of Cruveilhier, which may be classified according to its stage and size, and to this may be added the simple erosion of the mucous membrane described by Dieulafoy which at times leads to serious or even fatal hæmorrhage. There appear, however, to be clinically two distinct forms of ulceration of the stomach—the acute and chronic; but although they seem to be separate and characteristic there are so many intermediate stages that it is a question whether or not the ulcers are as distinct as the extreme varieties would seem to indicate.

---

[11] THE LANCET, June 22nd, 1895, p. 1581.
[12] Boston Medical Journal, Dec. 16th, 1886.
[13] New York Medical Journal, Oct. 29th, 1897.
[14] Klinischen Chirurgie, Tübingen, 1892, vol. viii.,
[15] Bulletin et Mémoire de la Société de Chirurgie, 1894.
[16] Annals of Surgery, 1896.
[17] Brit. Med. Jour., Feb. 3rd, 1900.
[18] Annals of Surgery, December, 1887.
[19] Riforma Medica, Feb. 3rd, 4th, 5th, and 6th, 1899.

The acute ulcer is usually small and round and has the appearance of being punched out of the stomach wall; the chronic ulcer may be very large and has shelving or irregular margins. The chronic ulcer occurs chiefly in men. Dr. Seymour Taylor gives the proportion as 72 per cent. in males and 28 per cent. in females It is a disease of middle or advanced age rather than of youth, though I have operated for perforation from chronic ulcer in patients as young as 21 years. It is usually situated near to or at the pylorus, but may spread and form a tumour of the stomach extending along the lesser curvature, and it may occur in other parts of the stomach than the pylorus. It is irregular in outline and surrounded by well-marked thickening of the outer coats of the stomach. It frequently leads to adhesions, hence it is less liable to be followed by perforation into the peritoneal cavity, though it may eat its way into neighbouring organs It is frequently followed by pyloric contraction. If bleeding occurs it is usually less in quantity than in the case of the acute ulcer, but the bleeding may be severe or even fatal. The characteristic symptoms of ulcer of the stomach, pain and vomiting, may be absent until some complication supervenes, though usually they are sufficiently distinct. The pain frequently occurs from one to two or more hours after food. There is usually tenderness over the pylorus or between the xiphoid and the right costal margin. Vomiting is very irregular, but when present is characteristic. The vomit is often large in quantity, containing much mucus, and it is sometimes grumous or coffee-ground; it is often fœtid, and if there be dilatation there will be signs of fermentation with sarcinæ on microscopic examination. The symptoms vary very much and may disappear for weeks together. I have observed and operated on cases where the symptoms had been going on for five years, seven years, 15 years, and 17 years with more or less long intervals when the symptoms were in abeyance. Dilatation of the stomach is a frequent complication and is dependent on pyloric contraction the result of cicatrisation. Loss of flesh is well marked, especially in the later stages, and may be extreme, extending to half the body weight Tumour of the pylorus is frequently present and may resemble malignant disease

The chronic ulcer is usually single and very irregular and in its deeper parts it often appears funnel-shaped. The simple, acute, or perforating ulcer occurs chiefly in women and often in young single women It seems to be associated in many cases with amenorrhœa and chlorosis. The site varies, but it is frequently found near the cardiac end and near the lesser curvature, though it may attack either curvature or either surface The shape is constant, it being clean punched out and round, with little or no inflammatory exudation around it. It is frequently followed by severe and sometimes fatal hæmorrhage. Pain at the epigastrium, passing to the left infra-scapular region, comes on directly after food and is associated with local tenderness at the mid-line or on the left of the superior abdominal region. Vomiting is irregular, usually after food, and often without blood. If there be bleeding it is usually free, seldom simply grumous. Perforation is common and the ulcers may be multiple.

Complications.—Although the following complications are common to both forms of ulcer certain of them are much more common in one than the other. For instance, the acute round ulcer is more frequently followed by violent hæmorrhage and by perforation than the chronic ulcer, yet the chronic ulcer is also liable to be followed by both. On the other hand, the chronic ulcer is more frequently followed by cicatricial contraction of the pylorus with subsequent dilatation of the stomach and by perigastritis leading to disabling adhesions, also by hour-glass contraction, fistula, and tumour of the pylorus or of the stomach, serious atonic motor deficiency, severe gastralgia with uncontrollable vomiting, cancer of the pylorus, tetany, chronic pancreatitis, abscess of the liver, chronic hepatitis, profound anæmia (resembling the pernicious form), stricture of the bile-ducts, jaundice, catarrh of the gall-bladder, and other complications depending on invasion of the neighbouring organs. Both forms are accompanied by pain, by great loss of flesh and strength, and at times by subphrenic abscess. It will be at once perceived that surgery is intimately concerned with and is in fact the only effectual treatment in many of these complications, some of which I propose to treat in detail.

Diagnosis.—The well-known symptoms of pain after food with vomiting and bleeding as shown by hæmatemesis and melæna are usually sufficiently characteristic of gastric ulcer, and in the present lectures it is not necessary that I should enter very minutely into the question; but no surgeon can afford to pass over the diagnosis, which he must confirm personally before deciding on the question of surgical treatment. Doubtless before he sees the case it will have been settled that the patient is not suffering from simple gastralgia due to anæmia and hyperæsthesia of the stomach, owing to the absence of localised tenderness and of hyperacidity of the gastric juice as well as from the irregularity of the vomiting and pain which may occur independently of meals, but he may be called on to negative cancer of the stomach which will usually be indicated by the presence of a tumour, the absence or diminution in quantity of free hydrochloric acid in the vomit, the presence of coffee-ground vomiting and of cachexia, and the occurrence of the disease usually at or after middle life. The diagnosis between gall-stones and ulcer will usually be indicated by the irregularity of the paroxysms of pain, which in gall-stone colic occur quite independent of food, by the character and site of the pain, the presence of jaundice and the character of the vomiting, which in cholelithiasis usually comes on soon after the pain begins and persists long after all food has been rejected. To diagnose between ulcer of the duodenum and ulcer of the stomach, the occurrence of the former more frequently in men and after middle age, the presence of melæna with or without hæmatemesis, the pain occurring from an hour to two hours after food and the tenderness on the right of the abdomen will usually be sufficiently characteristic.

I would here point out as bearing on the site of the ulcer the importance of the character and site of the pain, which in an ulcer of the stomach is usually definitely localised and associated with tenderness on pressure The tender area is in the upper abdominal region, the position being more or less to the right or left of the middle line, according to the site of the ulcer. For instance, an ulcer on the anterior surface of the stomach near the cardiac end is usually associated with tenderness between the left costal arch and the mid-line, and relieved by the dorsal decubitus, but if the pylorus be involved the tender spot is between the right costal arch and the mid-line and the pain is relieved by lying on the left side and increased by turning to the right. An ulcer on the posterior wall of the stomach gives rise to less epigastric tenderness and the pain is felt more in the back beneath the left scapula or close to the spine opposite the attachment of the tenth and eleventh ribs, If adhesions have formed between the pylorus and liver or gall-bladder, the pain may radiate towards the right infra-scapular region. When the ulcer is on the posterior wall the dorsal decubitus increases the pain which may be relieved by lying on the face or leaning forward, or even by assuming the erect posture. In all cases of ulcer the pain is usually increased by food, but the time of the onset of pain after eating is significant For instance, an ulcer close to the cardiac end of the stomach causes pain immediately after food has been taken or the pain may even start as the food is being swallowed; whereas in ulcer of the pylorus the pain frequently does not occur until from half an hour to an hour and a half after meals. If the pain is very severe vomiting frequently occurs, sometimes immediately after food, at others not for an hour or two, and the act of vomiting usually gives immediate relief.

With regard to hæmatemesis, which is said to occur in about 80 per cent. of cases of gastric ulcer, and melæna, which is usually associated with ulcer, but sometimes occurs without hæmatemesis, they will be considered later, for hæmorrhage is one of the important complications on which the mind of the profession, so far as treatment is concerned, is not yet by any means crystallised.

Latent ulcers are not uncommon. Savariaud gives their proportion as 20 per cent. of all cases of gastric ulcer. It is said that such ulcers are always of the acute round variety, but my experience, in two cases where I have had to operate for perforation without any previous symptoms pointing to ceration, would lead me to form a different opinion, for I ound in both considerable thickening around the ulcers, howing that the disease must have existed in a latent form or some considerable time. It is difficult to explain why ome of these ulcers should exist without producing symptoms until either perforation or violent hæmorrhage occurs. In the cases I have seen the ulcer has been near the lesser curvature of the stomach and this might possibly afford an explanation, as in this situation they would be brought less intimately in contact with food.

The following specimens from the Hunterian Museum illustrate various forms of ulcer of the stomach:—No. 2395 is a characteristic example of simple chronic ulcer of Cruveilhier or the perforating ulcer of Rokitansky from a girl, aged 17 years; it is situated two inches from the cardiac orifice in front. No 2395A is an acute ulcer from a woman, aged 20 years, which caused death from perforation in 40 hours. The perforation is very small on the anterior wall close to the middle of the lesser curvature and there is another ulcer nearer the cardiac orifice. No. 2396 is a perforating ulcer causing death in a lady, aged 22 years. No. 2400 shows some multiple round ulcers. No. 2392 is an ulcer near the pylorus in a child of five years of age who died 40 hours after an extensive burn. No. 2393 is a specimen from a woman who died from cancer of the breast; the stomach shows numerous small round and oval ulcers (hæmorrhagic erosions). No. 2398 is a pyloric ulcer showing a small perforation, and another less deep causing contraction of the pylorus. It is from a male subject. No. 2399 is a chronic ulcer of the posterior wall eating into the pancreas. No. 2402A is a chronic ulcer showing puckering and contractive result of healing. No. 2402B is a chronic ulcer showing a large ulcer three and a half inches by one and a quarter inches on the posterior wall adherent to the pancreas and the liver. No. 2414 is a pyloric stenosis from ulcer, with doubtful secondary growth. No. 2415 is a pyloric stenosis with hypertrophy of the stomach. No. 2391 shows a very small universally ulcerated stomach five inches long and six inches in the greatest circumference, with the coats from three to four lines thick, taken from an old gentleman, aged 70 years, who was accustomed to take up to two drachms of wine of colchicum for gout. For nine months before death although he abstained from colchicum he had incessant pain and vomiting.

TREATMENT OF GASTRIC ULCERS.

The treatment of simple ulcer of the stomach is at first essentially medical and when properly carried out is usually satisfactory. Unfortunately, however, in many cases treatment is stopped as soon as relief to pain is obtained and long before the ulcer is healed. I have nothing to say concerning the details of medical treatment since it is out of my province, but I would urge most emphatically that the absolute treatment advocated in the medical text-books should be carried out more systematically and for a much greater length of time, and that it should not be left off as soon as the ulcer has got to the painless, otherwise the healing, stage. Doubtless this too brief treatment is most frequently due to the impatience of the patient, but I feel sure that in hospital practice it is often due to pressure on the beds and to a desire to make the most out of them, and in private practice it is frequently due to thoughtlessness and perhaps sometimes to ignorance of how long it takes to secure healing of a gastric ulcer.

The surgical treatment of intractable ulcer of the stomach is still *sub judice*. The first operation for the cure of ulcer of the stomach was performed in 1881 by Rydygier, who resected successfully a large ulcer from the posterior wall of the stomach. In 1882 Czerny repeated successfully a similar operation and in the same year Van Keef also succeeded in a like case. After other cases of excision Doyen, in 1893, introduced the operation of gastro-enterostomy for the treatment of gastric ulcer, and at the German Congress of Surgeons in 1895 he reported 21 cases in which he attributed the relief or cure of ulcer of the stomach by gastro enterostomy to the rest induced by the operation. Czerny, Monod, Durivier, Kuster, Novard, Tricomi, myself, and many others have followed on the same lines. Besides excision and gastro-enterostomy, pyloroplasty, pylorodiosis, and pylorectomy have all been employed in the radical treatment of gastric ulcer, but the latter operation only where pyloric contraction with tumour had developed. In England, perhaps, some of us are not yet prepared to subscribe fully to the views of Tricomi,[20] who

TABLE I.—*Cases of Gastric Ulcer treated Surgically (excluding Complications of Hæmorrhage and Perforation).*

Name of surgeon operating or compiling case	No. of cases.	Operation.	Remarks	Recovered.	Died.
1. Rydygier (1881).	2	Excision of ulcer.	Ulcer on posterior wall of stomach.	1	1
2. Czerny (1882).	1	„	„	1	—
3 Van Keef (1882)	1	„	„	1	
4 Schuchart (1893).	1	„	Death in second week from another ulcer.	—	1
5 Mikulicz.	4	—	—	2	2
6. Comte.	38	—	Of these, 17 cases of excision of ulcer with six deaths	29	9
7. Doyen.	21	Gastro-enterostomy.	—	21	—
8. I. Berg.	10	Pylorectomy, excision of ulcer, pyloroplasty, and gastro-enterostomy.	All these cases were associated with thickening of the pylorus.	10	—
9 Tricomi	50	21. Operated on by Tricomi.	Dr. Tricomi claims only one death, but there appear to have been two others, one from peritonitis on the second day and one from intestinal obstruction on the thirty-third day.	18	
10 „		29 Collected by Tricomi.		25	
11. Mayo Robson (private)	18	9 Pyloroplasty. 4. Gastro-enterostomy. 3 Gastroplasty. 2. Gastrolysis	... ...	... ...	... ...
12 Mayo Robson (hospital)	16	Pyloroplasty, gastro-enterostomy, gastroplasty, and pylorectomy.	—		
13 Kappeler.	8	Gastro-enterostomy.	—		
14 Andrews and Eisendrath	2	„	—	1	1
15 W. H. Bennett *	1	Indurated part tucked in and stitched.	—	1	
16 Chaput.	1	Gastro-enterostomy.	—	1	
17. „	1	Gastro enterostomy followed by entero anastomosis.	—	1	—
18 Grad.	1	Excision of ulcer.	—	1	—
19 Krogius	1	Resection.	—	1	
20. Klausner.	1	„	—	1	—
21. Czerny	1	„	—	1	
22 Cordna	1	„	—	1	—
23 Billroth.	1	„	—	1	—
24. Hofmeister	1	„	—	1	—
25 Drobrich	1	„	—	1	—
26 Bremner.	2	„	—	2	—
27 Lange.	1	„	—	1	—
28 Lidner	1	„	—	1	—
29 Keen	1	„		1	—
	188			157	31†

* Cases 15 to 29 have been collected from various sources by Mr. Willmott Evans

† = 16·4 per cent. of mortality.

References.—1. Berliner Klinische Wochenschrift, 1882, No 3 2. Archiv fur klinische Chirurgie, 30, 1. 3. Centralblatt fur Chirurgie, 1882, p 766 4 German Congress of Surgery, 1894 5 Centralblatt fur Chirurgie, 95 6 Semaine Médicale, 95, iii, 39 7. Centralblatt fur Chirurgie, 1895 8 Norddeutsches Medicinisches Archiv, 1893, No 26, p. 1. 9 Riforma Medica, 1899 10. Revue de Chirurgie, February,

---

[20] Riforma Medica, February, 1899.

draws a parallel between the treatment of hernia and that of ordinary gastric ulcer, and proposes that as hernia is treated radically with success so should gastric ulcer in properly selected cases. By radical treatment he means gastro-enterostomy, which he believes to be the best operation for gastric ulcer. He argues that the mortality in gastric ulcer medically treated varies according to statistics from 50 per cent. to 8 per cent., and says that he has collected 50 cases where the surgical treatment of gastric ulcer had been employed, not simply for the complication of perforation, but as a radical treatment for uncomplicated, though intractable, ulceration. Out of the 50 cases there were seven deaths, giving a mortality of 14 per cent., which is rather more than the mortality that Lebert says occurs in all ulcers treated medically, but Lebert under-estimates the mortality in gastric ulcer, which according to many authorities varies from 20 per cent. to 30 per cent. of all cases medically treated. If, therefore, surgical treatment can show a smaller all-round death-rate in cases of gastric ulcer that have not yielded to properly carried out medical treatment the views expressed by Tricomi, Heydenreich, and others are well worth considering seriously. Heydenreich[21] puts the matter tersely: "The death-rate for all cases of gastric ulcer is 25 per cent. to 30 per cent., but for gastro enterostomy only 16 2 per cent., and therefore the operation has less danger than the disease. Another advantage of not waiting for complications is that the patient is in better health. At any rate, cases which do not improve with medical treatment in a reasonable time should be treated surgically."

It will thus be seen that the question will have to be finally settled by a careful study of statistics, and to this end I have, with the assistance of Mr. Willmott Evans, collected 188 cases of gastric ulcer treated surgically. Of this number 157 recovered and 31 died, thus giving a mortality of 16·4 per cent. My own experience and a careful study of the subject would lead me to say that the time has not yet come for a sweeping change to be made in the treatment of uncomplicated gastric ulcer except in the way of more rigid and more prolonged medical treatment, but that when the ulcers prove intractable, or when complications supervene, medical treatment should give place to surgical treatment at a much earlier stage than has hitherto been the custom. It is unfair to the surgeon to hand over to him moribund patients, as is at present so often done, and it is in my mind unjust to the patients to persist in dosing them with medicine or otherwise treating palliatively cases that can only be benefited or cured by surgical means.

My own contribution to the subject is as follows. I find that I have operated on 34 cases of intractable gastric ulcer with various complications which in every case must have caused permanent disability or would have ended fatally, but excluding perforation, hæmorrhage, and cancer, all of which I am considering separately. Of these, 18 operations were done in private with one death, giving a mortality of 5 5 per cent., and 16 in hospital with five deaths, giving a mortality of 31 2 per cent., or if both private and hospital cases be taken together the mortality is 17·6 per cent. The difference between the private and hospital cases can be readily explained in that a large proportion of the latter were almost moribund before surgical help was sought, and though many of the cases in private were also very far advanced the treatment of such serious cases in a private surgical home, with the undivided care of special nurses and constant medical supervision, together with the comforts and advantages that such homes afford, must lead to better results all round.

The conclusions that I would urge concerning the surgical treatment of gastric ulcer are the following: 1. In all cases of gastric ulcer, except in case of perforation, medical treatment should be first tried. 2. Where ulceration persists or the symptoms recur and prove intractable to medical treatment gastro-enterostomy should be performed so as not only to give rest to the stomach but to relieve the hyperacidity of the gastric juice. 3. As a rule, direct treatment of the ulcers by excision is unnecessary. 4. Complications, such as adhesions, pyloric contraction, dilatation, and hour-glass contraction, leading to loss of flesh and impairment of health, should be treated surgically. 5 In chronic hæmorrhage surgical treatment is advisable, as it is in some cases of recurrent acute hæmorrhage, but, as a rule, acute hæmorrhages should be treated medically. 6. In perforation surgical treatment is demanded.

As it would be tedious and take up too much time to relate the particulars of my 34 cases I have selected a few examples of which the following are abbreviated notes.

Hæmorrhage, which occurs in about 80 per cent. of all cases of ulcer of the stomach, may be arterial, venous, or capillary, and curiously capillary hæmorrhage may be so free as to render it impossible to say that some large vessel has not given way, yet after death no gross lesion may be found even on careful examination. This capillary hæmorrhage occurs under two special circumstances—vicarious hæmatemesis at the menstrual period and hæmatemesis after surgical operation. The former is well known and usually yields to medical treatment, surgical treatment having signally failed on the few occasions on which it has been tried. Hæmatemesis after surgical operations is neither well recognised as an entity nor well understood, yet is often serious and at times fatal without any apparent cause and with very little to be discovered in the stomach after death. I have seen it to follow on operation for intestinal obstruction, tuberculous peritonitis, cholecystotomy, choledochotomy, hernia, ovariotomy, and simple exploratory laparotomy, and in two cases a fatal termination occurred without peritonitis or other cause than the profound hæmatemesis to account for death. That the anæsthetic was not responsible for the hæmatemesis was shown by one of my cases having been operated on under cocaine. The case was a cholecystotomy for cancer of the common bile-duct and the operation only occupied 15 minutes, yet violent hæmatemesis set in the day after operation and proved fatal in three days, and at the necropsy nothing was found in the stomach to account for the bleeding, nor any peritonitis or other condition than the hæmorrhage, to account for death. Herr Eiselberg, at the Surgical Society in Berlin, said that he had observed hæmatemesis following operation in the Konigsberg Klinik after Bassini's operation, after ligature of the omentum, after operation for omental hernia, after laparotomy for ileus and for torsion of the omentum, and after proctectomy for cancer. In some cases numerous hæmorrhages into the mucosa of the stomach and in others numerous small recent ulcers had been found post mortem. There could be no doubt as to the causal relation between the operation and the hæmorrhage. Vomiting after narcosis could not have been the cause, as in two cases there was no vomiting after the anæsthetic. In six cases, however, there was ligature of the omentum and in the seventh the omentum was probably contused. In an experiment on an animal multiple hæmorrhages into the stomach followed twisting of the omentum. At the meeting in December, 1899, of the Free Society of Surgeons in Berlin Herr Reichard related three cases of parenchymatous gastric hæmorrhage. In one cholecystenterostomy had been performed for obstructive jaundice and was followed on the sixth day by hæmatemesis; the patient died in two days, no visible cause to account for the bleeding being found in the stomach or intestines after death. In two other cases after operations in young women violent hæmatemesis occurred as if from gastric ulcer; both were operated on but gastrotomy failed to reveal any source of bleeding. Both died and the necropsies revealed no manifest vascular lesions or even ulcers. This form of hæmatemesis coming on after operation is not necessarily fatal though it is serious and demands active treatment. Free purgatives by means of calomel, and rectal feeding, with the avoidance of anything by the mouth, are the means I have employed, and usually with success. I have never ventured to operate in these cases as the indications are not clear and the patients have, as a rule, not been in a condition to bear a second operation. Capillary hæmorrhage and hæmatemesis may come on in other conditions, associated with congestion of the portal circulation, enlargement of the spleen, and general engorgements of the venous system, but these do not concern us in regarding hæmatemesis from a surgical point of

---

1893. 11 and 12 are here reported for the first time. 13. Deutsche Zeitschrift für Chirurgie, 1893, 49, p 113 14. Annals of Surgery, October, 1893. 15. THE LANCET, Feb. 20th, 1893, p. 566. 16. Bulletin de la Société Chirurgique de Paris, 1898, p 126 17. Ibid., p 21. 18. Journal of the American Medical Association, 1899, vol. i., p. 764. 19. Centralblatt für Chirurgie, 1896, p. 538. 20. Münchener Medicinische Wochenschrift, 1896, p. 863 21. Archiv für Klinische Chirurgie, vol. xxx., p. 1. 22. Revue des Sciences Médicales, vol. xxxiv., p. 259. 23. Archiv für Klinische Chirurgie, 1889, vol xxxix., p. 805. 24. Beiträge zur Klinische Chirurgie, 1896, vol. xv., p. 356. 25. Centralblatt für Chirurgie, 1893, p. 393. 26. Wiener Klinische Wochenschrift, 1896, vol. ix., p 1117. 27. New York Medical Journal, May 21st 1892, p. 584. 28. Medical Press and Circular, 1898, p. 334. 29. New York Medical Journal, June 4th, 1893, p. 778.

[21] Semaine Médicale, Feb. 2nd, 1898.

TABLE II.—EXAMPLES OF INTRACTABLE ULCER OF THE STOMACH TREATED SURGICALLY BY MR. MAYO ROBSON.

Date.	Sex.	Age.	Nature of ulcer and operation.	Description.	Result.	After history.	With whom seen.
June 25th, 1891.	M.	54	Ulcer of pylorus; pylorectomy.	Six months' history of epigastric pain with vomiting, the vomit at times being "coffee-ground." There was great loss of flesh. The tumour was felt over the pylorus. Vermicular contraction of the stomach was perceptible through the abdominal wall. Operation: Some adhesions around the pylorus were broken down, and as the tumour of the pylorus was thought to be malignant it was removed by pylorectomy, the opening in the duodenum being sutured to the lower part of the stomach.	R.	Uninterrupted recovery. On the fifth day the patient took three pints of milk and on the tenth day some chicken and other solids. He rapidly gained flesh and went home within the month. The tumour proved to be thickening around an ulcer of the pylorus, and on microscopic examination there was no evidence of growth. The pyloric orifice was almost obliterated. The after-history in this case is interesting in that contraction occurred at the artificial opening, necessitating some months later another operation.	In infirmary.
May 28th, 1895.	M.	36	Ulcer of pylorus with polypus; pyloroplasty.	Ten years' history of pain after food, indigestion, and vomiting. Of late the vomit had been large in quantity and occurring every second day. When in health the man weighed 10 st. 5 lb., but on coming under my care he weighed only 5 st. 7½ lb. and was in a condition of profound exhaustion. No tumour could be felt. The stomach was enormously dilated. Operation: On opening the abdomen the pylorus was found to be constricted so that it would not admit a No. 8 catheter. On laying open the pylorus longitudinally two polypi were found on the proximal side and these acted like a valve and closed the small passage remaining. After removing them the longitudinal incision was stitched up transversely over a bone bobbin.	R.	The polypi were reported to be malignant, but I think the after-history scarcely bore out the pathologist's report, for the man rapidly put on weight and by June 24th he weighed 7 st. 4 lb., and by July 8th 8 st. 3½ lb., and within three months he had obtained his ordinary weight of 10 st.	"
July 23rd, 1898.	F.	44	Pyloric ulcer, excision of ulcer and pyloroplasty.	Well until two years ago, when the patient had colic and loss of flesh. Under treatment apparently she recovered and regained some of the lost weight. On Sept. 15th, 1897, there was recurrence of attacks similar to that of a year before, but with pain on the right side over the pylorus. There was loss of weight and strength. The patient had for some time been an invalid and had been continuously under medical treatment for months. The patient weighed 6 st. 11 lb. There was visible peristalsis towards the pylorus which was fixed to the gall bladder, but no pain or tenderness. The liver was two inches below the costal margin, but was not nodular and there was no jaundice. Operation: The ulcer at the pylorus was adherent to the liver which formed the base of the ulcer and there was stenosis of the pylorus. Pyloroplasty was performed after excision of ulcer, the opening being sutured transversely over a bone bobbin.	R.	By Dec. 23rd, 1898, the patient had gained 1 st. 8 lb. in weight and had no trouble in digesting anything. On Dec. 23rd, 1899, Dr. T. B. Hearder reported patient as "very well" and of normal weight.	Dr. Johnstone (Ilkley).
March 18th, 1897.	F.	46	Stricture with active ulceration at pylorus, pyloroplasty.	Gastralgia for several years, relieved by food. In November, 1894, the patient vomited some dark fluid, and since then had had frequent vomiting, the longest interval being two or three weeks. There was pain in the stomach accompanied by a hard lump and often followed by vomiting. There was great loss of weight and strength. Operation: Contraction and thickening of the pylorus, the passage only admitting a No. 12 catheter.	R.	Well in 1899. There had been considerable gain in weight.	Dr. Drake (Headingley).
Jan. 13th, 1897.	M.	52	Ulcer of pylorus with stricture, pyloroplasty.	Bad health for 20 years with dyspepsia. The man had had enteric fever nine years before. For the last two years he had been much worse with pain, sickness, and vomiting from two to three hours after meals, relieved by vomiting of large amount, but never blood. There was loss of flesh, the patient's weight being 9 st. 3 lb., with emaciation and dilatation of stomach. There was no tumour. Stricture of pylorus.	R.	On Sept. 19th, 1898, Dr. Wilks wrote, "For some time little improvement; stomach now works well. Looks better than I have ever seen him." The man was well in February, 1900.	Dr. Wilks (Grassington).
Sept. 25th, 1898.	F.	41	Ulcer of stomach; gastrolysis.	Dilatation of stomach after gastric ulcer and adhesions around pylorus. The patient complained of pain at the epigastrium and on the left side. 14 years ago he first noticed the pain, which had been worse since January and was increasing in severity. The pain was paroxysmal, not worse or specially present after food, though occasionally food caused pain. Since January the patient had vomited frequently. It was years since any blood was brought up. There was no certainty of loss of weight. On two or three occasions the fæces had been blood-stained. The patient was never jaundiced. There was no fulness of the epigastrium. There was visible peristalsis with general tenderness of the abdomen on palpation, but especially over the epigastric region. Splashing sounds were obtained. Operation. Extensive adhesions were found between the gall-bladder, liver, and pylorus. A cicatrix was found in the wall of the stomach. There was no stricture of the pylorus, but it was found kinked owing to the dilated stomach dragging on the adhesions. Omentum was placed between the surfaces to prevent further adhesions.	R.	Recovery satisfactory and the patient was able to take food well. Later reports were satisfactory in every respect.	In infirmary.

TABLE II.—EXAMPLES OF INTRACTABLE ULCER OF THE STOMACH TREATED SURGICALLY BY MR. MAYO ROBSON (*continued*).

Date.	Sex.	Age.	Nature of ulcer and operation.	Description.	Result.	After history.	With whom seen.
May 20th, 1899.	F.	41	Pyloric ulcer, perigastritis, and adhesions; gastrolysis.	For months there had been pain beneath the left clavicle and indigestion with loss of flesh. The patient had recently noticed a tumour in the upper abdomen. There were dilated stomach and a moveable painless tumour in the upper abdomen attached to the liver. Operation: Perigastritis with adhesions to the gall-bladder and liver. Tumour was an abnormal projection from the left lobe of liver. The adhesions were separated.	R.	Very good recovery. In 1900 health was regained.	Dr. McGregor Young (Leeds).
May 18th, 1899.	F.	45	Perforating ulcer leading to hour-glass contraction; gastroplasty.	Nine years ago the patient had severe pain in the right hypochondriac region; she also vomited a good deal, particularly after food. The pain was not relieved by vomiting. She could take milk and soda sometimes without vomiting. There was slight swelling in the epigastric region. This attack lasted for three weeks, then the patient lost all pain, the vomiting stopped, and she gained strength. Three years ago another attack commenced with exactly the same symptoms except that the pain was on the left side instead of the right and was more severe. The vomiting was the same as in the first attacks. There was swelling in the epigastric region for a month while it lasted. Last September another attack, exactly of the same kind as the last, commenced, the pain being again on the left side. Since then she had never been free from pain for two days together. Vomiting was very soon brought on after food, and there had been a slight swelling in the epigastrium. During the last three weeks she had been rather better. The abdomen was very tender, especially in the upper part. There was a particularly tender spot just to the left of the middle line and about two inches from the umbilicus. There was no swelling of the epigastrium. Nothing could be felt on deep palpation. Operation: An incision was made above the umbilicus in the linea alba. The stomach was exposed and found to be adherent by a firm adhesion to the anterior abdominal wall just where the tender spot was. This was of about the size of a threepenny-bit. It was cut through and there was found to be a gastric fistula. On examination the stomach was found to be cicatrised at this point as the result of old ulceration so that the finger could not be made to pass the constriction. A longitudinal incision was made about three inches long through all the coats of the stomach and this was stitched up transversely over a bobbin. There was also found considerable puckering in the lesser curvature as the result of another distinct ulcer.	R.	The patient made an uninterrupted recovery. She had no pain or vomiting after the operation and steadily gained weight. Her weight on June 19th was 6 st. 4½ lb., on the 23rd 6 st. 5 lb., on the 26th 6 st. 7 lb., and on July 29th 7 st. 2 lb.	In infirmary.
Oct. 4th, 1898.	F.	32	Pyloric ulcer with contraction; gastro-enterostomy.	Pyloroplasty had been performed during active ulceration of pylorus in December, 1895. There was great relief for a time, but later recurrence of dilatation, vomiting, pain, and other symptoms, with very considerable loss of flesh. The patient was thin and anæmic; the pulse was feeble and rapid. There was marked dilatation, the stomach reaching well below the umbilicus. Operation: Gastro-enterostomy, a bone bobbin being employed.	R.	In October, 1899, the patient was well and active. By February, 1900, he had gained 1 st. 10 lb. in weight.	Dr. Salter (*Scarborough*).
August 4th, 1899.	M.	23	Pyloric ulcer and tumour of pylorus; gastro-enterostomy.	Loss of weight. Two years before the man weighed 12 st. 12 lb., but now only 9 st. 6 lb. There was pain two hours after food. For the last two months there had been vomiting on an average five times a week, which was twice of a coffee-ground character. There was enormous dilatation of the stomach. There were a pyloric tumour which was moveable and visible peristalsis. Operation: Large mass at pylorus evidently thickening due to active ulceration; glands large but not matted. Gastro-enterostomy (bone bobbin used).	R.	By August 27th, 1899, the patient had made a good recovery. He then weighed 9 st. 7 lb. and on Sept. 20th 10 st. 13 lb. He could then eat anything.	Dr. Kilner Clarke (Huddersfield).
May 6th, 1899.	M.	31	Extensive ulceration of stomach with large tumour; gastro-enterostomy.	Dyspepsia for 17 years, which had been more severe for the last 20 months. Lead poisoning was discovered and treated and a good recovery was made. 16 months before vomiting recurred and from the outset large quantities were ejected but never blood. There was recurrence occasionally of similar attacks which were always relieved by treatment. In December, 1897, the stomach reached the pubes and visible peristalsis was detected by Dr. Barrs. Relief followed dieting and lavage till March, 1898, since which time there was almost constant pain, which was not materially worse after food nor relieved by vomiting. There was loss of weight from 10 st. to 8 st. 6½ lb., and great feebleness. Operation: A large irregular tumour was found at the pylorus and along the lesser curvature, but the glands, though large, were discrete. Gastro-enterostomy was performed, a bone bobbin being employed.	R.	The patient was 8 st. in weight when he left the home on June 7th, 1898. On August 17th he weighed 9 st. 3 lb. A letter from him dated Feb. 12th, 1899, says: "My health continues perfect. I have not lost a day's work through illness since I recovered."	Dr. Barrs (Leeds) and Dr. Webster (Golcar).

view. Venous hæmorrhage may cause rapid death from perforation of the coronary, splenic, or other large veins. The portal vein has also been perforated by an ulcer of the duodenum. Owing to the more languid circulation and the small pressure of the blood a fatal result is much less likely than in perforation of arterial trunks, but if the hæmorrhage should persist or be repeated such a case would be likely to be benefited by surgical treatment. Serious or fatal hæmorrhage from the stomach is usually arterial. It may be from (*a*) the small branches which radiate between the glands in the mucous membrane, and this may occur before the ulcer has even perforated the mucous coat; from (*b*) the large arteries along the curvatures, the coronary being the most frequently affected; or (*c*) from the extrinsic arteries, the splenic being, according to Brinton, responsible for 55 per cent. of the deaths in fatal hæmatemesis. Ulcers of the pylorus and duodenum affect principally the pancreatico-duodenal and then the right gastro-epiploic arteries.

The following tables are taken from a valuable thesis by M. Savariaud and show at a glance the vessels chiefly affected.

TABLE III.—*Showing the Vessels affected in Bleeding Ulcer of the Stomach.*

Arteries.	No. of cases.	Veins.		Undetermined.	No visible orifice of vessel.	Not mentioned.	Total.
Splenic	17	Branch of the coronary ...	2	2	4	4	23
Coronary	6	Other veins ...	2	—	—	—	8
Arterioles	10	—		—	—	—	10
Total	33		4	2	4	4	47

The aorta has been perforated by ulcer of the stomach in cases recorded by Grüngeld and Stick, the hepatic artery by an ulcer of the duodenum (recorded by Broussais), and the heart itself in perforating ulcers of the stomach (recorded by Chiari, Brenner, and Finney). The peculiarly fatal nature of *hæmorrhages from medium-sized arteries* depends on the fact that the ulcer makes a lateral opening into the vessel which prevents natural hæmostasis by retraction and contraction; then the whole force of the heart is exerted on the clot which tends to form during the syncope that usually occurs when a large quantity of blood is poured out. The duration of the hæmorrhage or the interval between the first appearance of bleeding and death is of great importance surgically. The following table from M. Savariaud's thesis is therefore worthy of note :—

TABLE IV.—*Showing the Length of Survival after Various Hæmorrhages into the Stomach.*

Vessels.	Number.	Very rapid death.	Rapid death.	Longer survival.
Heart	4	1	1	2 (three days).
Aorta	2	—	—	1 (ten days).
Hepatic	2	—	1	1 (ten days).
Splenic	17	3	7	7 (from two to 18 days).
Coronary	6	1	3	2
Pancreatico-duodenal ...	6	1	3	2 (eight and 15 days).
Arterioles... ...	10	1	1	8 (from four to 15 days).
Little veins ...	4	1	1	2 (from seven to 11 days).
Capillaries ...	3	2	—	1 (21 days).

It is curious that the size of the perforated vessel does not seem to bear any relation to the time between the first bleeding and the prolongation of life; this is doubtless due to the irregular and variable amount of coagulation that occurs around the mouth of the opening and within the vessel. It is therefore impossible to diagnose the size of the vessel perforated either from the amount of the bleeding or the length of survival, for death has occurred very rapidly in some cases where the hæmorrhage has been from the capillaries or small vessels.

SURGICAL TREATMENT OF HÆMORRHAGE DUE TO ULCER.

This is a question which one cannot too carefully consider, and although statistics are apt to be misleading it is a subject in which statistical evidence is manifestly worth careful consideration. Let us first consider what is the mortality from hæmorrhage in ulcer of the stomach. Authors estimate this very differently. Müller gives 11 per cent., Gerhart from 3 to 5 per cent., Welch from 3 to 5 per cent., Steiner 6 36 per cent., Lebert 3 per cent., Brinton 5 per cent., Debove 5 per cent., Leube 1 per cent., and Dreshfeld 3½ per cent. The average of these numbers gives approximately 5 per cent., which seems to be a proportion agreed on by English physicians.

A reference to Table IV will show that in a quarter of the cases death comes so rapidly that there is barely time to consider the question of surgical treatment. In another quarter a fatal termination takes place in from 24 to 36 hours after the first onset of the bleeding. Surgical treatment in these cases of fulminating hæmorrhage has so far yielded few good results and they usually terminate fatally, whether treated medically or surgically, but in the remaining 50 per cent. of cases where repeated hæmorrhages occur, and where the interval between the onset of bleeding and death varies from a few days to a fortnight, the question of surgical treatment is well worth considering seriously.

Doubtless the desirability of stopping bleeding from an ulcer of the stomach by surgical means must have occurred to many minds before being put into execution. To Mikulicz, however, belongs the claim of having been the first to operate for hæmorrhage from a gastric ulcer. This was on Feb. 13th, 1887. Death in this case occurred 50 hours later. Roux of Lausanne was the first to perform a successful operation and that in a case of hæmorrhage from the coronary artery, in which he excised the ulcer and ligatured the artery at both ends. His case was reported at the French Congress of Surgery in 1893. At the German Surgical Congress in 1897 the subject was discussed fully by Leube and Mikulicz and the conclusions arrived at were that a patient suffering from violent acute hæmorrhage would stand a better chance of being cured by medical treatment, seeing that the mortality in all ulcers from hæmorrhage under medical treatment is only 5 per cent., but that where bleeding was repeated—in other words, where life is prolonged for several days and the hæmorrhage tends to recur—surgical treatment should be advocated. Keen and Hartmann also adopt the view of abstaining from operation except in cases of repeated small hæmorrhages. On the other hand, Dieulafoy urges immediate operation in every case of hæmatemesis in which the loss of blood exceeds half a pint and especially if it recurs within 24 hours. He relates a case of recovery after severe bleeding from ulcer in which he gathered up into a fold the ulcerated patch and ligatured it. Dr. Armstrong of Montreal[22] also advocates operation, not only in repeated small hæmorrhages which persist in spite of treatment, but in all large hæmorrhages after a second recurrence where the cause is probably gastric ulceration. In one case, that of a lady, aged 35 years, where repeated bleedings had occurred during the previous seven days, he performed gastrotomy and cauterised three separate bleeding points in the stomach, a satisfactory recovery resulting. In a second case reported by him Dr. Elder of Montreal operated upon a lady of 42 years of age on the third day for repeated hæmorrhage and ligatured a bleeding vessel in the floor of an ulcer at the lesser curvature. Unfortunately the patient died from acute anæmia the following day, though no fresh bleeding had occurred. I have myself operated on two cases of acute hæmatemesis. In one, a patient under the care of Dr. T. Churton, a man, aged 36 years, who gave a history of ulcer for over a year with great loss of flesh and strength, was suddenly seized with violent hæmatemesis, which was followed within 24 hours by a second seizure, when I was asked to see him. He was extremely weak and very thin and anæmic, and looked as if he would die if attacked by bleeding again. His pulse at the time of operation was 150. A gastro-enterostomy was performed by means of a Murphy button, the whole operation only occupying 15 minutes. For five days he did well, when he was seized with sudden pain and from this time never regained strength. Vomiting set in on the eighth day and he died on the tenth. No further bleeding occurred and at the necropsy a duodenal ulcer was found opening into the gastro-duodenal artery. The cause of death was peritonitis the result of a leakage on the fifth day, when the button began to separate. So far as the hæmorrhage was concerned the gastro-enterostomy had apparently been successful. In a second case sent to me by Dr. Peter MacGregor of Huddersfield there was a history of severe hæmorrhage twice repeated within a week and occurring in a man of 38 years of age debilitated by chronic ulcer of the pylorus with dilatation of the stomach. The patient was profoundly weak and anæmic but stood the operation of gastro-enterostomy very well and made a good recovery without any drawback and without repetition of the bleeding.

Of the 15 cases reported by Mikulicz in five cases the ulcer was not discovered, in two cases it was excised, in one case the pylorus was resected, and in another case the ulcer was cauterised. Petersen has reported from the Heidelberg Clinic six cases of hæmorrhage cured by operation, two cases by excision of the ulcer, and one case by gastro-enterostomy. Hartmann collected 12 cases, with eight deaths and four recoveries. Nearly all the deaths occurred from collapse. Besides the contra-indication to operation in acute hæmorrhage, advanced age, poor general condition of the patient, and excessive anæmia would seem to be contra-indications.

Tables V. and VI. show all the cases Mr. Willmott Evans and I have been able to collect from various sources.

The following specimens illustrate hæmorrhage from ulcers: No. 2401A shows the ulcer midway between the cardia and the pylorus near the lesser curvature, eroding the splenic artery on which is a small aneurysm. It was from a man 56 years of age. Death occurred on the fourth day. No. 2402 is a specimen from a case of fatal hæmorrhage from a large vein which is perforated by an ulcer in two places. No. 2393 shows the hæmorrhagic erosions in the stomach of a woman who died from cancer.

It will be seen that in acute hæmorrhages the mortality is very high. 27 died and 15 recovered in 42 cases, which gives a mortality of 64·2 per cent. On the other hand,

---

[22] Brit. Med. Jour., Oct. 21st, 1899.

TABLE V—*Cases of Surgical Treatment of Acute Hæmatemesis from Gastric Ulcer*

	Name of surgeon operating or compiling cases	No of cases	Operation	Recovered	Died
1	Mikulicz	1	Cautery	—	1
2	Mixter	1	Exploratory	—	1
3	De Salzer	1	„	—	1
4	Mikulicz	1	Cautery.	—	1
5	„	1	Excision of ulcer	1	—
6	Doyen	1	Cautery	—	1
7	Roux	1	Excision of ulcer and ligature	1	—
8.	Roux (Savariaud)	1	Ligature of artery of lesser curvature	1	—
9	Elliott	1	Pylorectomy	—	1
10	Hartmann.	1	Gastro-enterostomy	1	—
11	Hirsch	1	Exploratory	1	—
12.	Albé	1	„	—	1
13	Wernet and Korte	1	Cautery	—	1
14	Michaux	1	Exploratory	—	1
15	Cazin.	1	Suture of ulcer	—	1
16	Mayo Robson	2	Gastro enterostomy	1	1
17	Armstrong	1	Cautery	1	—
18	Filler	1	Ligature	—	1
19	Gilford	1	Excision	—	1
20	„	1	Exploratory	—	1
21	Dieulafoy	1	Ligature of ulcer en masse	1	—
22.	Petersen (Czerny's Clinic)	3	Parenchymatous vicarious hæmatemesis	—	3
23	Reichard	2	Post operative hæmatemesis	—	2
24	Konig	1	Resection and later gastro-enterostomy	1	—
25	B W Andrews	1	Ligature of erosions and later gastrorraphy	1	—
26		1	Ligature of ulcer	1	—
27	Hartman	12	Some of the above cases are probably included in this series	4	8
	Total	42		15	27*

* = a mortality of 64 2 per cent.

References—1 Wochenschrift für Klinische Chirurgie 1888 Band xxxvii p 579 2 Boston Medical Journal 1889 p 38 3. Wochenschrift für Klinische Chirurgie, 1889 vol xxxix p 833 4 Proceedings of the German Surgical Congress 1897 5 Ibid 6 Traité de la Chirurgie des Affections de l'Estomac p 132 7 Revue de Gynécologie 1897 p 113. 8 Ibid 9 Boston Medical and Surgical Journal, 1897 p 54 10 Savariaud Thèse de Paris 1893 11 Berliner Klinische Wochenschrift 1893 p 847 12 Medical News 1896 p 234 13. General Surgical Congress 1897 14 Presse Médicale 1898 p 31 15 Ibid 1899 p 31 16 This case is here reported for the first time. 17 Brit. Med Jour, 1899 i 1003 18 Ibid 19 Guy's Hospital Reports 1896, vol. liii p 183 20 Ibid 22 Medical Press 1899 23 Ibid Jan 3rd 1900. 24 Philadelphia Medical Journal January 1899 p 929 25 Annals of Surgery October 1899 p 410 26 Ibid p 409 27 Semaine Médicale No 7 and No 8 1893

TABLE VI—*Cases of Surgical Treatment of Chronic Hæmatemesis from Gastric Ulcer*

	Name of surgeon operating or compiling cases	No of cases.	Operation	Recovered	Died
1	Kuster	2	Cautery and gastro-enterostomy	2	—
2.	Tuffier	7	Gastro-enterostomy	5	2
3.	Petersen	4	„	4	—
4	„	2	Excision.	2	—
5	Spencer	2		2	—
6.	Guinard	1	Gastro-enterostomy	1	—
7	Curtis	1	Pyloroplasty	1	—
	Total	19		17	2*

* = a mortality of 10 5 per cent.

References—1 Archiv für Klinische Chirurgie, 1894 vol xlviii p 757 2. Savariaud Thèse de Paris 1893, p 123. 3 and 4 Czerny's clinic, 5 THE LANCET August 26th 1899 p. 601 7 Annals of Surgery August, 1894

in the chronic hæmorrhages out of 19 cases two died, giving a mortality of 10 5 per cent

In considering the question of operative treatment for supposed hæmorrhage from the stomach it is well to bear in mind that bleeding may occur from the following causes: (1) from retarded circulation, as in cirrhosis of the liver and heart disease, (2) from aneurysm of the aorta and cœliac axis; (3) from miliary aneurysms in the stomach; (4) from erosion of a vessel by ulceration due to a biliary calculus, as in a case reported by myself,[23] and (5) from vicarious menstruation The operative measures that may be employed in the treatment of hæmatemesis from bleeding ulcer are (1) excision of ulcer, (2) pylorectomy, (3) cauterisation of the ulcer, (4) ligature of the ulcer and vessels *en masse*, (5) ligature of the bleeding vessels *in situ*, (6) scraping of the ulcer followed by suture of the ulcerated surface, (7) ligature in their continuity of the large vessels supplying the ulcer, and (8) gastro enterostomy After gastro-enterostomy as a rule all symptoms disappear at once and hyperacidity ceases owing to the unobstructed escape of the gastric contents

OPERATION FOR BLEEDING ULCER

On account of the fear of exciting fresh hæmorrhage it is undesirable to wash out the stomach before operating on a bleeding ulcer, and as the patient is usually anæmic and will therefore bear shock badly it is desirable to have him enveloped in cotton wool or otherwise kept warm on a heated table and to give a subcutaneous injection of strychnine before operation If it be unnecessary to give an infusion of saline fluid before the operation an assistant should be ready to perform that duty while the abdominal operation is being proceeded with, should it be called for After the abdomen is opened the stomach may be emptied by pressing the contents into the duodenum as suggested by M Terrier This saves much time, and rapidity is of great importance The surface of the stomach should then be carefully examined, as very frequently a puckering of the surface or a thickening of the coats will be noticed at the site of the ulcer, or a difference in colour may sometimes indicate its site Should the operator be fortunately able to find these indications much time may be saved, but if no indications of this sort be obtained the stomach must be well drawn forward and opened either by a vertical incision, which gives less hæmorrhage, or by an incision in the long axis of the stomach, which affords a much better view of the interior In order to avoid soiling the peritoneum thin flat sponges should be placed within the abdomen, and it is well to have a perforated sterilised gauze pad covering the stomach, the opening to correspond with the opening in the stomach The edges of the stomach should then be held open by forceps, one above and below and one at each end

The interior of the stomach must now be systematically examined, first the anterior and posterior surfaces, the upper and lower curvatures and lastly the pyloric and cardiac orifices, all of which can be done either by the naked eye or by the aid of an electric cystoscope or a reflected light If the posterior wall of the stomach cannot be efficiently examined a slit may be made in the omentum and two fingers, or even the whole hand, pushed through it and employed to invaginate the posterior wall If no ulcer can be found on the wall of the stomach the duodenum should be explored, not only by the finger, but by invagination If no ulcer be found anywhere and the bleeding proves to be capillary or from small undiscoverable ulcers, gastro enterostomy as advocated by Doyen should be performed, but if an ulcer be discovered and it be possible to excise it, that operation should be done, as it undoubtedly offers the likeliest method of cure After excision of the ulcer and ligature of the bleeding vessels the edges of the wound are brought together by sutures, of which one or two layers may be employed Should the excision involve the peritoneal coat it is desirable if possible to apply Lembert's sutures, and if it be on the posterior wall the operation may present some, though not insuperable, difficulty Should the ulcer be discovered in some region where excision is impracticable—for instance, near the cardiac end—the method adopted by Mikulicz, in his first operation in 1887, of applying the cautery may be employed This seems to have answered well in several cases, and where death occurred afterwards it was not from a recurrence of the bleeding Possibly in a case of this kind gastro-enterostomy might also be advisable by way of setting the stomach at rest, or the ulcer might be curetted; but in one case in which I simply scraped the ulcer and applied carbolic acid an extension of the ulcer occurred and led to perforation on the eighth day, so that I am not much in favour of trusting to curetting simply. If any superficial points of bleeding be discovered they may be caught up by forceps and ligatured, but this is more easily said than done, as the mucous membrane is very friable, and a ligature if drawn at all tightly tends to cut its way through; moreover, forceps easily tear the mucous membrane and may produce a larger bleeding area. A method of ligature may be employed if the ulcer is small. This has proved serviceable in several cases and is easy of application when the ulcer can be reached. This method is ligaturing *en masse*, it has been tested by experiments on animals by Dr. Eisendrath and has been shown to endanger perforation except when supported by external sutures. Ligature of the main arteries of the stomach was suggested theoretically by Savariaud when no bleeding ulcer could be discovered; it does not, however, commend itself as being safe and it has not yet been put in practice.

---

[23] Diseases of the Gall bladder and Bile-ducts, second edition, 1900

Should the bleeding be from an ulcer at the pylorus the operation of pyloroplasty may be performed, the ulcer being excised, the edges of the ulcer being united so that the *line of sutures shall be transverse to the axis of the pylorus.* I would not, however, advise pyloroplasty when there is active ulceration of the pylorus unless the ulcer can be completely excised, for in three cases of this kind I have had disappointments. In one case the patient made a good recovery from the operation but subsequently suffered from stenosis, for which a further operation had to be done. In a second case recovery took place and the patient regained his lost weight, but subsequently a tumour of the pylorus developed which was thought to be cancer and for which I had to perform pylorectomy, and the third case is the one ending in perforation which I mentioned in speaking of curetting ulcers. I think, therefore, that in cases of ulcer of the pylorus where a clean excision of the ulcer cannot be done it would be better to perform gastro-enterostomy or pylorectomy, whichever at the time may appear to be easier. So far as I can gather, the mortality of pyloroplasty in simple ulcer appears to be about 13 per cent., that of gastro-enterostomy about 16 per cent., and that of pylorectomy 28 per cent., but it is most difficult to get at genuine statistics since many single failures are unreported, and these figures must only be accepted as approximate. Wherever the pylorus is adherent, as in my experience it is in so many cases of ulcer, I should certainly prefer gastro-enterostomy, but if the pylorus be extensively ulcerated and free from adhesions pylorectomy can be almost as quickly performed as gastro-enterostomy, seeing that the pylorus is already in the hand. The operative treatment of parenchymatous or capillary hæmorrhage by any surgical method would seem to be of doubtful value, for according to a report by Petersen from Czerny's clinic of three cases operated upon for severe parenchymatous hæmorrhage from vicarious menstruation operation entirely failed to relieve, and of two other cases of post-operative parenchymatous hæmorrhage by Reichard both died.

After a careful study of reported cases as well as from personal experience I cannot help feeling that operative treatment in acute hæmorrhage gives such a high rate of mortality—64·2 per cent. as compared with from 5 per cent. to 10 per cent. in cases treated medically—that it is better in such cases to rely solely on medical means. But in the repeated chronic hæmorrhages that are responsible for quite half the total deaths from hæmatemesis the operation of gastro-enterostomy affords a reliable method of treatment, since it at the same time gives rest to the stomach and removes the hyperacidity of the gastric juice by an operation that can be done with rapidity and comparative safety; moreover, when the ulceration is at the pylorus, where it so frequently leads to hypertrophy and stenosis, the operation not only relieves the symptoms for which it was undertaken but proves curative to the disease.

EXETER DISPENSARY.—The annual meeting of this institution was held on Feb. 17th under the presidency of the Rev. E. Dupuis. The medical officers reported that 6256 patients had been treated during the year, as compared with 6164 in 1898. The financial statement showed that the income amounted to £1866 and the expenditure to £1722.

The Lettsomian Lectures

ON

PRACTICAL OBSERVATIONS ON CANCER OF THE BREAST.

Delivered before the Medical Society of London

BY SIR WILLIAM M. BANKS, LL.D., F.R.C.S. ENG.,
SURGEON TO THE LIVERPOOL ROYAL INFIRMARY; EMERITUS PROFESSOR OF ANATOMY, UNIVERSITY COLLEGE, LIVERPOOL.

LECTURE I.[1]

Delivered on March 6th.

MR. PRESIDENT AND GENTLEMEN,—Naturally my first duty is to thank you for the honour you have done me in asking me to give the Lettsomian Lectures in the first year of the twentieth century. Let us fervently hope that long ere it has come to an end a remedy will be found for the fell scourge of which I propose to treat. I have in my consulting-room the well-known engraving of the founders of this society. I shall never look on the stiff but commanding figure of Quaker Lettsom as he stands in their midst without a feeling of pride that I have been permitted to be one of those privileged to assist in celebrating his name and fame. The roll of those who have delivered these lectures contains so many distinguished names that I may well feel some diffidence in trying to follow in their footsteps, but I take courage from the recollection that this is not the first time that the Medical Society of London has deputed me to address them.

EXPERIENCE AND STATISTICS IN MEDICINE.

When a man has to prepare an address the choice of a subject is generally a most difficult matter. If he has nothing of a very distinctly novel character to offer to his hearers it is probably best for him to give them his experiences on the subject with which he is most acquainted. If he has any judgment and discretion in him he may do something useful in this way, for in the medical profession advances are so rapid that they are apt to become bewildering. The record of a long personal experience under such circumstances may be of service as a kind of steadying medium. Moreover, these lectures, although nominally delivered to you, do really reach the majority of the medical public, and one of their prime uses is to present to that public at given periods a synoptical view of all that is known of the subjects which they embrace up to the moment. I will endeavour, then, to put into them my experiences of cancer of the breast during the past 33 years, in which I have been engaged in surgical practice. It is true that in the absence of statistics experience can only produce "impressions and recollections," and the professional statistician holds all "impressions and recollections" in the greatest contempt. He holds that figures can never lie; but, on the other hand, it has long been painfully manifest that nothing can be more lying and delusive than statistics if they are not properly used. In the first place, their collection must be made with the utmost accuracy and with perfect purity of heart and calmness of mind. With medical statistics the temptation to gloss over and soften down unfavourable figures is very great and requires that a man shall summon to his aid all his integrity. Again, when a man presents to you a vast mass of statistics, compiled at the expense of much time and labour, it is practically impossible to go over them with him and you have no choice but to accept them. As a result many errors have been long handed down from book to book until some disagreeable doubter has arisen who has exposed them. Finally, even when the statistics are absolutely correct, the most erroneous deductions may be drawn from them, and from the same figures two men may extract the most opposite conclusions. If anybody wants to know how statistics may be manipulated let him consult the literature of the opponents to the contagious diseases Acts of the antivivisectionist, and the antivaccinationist—all of them prepared by persons of the most superior virtue. Nobody wishes to deny to statistics their great value and their proper place, but one must also stand up for the value of those views which many successes and many failures have engrained on the mind of any man endued with an average amount of good sense and judgment. If, then, a man be not a waverer, blown every way by the wind of opinion, he ought, at the end of an experience extending over the life of a generation, to have come to certain firm and definite conclusions about many things; and if he proposes making these views public he must express them in a firm and definite fashion. This necessarily exposes him to the charge of egotism and dogmatism. The former I shall endeavour to avoid as far as in me lies, but, should I occasionally become dogmatic, I pray you to put it down to the exigencies of the situation, compelling me, as they do, to give my own particular views about cancer of the breast while freely according to every other surgeon the liberty to advocate his views and declare mine entirely wrong.

---

[1] Lectures II. and III. will be delivered on March 19th and April 2nd, 1900, respectively.

The Increase of Cancerous Disease and its Cause.

Before coming to cancer as it specially manifests itself in the female breast I should like to say something on certain points on the general question of malignant disease which legitimately forms part of our present subject. Most medical men are of opinion that the number of persons who die from cancer in proportion to the number of the population has been steadily increasing. Very voluminous statistics from the returns of the Registrar General and from the returns of deaths in individual towns and counties seem to prove this very emphatically. My own impression, apart from any knowledge gained from statistics, is strongly to the same effect. It is true that the impression of a surgeon who sees a great deal of cancer must be received with care, for it is doubtless the fact that as a man's practice increases he may see more of certain cases than he used to do because his friends, knowing that he is interested in them, send them to him. Thus he may come to think that the same thing is happening in the practice of everybody and that there is a general increase in those diseases all round, whereas the increase is in reality only in his own sphere of observation. In order to protect myself from falling into this mistake I have summoned up my recollection of the year 1861–62, when I was a dresser in the wards of Mr. Syme in the Edinburgh Royal Infirmary. Mr. Syme had a reputation then as being indisputably the first surgeon in Scotland, so that I am sure my old fellow-students of the period I mention will bear me out when I say that the pick of the surgical cases in the south of Scotland were sent to him. I have a very vivid recollection of the run of cases I saw and I possess a note-book to-day containing many of them. Now cases of cancer, although not uncommon, were rare compared with the numbers in the practice of my colleagues at the Liverpool Royal Infirmary and myself at this moment. They were objects of curiosity and interest to us students. I can only remember once seeing a case of cancer of the rectum. So that I am able quite clearly, after an interval of 38 years, to assert that the number of cases in the wards of any one of the surgeons of the Liverpool Royal Infirmary at this day is much larger than I can remember in the wards of so distinguished a man as Mr. Syme, who drew his patients from a great area. This is more than a mere impression. This is a fact. The arguments used against the alleged increase of cancer are that it is more apparent than real on account of the improved diagnosis of modern days producing greater accuracy in death certificates, and on account of necropsies being formerly the exception in hospitals, whereas they are now the rule. In his very able article in the *Practitioner* for April, 1899, Dr. Arthur Newsholme advocates these views with much ability. On these points I will, with your permission, gentlemen, once more revert to my student experience. I think it may be fairly admitted that the character of the medical teaching at any given epoch is a barometer which gives the level of the knowledge of the mass of practitioners at that same period. In 1861 Miller, Syme, Spence, and Patrick Watson were the chief surgical teachers in Edinburgh. I assert that their knowledge of surgical cancer on the surface of the body and in the ends of the intestinal tract was as accurate as that of any surgeon of the present day. Bennett, Laycock, Begbie, Gairdner, and Sanders taught medicine, and I am unable to see any notable difference between their ideas of internal cancer and their methods of diagnosing it as compared with now. If mention be made of the brain, spinal cord, and nervous system generally, then at the time I speak of absolutely nothing was known about them and the improvements in the diagnosis of them can only be appreciated by one who has witnessed the change. But this is not the case with the diagnosis of cancer. I do not like to say much about the increase in the number of necropsies at hospitals because I cannot make a positive statement on the question beyond this, that in my student days at Edinburgh—and I imagine the same holds good of all the great London hospitals—every effort was made to secure post-mortem examinations when possible. One would too gladly wish that Dr. Newsholme were right, but immediately following his paper is one by Professor Roswell Park of Buffalo who states that in England and Wales the death-rate from cancer has risen from one out of 5646 of population in 1840 to one out of every 1306 of population in 1890—that is to say, that in 50 years the death-rate has increased between four and five times—and he makes this astonishing statement: "A careful study of all these tables permits one to make the following startling prophecy. If for the next ten years the relative death-rates are maintained we shall find that ten years from now—namely, in 1909—there will be more deaths in New York State from cancer than from consumption, small-pox, and typhoid fever combined." With every wish, then, to give a good deal to the theory of better diagnosis and more numerous necropsies I cannot bring myself to believe that they account for more than a moderate amount in the increase of cancer mortality.

Local Distribution.

Has locality anything to do with cancer? This is a matter upon which a great deal hinges, but from personal experience I cannot give any information. It is unlikely that any hospital surgeon will be able to do so, for he who has obtained any reputation for the operative treatment of cancer draws his patients from such varied sources that the question of locality as affecting them is void. On this subject information of any moment can only be obtained by collecting great masses of statistics, and even then the deductions therefrom will have to be made very cautiously and judiciously. The first attempt in this direction was made by Mr. C. H. Moore of the Middlesex Hospital in 1865, and to him is also due the merit of being the first who boldly drew the attention of the profession to the inefficient operations for cancer which were performed in his day. To his courageous protest is due the modern principle of free removal. As we all know, Mr. A. Haviland's labours have been those of a lifetime and his tables of statistics are a marvel. In 1868 he read to the Medical Society of London in this very room his first paper on the Geographical Distribution of Cancer among Females throughout England and Wales during the Decennial Period 1851-60. He found that 4·33 cases of cancer occurred in every 10,000 females and 1·94 in every 10,000 males. Leaving untouched the decennial periods 1861–70 and 1871–80 he recently investigated the period 1881–90. He then found 7·30 cases in 10,000 females and 4·30 cases in 10,000 males—i.e., 0·42 more than double among males and 1·28 less than double among females. Admitting these statistics as true, two things are clear: (1) that there has been a great general increase of cancer all round; and (2) that this increase is much more marked in males than in females. The following are Mr. Haviland's "last words":—1. That the districts having the highest death-rates from cancer among females were invariably associated with seasonally flooded areas traversed by, or in close propinquity to, seasonally flooded rivers. 2 That geologically these high mortality districts were characterised by alluvium and subsoils of clays of every variety of age and formation. 3 That the districts having the lowest death-rates from cancer were situated on elevated land where the drainage was good and the physical features of the country such as to preclude the possibility of floods, where rivers derived their sources, and where, in fact, they were not fully formed. 4. That geologically these low mortality districts were characterised by the oldest, palæozoic rocks, especially those of the carboniferous limestone period, the liassic, oolitic, and cretaceous limestones. The closing sentences of Mr. Haviland's intensely interesting paper (1899) run as follows: "Thus at the end of this brief sketch of the medical geography of cancer we find ourselves asking the same question that rose to the lips of my audience in November, 1868, 'How is it that *limestones* are always associated in England and Wales with the *lowest* mortality from cancer and *flooded clays* with the *highest?*' This question still remains unanswered and will still so remain until the subject is taken up in earnest by the medical profession; for it is a field, I find, after 30 years of working in it, that cannot be made to produce fruit without the toil of many labourers. When the above question is answered light will begin to fall on the cause of cancer." It is a most refreshing thing to find this veteran statistician placing his figures at the disposal of his fellow practitioners, modestly admitting his inability to draw sure and certain conclusions from them and encouraging other workers to supplement his labours so that some determination on a most important question may be reached.

Let us turn to Mr. W. Roger Williams's most interesting work on Diseases of the Breast, published in 1894—a work evincing an infinity of statistical learning. It is a model of how research by statistics should be employed, in which figures are fairly handled and deductions prudently made. Furthermore, it is a mine for all those to dig in who are interested in the question of cancer. Mr. Williams thinks there is much to be said in favour of the opinion that in this country cancer is specially prevalent in flat, low-lying, fenny districts—noting especially Cambridgeshire and the adjacent counties of Northamptonshire, Huntingdonshire, and Bedfordshire. He observes, however (taking his figures from the Forty-seventh Report of the Registrar-General), that all low-lying and seasonally flooded districts have not a high cancer mortality. The very large area drained by the Severn and its tributaries, for instance, has throughout a low average mortality from this disease. In fact, as we shall see presently, his view of the cause of the increased cancer mortality is very different and is not geological at all.

One would very much like to enter into the question of cancer houses, but it is, perhaps, digressing too far from my subject which really has relation to the disease as it occurs in the breast. In this country Mr. Haviland, Mr. D'Arcy Power, and Mr Law Webb of Ironbridge, as well as certain French and German surgeons, have written papers on the subject of profound interest—indeed, almost terrible interest. Still more evidence, however, will have to be forthcoming to make a clear case, for the liability to fallacious deduction in such a subject is so serious that a great mass and weight of testimony in its favour will yet have to be produced.

CAUSE OF THE INCREASED CANCER DEATH-RATE.

Up to the present time, while statistics have already cleared, and are at this moment rapidly clearing up, many points about cancer, nothing definite has as yet been furnished by them as to the reason of its increase. That being so, there is a fair and reasonable ground for the employment of the "impression" begotten of experience. For many years the more I have thought over this matter the more forcibly does the idea present itself to me that it may be due to the great increase in the amount of food consumed by the people of this country during the past half century. At all events, this view is worthy of being argued. I think it was first put into my head a long time ago by Sir James Paget. I took a lady suffering from incurable cancer to him. He gave her some directions, and one was that she was to eat as little as possible—to try to starve herself, in fact. His long experience had taught him that to starve the body as a whole probably meant starving the cancer locally. *Per contra*, if that be a correct notion, then cancer ought to be connected with well-nourished bodies. Certain it is that the disease has not appeared to me to affect the weakling, the tea-shrivelled, mummy-like old maid, or the ill-fed, more than half-starved drunkard who never has any money to spend on good food. Its most numerous victims are well-nourished persons, with plenty of beef and fat about them, and often with a fine, healthy colour in their cheeks. In summing up the many operations I have done for cancer of the tongue my recollection of the patients is for the most part of biggish, powerful men with large, strong jaws which were hard to saw through when sawing had to be done. The better the nutrition and the younger the patient the more deadly and rapidly growing is the cancer. Take what is termed a fine, "buxom" woman, 30 or 35 years of age, with cancer of the breast, and her chance of permanent cure even by the most extensive of operations is almost *nil*. It is true that cancer is uncommon in the young during the period of development of the body and of the functional activity of organs, so that in one sense it is a disease of "degeneration"; but this has nothing to do with the good nourishment and muscular development of the body in middle life. Being assured in one's own mind that well-nourished, well-developed, healthy people are the most numerous victims of cancer the questions at once arise, Is the increase of cancer in any way synchronous with an increase of nutrient material—i.e., of food—throughout the country and are people in consequence better nourished? There cannot be a doubt of it. Ever since the passing of the Corn Laws bread has been cheap and plentiful, while during the last 20 years the importation of animal food from other countries has been enormous. The increased wages and emoluments of all classes in this country have enabled them to purchase freely of the best there is to be had in the whole world of things to eat and drink. Our working classes fare admirably. Our better classes eat infinitely too much—especially of animal food partaken of at breakfast, lunch, and dinner. But for the athletic tendency of the age and the general passion for games and exercises which pervades all classes this over-stuffing must have proved very dangerous. I am pretty well convinced that when a man is over 45 years of age excess in food is perhaps worse for him than excess in drink. Apparently one of the results of too much nourishing food is the production of a widely spread second-rate kind of gout of a different type from the acute and furious attacks produced in former days by the copious drinking of beer and port wine. Moreover, I think distinctly that it has also to do with the production of the cancerous diathesis. This is also the opinion of Mr. Roger Williams, who, while admitting Mr. Haviland's topographical statistics, cannot agree with him in his geological views but inclines to think that cancer areas are also the areas where the people are best nourished.

The stock answer to what may be called the "over-nutrition" theory is that vegetarians and rice eaters are just as subject to cancer as gross feeders and flesh eaters, and this statement goes on being very steadily repeated from one book to another. I am not prepared to admit this. Cancer is not so rife in Ireland, where feeding has been poor and very largely of a vegetable character, and where improvement in the living of the people has not proceeded *pari passu* with that in England. The report of the Registrar-General for the decade 1881–90 shows that in 1881 in England one death in 36 was due to cancer and in Ireland one death in 47, while in 1890 in England there was one in 28 and in Ireland one in 40. Ireland, therefore, does not rise to the level of England. Mr. Roger Williams has a most interesting chapter of facts in this connexion. He tells that Billings of the United States showed that there were two cases among the whites to one case among the blacks. From what can be learnt of the whole continent of Africa, that vast country enjoys a remarkable immunity from the disease, especially the Egyptian area and the northern parts. At the Cape cancer is common among the whites but very rare among the natives. All through the tropics the disease is distinctly rare. In India the general opinion is that it is not common and that when it does occur neither the rice-eaters nor the meat-eaters are exempt. It is true that certain surgeons—McLeod, Hendley, and Lawrie notably—hold the opposite opinion, but I notice that their experiences are drawn almost entirely from hospital work, and refer chiefly to the number of operations occurring in large hospitals. This seems hardly a sound argument. All that it proves is that a number of cases of cancer came into large hospitals and consequently that in a huge country there must be many cases of cancer; but if statistics are to be of any avail the proportion of cases to the actual population is absolutely necessary to make any fair deduction. It is like the death-rate from snake-bite. To an Englishman who never sees such a thing the sum total of these deaths seems appalling. It is not till one takes the proportion to the astounding population of India that the insignificance of the loss of life from this cause becomes apparent. If there were no knowledge of the exact population of Lancashire, and if a person were to walk round the wards of the Liverpool Royal Infirmary and estimate the cancer mortality of the county from the number of cases found in these wards, his view of the prevalence of the disease would be a most alarming one.

At this moment the Massachusetts State Board of Health is instituting an inquiry into this question. Its circular states that, "Every year there is an increase in the reports to the State of the number of deaths from cancer, even when allowance is made for age and greater population. By some it is alleged that this is due to an increase of the disease itself; by others that better diagnosis and more careful registration will account for it. Furthermore, the infectious nature of this disease, caused by a possible parasite, and its contagiousness have been strongly urged." I believe that the great general increase of cancer is for the most part admitted and that Dr. Newsholme's idea that it is not a real but only an apparent increase due to better knowledge and more accurate registration of the disease is entirely erroneous. But, even were we to admit his views, it would not account for the fact that during the past 30 years the comparative cancer mortality of the sexes has altered in a most singular manner, so that whereas the disease was formerly more prevalent among females it has now become more prevalent among males, and is becoming increasingly so.

Now, do drunken habits account for more cancer? I am certain that confirmed drunkards are not more liable to it than other people. Besides, drunken habits are rather diminishing than increasing. Does syphilis account for it? I have never been able to trace any connexions whatever between syphilis and cancer. It is true that leucoplakial bald patches and specific surface ulcers of the tongue and mouth are places where epithelial cancers arise, but they do so, not in virtue of any special syphilitic taint, but just as they arise from irritation of any kind, as from a sharp-edged tooth. Mr. Williams, out of 165 female patients suffering from cancer of the breast, did not find a single one of immoral character. Do bad water, bad housing, and bad sanitary arrangements account for it? This is impossible, for, in nothing have we improved so much as in improved sanitation—in improved water-supply, drainage, and in housing and clothing. Will increased nervous tension from our rapid existence due to the development of steam and electricity account for it? It would seem reasonable to suppose that this cause is likely to produce all sorts of nervous troubles and arterial or cardiac degenerations, but not cancer. Is it due to the fact that there is a great saving in the early periods of life and that more people live into what may be called the cancerous age? The Registrar-General's statistics show that the number of persons of 25 years of age and upwards out of every 1,000,000 living persons was just the same in the decade 1881–90 as in the decade 1871–80. There has, therefore, been no increase in the proportion of persons who live into the cancerous age.

What great change, then, has taken place in the national life? Richer and more abundant food. You will note particularly that it is the male, who eats the heavy food in ever-increasing quantities, while the female remains much as before in her eating, and note along with this that it is men now who suffer most severely from cancer and not women as formerly. Again, in all England the most tainted places are London, the Thames Valley, and the counties adjoining the metropolis, where the most luxurious habits and the best living prevail, and it has been pointed out that, even in the capital itself, the parts where those in easy, comfortable circumstances, who are supplied with more than the necessaries of life, abide show the highest mortality. It is curious to note that amongst the very highest mortality rates for occupations are those which include commercial travellers, coachmen and grooms, merchant seamen, maltsters, brewers, innkeeepers, butchers, and plumbers Most of these certainly are persons likely to eat and drink abundantly and not take too much exercise—persons who live well and do not work off their spare products. Singularly enough, medical men figure low in the list.

In conclusion, let me quote Mr. C. H. Moore's statement, made many years ago, that "cancer is eminently a disease of persons whose previous life has been healthy and whose nutritive vigour gives them otherwise a prospect of long life."

THE PARAMOUNT IMPORTANCE OF EARLY DIAGNOSIS.

As one goes on seeing case after case with gentlemen in general practice one gets to find out that, even with the highest standard of modern education, a great many errors are still being committed by medical men in the matter of the early diagnosis of mammary cancer. Now, seeing that in the matter of its cure we have nothing but free removal to fall back upon the smaller the amount of disease the better the chance of cure. Early diagnosis is therefore of paramount importance. If this can only be steadily crammed into the minds of students and practitioners a remarkable increase in the number of permanently successful operations will ere long result. This is the real line of improvement at the present moment—not in devising extravagant operations for cases that are past praying for. It is true that in the very early stages of a mammary cancer a certain and positive diagnosis cannot be made, even by the most skilled and experienced surgeon. Nobody, therefore, expects that of the general practitioner, but I have found that when the patient comes and shows her medical adviser a small lump in the breast, if it does not seem anything very formidable he is unwilling to frighten her, talks vaguely about a "swollen gland," and generally is apt rather to make light of the matter. There is a phrase I know well which must have cost a great many people their lives, "If it doesn't bother you don't bother it." It is a most destructive axiom. Then the patient goes home, the lump grows and she sees it growing, but she buries her head in the sand and repeats to herself that her medical man did not attach any importance to it and so nothing can be going wrong. In due time she becomes terrified and repairs to her medical attendant There is a distressing scene, and they then repair together to the surgeon, who says that he thinks he can get the disease out but he is not sure. Now what I would implore my brethren in general practice to do is to cease regarding any lump in the breast, however small, as harmless or unworthy of the utmost attention. No man can tell what is going to become of a small lump in the breast. All strangulated herniæ are now operated upon without delay if they will not go back, so all lumps in the breast ought to be cut out if they will not speedily disappear. As to frightening the patient, there is no necessity for unnecessarily alarming her, but, even if it were so, how much better that she should get a needless fright in the beginning than be ultimately terrified by the dreadful intimation that her doom is sealed and that a brief period of agony is all of life that is left to her. My advice to a general practitioner would be that when a patient comes to him with the smallest lump in the breast he should at once send her to a surgeon. If she be a poor person he will assuredly have a surgical friend who will see her gratuitously for him. If I were a younger man I dare not say this, but I can now. If an absolutely certain diagnosis cannot be made on the moment the point is to get the patient to visit the doctor month by month to let him see what is happening to the lump. It seems hardly credible, but on several occasions I have seen a patient in consultation with her own medical man about an early mammary swelling. It has been impossible just then to give a certain opinion about it. Treatment has been suggested, and a strong recommendation made that the swelling should be carefully watched, and yet, after a year or more has elapsed, they have so muddled up matters between them that the patient has been brought back with a pronounced cancer. This is a statement of fact and not an ideal picture. We have just been considering various conditions relating to cancer upon which have been brought to bear, ingenious speculations, supported by statistical researches involving years and years of labour. All these researches are not of the faintest moment (considering the nature of the solitary method of treating cancer of the breast which we possess) compared with the value of early recognition of the disease. Every effort should be made by teachers to inculcate the doctrine of early recognition upon students, for if there is a hopeful day to come for the sufferers from cancer of the breast it will be when women have been taught by the medical profession to present themselves on the slightest symptom of anything being found wrong with the mammary gland. Too often at present they hug their distressing secret and only part with it when it cannot be concealed and small wonder it is when one reflects that the present generation are still under the influence of the depressing tales told them by their mothers about the horrors of cancer of the breast, and the terrible and useless operations performed for its relief. I hope that my medical brethren will forgive my speaking in this very forcible manner about what appears to be a very simple thing. It is a very simple thing, but, simple as it is, it is the real secret of the future of the operative surgery of cancer, and we are not getting what we ought out of it. Let me not be supposed to reproach my profession with ignorance (for I trust I can recognise the many mistakes I have made myself), but to expect omniscience from the general practitioner is absurd. I consider that the range and extent of his knowledge is astonishing, but the early diagnosis of many mammary enlargements will defy the most experienced touch. It is only by early coöperation between medical attendant and surgeon that the patient's chances can be saved to her.

CONSTITUTION AND HEREDITY.

One of the terrible mistakes of former days, which gave cancer the character of being even more hopeless than it is, was the idea that it was purely a constitutional disease. To remove it in one place was useless, for it would just break out in another. Now the modern scientific inquirer, whose first consideration is too often to sweep contemptuously aside all that his predecessors have excogitated, asserts that there is nothing constitutional whatever about cancer—that it is a purely local disease, and that it is certainly an infective one. It seems odd why there should be any difficulty about the question. It a long time since Laycock first described the diathetic tendencies of the body and how they influenced all the illnesses which attacked that body on its way through life and often so modified them that they were almost unrecognisable, so changed were they from their usual types. Paget used to draw our attention very vividly to the remarkable way in which the gouty diathesis affected surgical disease. We know, nevertheless, that it does not necessarily follow that because a man has a diathetic tendency, it need ever become obviously manifest. He may go through a long life and never show it until some *contretemps* brings it to the surface An old friend of mine, whose male relatives to a man were full of gout, lived to over 70 years without a trace of it. He drank champagne and port most days, but he was small and thin and a passionate sportsman, so that he staved off the gout by great physical exercise. At last one day he fell off his shooting pony and hurt his ribs, and while lying in bed recovering from the injury he had a serious attack of gout in the foot. For the next two or three years of his life it never left him and it killed him with acute cerebral trouble at the last. If in place of "gout" we were to put "cancer" into this little case there would be really no difference. But that cancer should in some way be set agoing in a particular spot of a perfectly healthy man's body by the process of infection and should then produce a constitutional state—apart from mere spreading by lymphatic channels—is with our present knowledge difficult to realise. If you were to take a fine, wholesome, clean-blooded man, the descendant of a race who had for generations been free from all morbid diathesis, and put tubercle into him you could not make it spread. It would die out locally. It requires a distempered constitution, like a sour, impoverished soil, to give the appropriate pabulum for pathological weeds, which seed and spread through it and ruin it. We know now how the tubercle weed gets sown. The cancer weed may yet be caught and bottled too. When we think what an absolute revolution has taken place in our views about tuberculous disease we must not despair about cancer. It is a curious thing, however, to remember that while the North Italian peasants regarded phthisis with the greatest dread as an infectious disease, scientific medical men were the very persons who scouted the idea. Long-continued experiences are worth something after all.

As to heredity, it behoves us to be very careful how much importance we are to give to this in a difficult case of diagnosis of a tumour of the breast where side issues have to be taken into account. By the public without doubt too much value has been always attached to it. The patient consoles herself with the belief that hers cannot be a cancerous tumour because nobody in the family was ever known to have such a thing. Unfortunately we can only put the matter in this way—that, while the want of history of a cancerous tendency inherited from her progenitors is no proof that the patient's disease is not cancer, the existence of it among several near relations is distinct evidence in the direction that it is so. There have been attempts made on certain abstruse developmental grounds to overthrow the possibility of the hereditability of acquired (diseased) variations, notably by the philosophical teaching of Weissmann, but nothing has come of them. A great deal of philosophical froth has been beaten up and much learned verbiage has been poured about, but I have never seen abstract philosophy do much in disease. Our knowledge, our most useful knowledge, has been gained empirically. Patient collectors of facts have told appalling histories of whole families who have died from cancer and have disseminated it among their descendants, which are now so numerous and well authenticated as to leave no doubt in the mind of any surgeon (not a philosopher) as to the existence of heredity, and what we have to do is to attach to it its appropriate value clinically, and by no means to consider that the absence of heredity is proof of non-malignancy in a tumour. It is true that, as a general rule, cancer in a family seems very erratic in its visitations and appears to jump over a generation, but we may take a simple view of the question thus as explaining these irregularities. What figures seem to show is that the inherited infectivity of cancer is not strong and dies out most likely at the end of a couple of generations. In the midst of a family among whom cancer was never known a healthy man develops (catches?) cancer and throws the gloomy pall of hereditary diathesis over his children and grandchildren. A son shows it but his children escape, while a niece—the originator's grandchild—shows it. The rest escape because the match has not been applied to the tinder, just like my friend who escaped hereditary gout till he met with an accident towards the end of a long life which set it ablaze in him. It is impossible to resist coming again and again to ask "What is the match?" Meantime until a very clear answer is given to this I see no occasion for throwing overboard what knowledge we already possess.

Dr. Boswell Park in his chapter on the Frequency and Nature of Cancer in the *Practitioner*, already alluded to, writes as follows :—Next with regard to the actual nature of this disease. First of all it is possible to sweep aside, with one or two possible exceptions, everything that has been brought forward until recent years as an explanation of this disease. The old theories of irritation, of perverted nerve-centres, of heredity, &c., cannot for a moment stand in view of the searching scientific methods of to-day. We have gotten as far as this at present, that we know that cells act as they do in producing the disease either as the result of some external or of some internal stimulus. The exact character of this stimulus is not yet certainly demonstrated, though things point more and more towards its parasitic—i.e., its potent living-influence." To the first part of this statement I entirely demur because I am so old-fashioned as not to have got far enough to sweep aside all that experience has accumulated until I have something to put in its place. With regard to the second part it seems to involve on the part of Dr. Park what an old Scotch judge called "a plain perception of the obvious." What we all want to know is "What is the match?" and there is no certain answer to that as yet.

As regards traumatism we are all very prone to produce some distinct reason why a disease should have come to us. That it should come spontaneously is a stigma upon the soundness of the constitution, and so we wish to find out a cause. The natural liveliness of the imagination in females makes it very difficult to apportion with anything like accuracy the exact amount of credence to be placed in their statements. I must say that I have never been able to make out that milk abscesses or the scars of incisions for them have ever been the starting points of cancer, and, curiously enough, although the patients have mentioned the existence of these things I do not remember having heard them distinctly and directly attribute their growths to them. After all, if cancer ever develops in inflammatory products it is in those of a very chronic and not in those of an acute nature. I never heard, furthermore, any statements from the patients that pressure from corsets or that irritation of the nipple by suckling had produced the complaint. On the other hand I have very often heard most clear and circumstantial histories narrated in which blows were asserted to have been the primal cause of the trouble. It has been held as an argument against the effect of traumatism that men are very much more liable to blows on the breast than women and most rarely have breast cancer. I very much doubt this. Take a number of men at 50 years of age and an equal number of matronly, full-bosomed women of the same age, and it stands to reason that the latter will get more knocks on the mammæ than the men. Moreover, they are always in the way of getting knocks from young children or from articles of furniture, such as cribs and bedposts, among which they are always working. Besides, what is a man's breast after all? A little mass of fibrous tissue with some rudimentary gland stuff in it the small size of which would save it from many blows which a big, soft, vascular female breast must encounter. Moreover, it is contended that if blows caused mammary cancer the lesions would be multiple, but this just shows how things appear differently to different people, for I do not suppose that if a woman gets an injury to her breast she gets it in the form of a series of thumps all round so as to produce multiple cancers. I have received very succinct accounts from intelligent women of blows from pieces of furniture or kicks from young children in which there was pain immediately afterwards sufficiently severe to fix the exact place in the breast in the memory. Then the pain has gone away and they have almost forgotten the circumstance until some day a lump is found at the old site of injury. Were the allegation true that the injury directs the woman's attention to a tumour which is lying concealed in her breast already, then she would discover it at once on receipt of the injury, but this is not the history of these cases. The history is that of an interval after which the lump comes painlessly. Many of the patients whose histories I have ascertained were far too intelligent to have invented the story after finding the lump. Mr. Roger Williams says that in examining the cases of 137 women, one out of four made statements as to previous traumata. I should hardly have thought so many would have done so, for, supposing we put one half of them out of count at once as imaginary it would leave one case in eight in which there was not improbably some truth in the patient's statement. After the way in which the vulgar but rooted belief in the infectiousness of phthisis of the Italian peasant has, in the light of modern discovery, triumphed over the contemptuous disbelief of the whole world of medicine, I am not disposed to abandon all belief in the statements of women whom we will even admit to be anxious to find a cause for their malady. Constant repetition from different sources strengthens even a weak tale, provided the evidence be steadily in the same direction. I have investigated these stories too often not to feel that, stripped of all exaggeration, there is a distinct element of truth in them. Remember, I do not make any attempt to assert that cancers of traumatic origin are at all frequent, but I believe in the possibility, and, indeed, in the strong probability, of their occurrence. I cannot see anything irreconcilable with our pathological knowledge in the idea of a blow leaving behind it a certain limited area of chronic inflammation in which the gland epithelium should begin to grow and then burst its bounds, just as I am certain it does in chronic mastitis. Dr. Boswell Park says: "The supposed intimate relation which injury bears to cancer is of no more importance than that upon which the clinicians, and even the pathologists, used to place so much stress in tuberculosis. There are still those who claim that the predisposing cause of most tuberculous joint diseases is previous injury of some character and there are still those who look for a similar mechanical cause of cancer in virtually every case." I am not one of those who look for a mechanical cause of cancer in virtually every case, but I venture to say that there is no practising surgeon in this country who has much to do with joint disease who does not recognise the immense importance of wrenches, blows, and sprains in the production of the early inflammatory changes in and about joints which ultimately end in what is known as articular tuberculous disease. I was educated in exactly the opposite view—viz., that the tales which mothers told about injuries to their childrens's joints were all nonsense, and I was forced out of this belief by the irresistible arguments of experience.

One feels the more inclined to this view from the knowledge that acute traumatic malignancy is a well-recognised disease. Scattered throughout the medical journals are so many cases of its occurrence that no possible doubt can be entertained about its existence. In the *British Medical Journal* for 1882 are two short but very interesting papers on the subject by Mr. Barwell and Mr. Harrison Cripps, also a third by my friend Mr. Puzey of Liverpool detailing in a most interesting manner the history of a man who was struck over the sternum and in whom there was developed at the spot a sarcoma. It is true that, in all the cases which I have read about, sarcomata and not carcinomata supervened, and therefore the disease is rightly named "acute." But if injury will, so to speak, on the spot start into existence the swift-growing tumour of the connective tissue, why should it not at a longer interval give rise to the slow-growing tumour of glandular lining epithelium?

THE SANITARY CONDITION OF IRISH NATIONAL SCHOOLS.[1]

By ANTONY ROCHE, M.R C.P. Irel.,

PROFESSOR OF MEDICAL JURISPRUDENCE AND PUBLIC HEALTH, CATHOLIC UNIVERSITY MEDICAL SCHOOL; EXAMINER, ROYAL UNIVERSITY; FELLOW OF THE SANITARY INSTITUTE.

THAT the health of the individual and the community depends largely on their surroundings being sanitary is now universally admitted. That this rule is specially applicable to the young is acknowledged by all sanitarians, and that therefore their schools, wherein they spend so many hours, should meet all the requirements of modern sanitation will hardly be contested by anyone devoting any consideration to the subject. The growing and undeveloped structures of children, their close contact in schools for a number of hours, their less power of resistance to cold and other depressing influences, all render them remarkably susceptible to the causes and spread of disease. An inquiry, therefore, into the sanitary conditions of our national schools is not alone interesting but of great practical importance. According to the last official report there are no less than 8651 of these schools in Ireland and on their rolls 808,467 students. I have for some years been making personal observations and inquiries into the sanitation of these schools; as, however, my sphere of observation has not extended over many parts of Ireland I will rely rather on the evidence of the inspectors of these schools and on official returns. These inspectors have had ample and extended opportunities of observation, they cannot be expected to be prejudiced against the system of which they form a part, and therefore when they speak so plainly of the insanitary condition of many of these schools their opinion may be trusted as impartial. I will now read some extracts from the reports taken from the last available report of the Commissioners of National Education.

Mr. A. Purser, head inspector, North Dublin Group of Districts, reports, Jan. 25th, 1898: "In my last report I referred to the necessity of requiring that schoolhouses should be suitable, kept in proper repair, and adequately warmed in cold and wet weather, and I again express as my opinion that 'the Commissioners should not tolerate the existence of national schools without offices unless under very exceptional circumstances, and should refuse salary for winter months if adequate fires for heating the schoolroom are not provided. It is not an extravagant supposition that a large part of the sickness among the children of the country is brought on by badly ventilated schoolhouses, combined with want of due warmth in wet and cold weather.' It is downright cruelty to have a schoolroom for the poorly clad children so cold that an inspector, even with a heavy overcoat on, feels chilled in hands and feet. But the providing of offices is not enough; they must be kept in a sanitary, clean, and decent state; and any serious neglect of this matter should be visited with heavy punishment where the fault does not lie with defective construction of these buildings. 'No credit is given, by the present system of paying teachers, for cleanliness, neatness, or ornamentation for house and premises; none for regard to the health and comfort of the pupils; none for the educative example of decency and order, so these are naturally neglected in a greater or less degree.' A considerable number of recently built vested schools that I have visited are very unsatisfactory structures, faulty in plan, unsound in construction, and, as a result, rapidly falling into bad repair. Within the last month I visited a pair of schools in the county Wexford, which had not been occupied a single week, built at the public expense by a grant of two-thirds of the nominal cost. It is probably no uncharitable supposition that these 'two-thirds' given by the Commissioners covered the whole cost of the building. The roof was not staunch; fittings, such as the boot-scrapers at the doors, had already given way; the woodwork was rough and unplaned and hence the varnishing will be of little avail in keeping it clean; it was also so fresh that the joints were everywhere opening; at the corners of the rooms where the ventilation tubes are placed one could see daylight through the wall and the

---

[1] A paper read before the Statistical and Social Inquiry Society of Ireland on Feb. 20th, 1900

If such suggestions were adopted I have no doubt that the health of our children would be greatly improved and that the schools would be object-lessons in sanitation and cleanliness, which in many cases they certainly are not at the present time.

Dublin.

A CASE OF RUPTURE OF THE BRACHIAL PLEXUS.

BY PURVES STEWART, M.A., M.D.EDIN., M.R.C.P.LOND.,
ASSISTANT PHYSICIAN TO THE WESTMINSTER HOSPITAL,
AND
MAYO COLLIER, M.S.LOND., F.R.C.S.ENG.,
SURGEON TO THE NORTH-WEST LONDON HOSPITAL.

CASES of rupture of the brachial plexus are somewhat uncommon and the following instance is of value, not only because of the remarkable extent of injury to the plexus, but also because it exemplifies several interesting physiological points.

A man, aged 33 years, was admitted into the North-West London Hospital in the early morning of Sept. 6th, 1899, in a state of semi-consciousness. He had been found by the police lying on the road, apparently having fallen from a machine road-brush that was in the vicinity. No one witnessed the fall and it was only elicited some days afterwards that he had been in charge of the machine. On admission the patient was only partially conscious; he was noisy, struggling, and difficult to manage, but he did not show any evidence of having been drinking. There was a wound of the left side of the head in the parietal region which apparently involved the scalp only. No fracture of the skull could be made out. The house surgeon did not detect any paralysis of the face or limbs at the time, though it is certain that the right upper extremity must have been paralysed. The right pupil was, however, observed to be smaller than the left. There was a contusion extending from the side of the neck on the right side over the right shoulder to the front of the axilla. There was no other evidence of injury. The semi-consciousness and restlessness soon passed into a quiet coma. He was watched for signs of increasing compression of the brain, but the coma gradually passed off and at the end of a week the patient was quite conscious. He then stated that he had not had anything to drink for many hours before the accident. He remembered pulling up at a coffee-stall and then starting off again, but after that he remembered nothing. The patient's wife stated that he was subject to epileptic fits at long intervals. His right arm and hand remained severely paralysed, no improvement whatever ensuing.

On examination on Nov. 13th, 1899 (ten weeks after the injury), the patient was found to be a healthy-looking man of fair intelligence. His right upper extremity was obviously totally paralysed. He had a bald patch over the right parietal eminence, the result of an old injury which he had received eight years before, possibly during an epileptic fit. The optic discs and all the cranial nerves appeared to be normal and there was no motor or sensory abnormality of the face, trunk, or limbs, with the exception of that in the right upper extremity. All external ocular movements could be executed to their full extent. There were, however, slight horizontal nystagmoid jerks on turning the eyes to the left or upwards, but none on looking to the right or downwards. The reflexes in the lower limbs, both superficial and deep, were normal. No abnormality could be detected at the root of the neck on either side. There were no swelling and no tenderness on palpation, but passive abduction of the right shoulder was painful.

With regard to the cervical sympathetic the pupils were unequal, the right (three millimetres) being slightly smaller than the left (four millimetres) (see Fig. 1). They contracted normally to light and during convergence. Both pupils dilated when shaded but the dilatation was distinctly better marked, both in degree and in briskness, on the left side than on the right. On pinching the neck the cilio-spinal reflex was absent on the right side but normal on the left. The right eye was a little sunken and the right palpebral fissure was distinctly narrower than the left (see Figs. 1 and 2). On dropping a few minims of solution of cocaine, however, into the right pupil it dilated well and the palpebral aperture widened.

Examination with regard to the sensory functions revealed that there was absolute anæsthesia to touch, pain, and temperature over most of the right upper extremity, the anæsthesia including the entire hand and forearm and extending far up the upper arm. Two strips of normally sensitive skin survived, however, one on the front of the upper arm (see Fig. 2) over the upper part of the biceps muscle, the other on the inner and back part of the upper arm over the triceps. A narrow "tongue" of anæsthesia ran upwards along the axillary side of the arm, separating those two areas (see Figs. 3 and 4). There was complete loss of sense of position on passive movement at the right elbow, the wrist, and the fingers. The sense of position was normal at the right shoulder and at all the other joints of the body. When the patient moved his right arm passively by means of his left hand he felt as if he had a "phantom right hand" hanging constantly by his side with its palm facing backwards.

As to the motor functions, the movements of the scapula were apparently normal although the right trapezius seemed a little weaker than that on the left side. The patient could brace back both scapulæ equally well, bringing the whole vertebral border of each scapula towards the middle line—i.e., the rhomboid muscles were normal. The inferior angle of the right scapula at rest was a little more prominent than that on the left side (Fig. 3), but there was no "winging" of the scapula on pushing forwards against resistance when the arm was held horizontally forwards (i.e., the serratus magnus was not paralysed). The right shoulder was distinctly flattened from wasting of the deltoid, the pectoral muscle was wasted, and the supra spinous fossa was hollowed out (see Figs. 2 and 3). Immediately below the right acromion process there was a gap into which the finger could be put, which was due to downward displacement of the humerus. This gap disappeared temporarily when the elbow was passively supported, but it reappeared at once on withdrawing the support. The distance from the acromion process to the external condyle of the humerus when the limb hung unsupported was two inches more on the injured side than in the sound limb (see Figs. 2 and 3). There was absolute flaccid paralysis of the right shoulder, elbow, wrist, and fingers. The muscles were soft and flabby, and the limb dangled loose in a flail-like manner. The latissimus dorsi was paralysed on the affected side and, unlike its fellow, could not be felt to contract when the patient coughed. Th supinator and triceps jerks were absent in the paralysed arm whilst on the left side they were both brisk.

The state of the electrical reactions, &c., was as follow There was no reaction to the strongest faradaic shocks in t right pectoral, the deltoid, the biceps, the triceps, or a muscle of the upper arm, the forearm, or the hand. The rig trapezius reacted normally. The right deltoid, the bice and the extensor muscles of the fingers being selected testing with the galvanic current, they showed mar diminution of excitability with sluggish contraction, being > KOO. The skin of the right hand was red congested and was much colder than that on the sound There were no cracks, ulcers, or other trophic changes i skin or nails.

There are several points of considerable interest i case. With regard to diagnosis, the fact of the patient admitted in an unconscious state with a bruise on the lef side of his head and with paralysis of his right arm suggested to some observers that the paralysis was due to a cerebral injury. The profound anæsthesia of the limb, however, was against such a theory; moreover, the paralysis was of a flaccid type, unlike the rigidity of a cerebral paralysis. Subsequent examination showed the presence of marked muscular atrophy and of the reactions of degeneration. Such a combination of anæsthesia, motor paralysis, and muscular atrophy pointed at once to an extensive lesion of the peripheral nerves supplying the upper limb.

Eight weeks after his accident the patient had another epileptic fit in which all the limbs were convulsed, with the exception of the paralysed arm This is of interest when i is contrasted with what would have been the case had th paralysis been due to an injury in the region of the moto centre for the right arm, in which case the convulsion wou probably have affected the paralysed arm and might ev have commenced there. The probability, therefore, is th

Fig. 1.

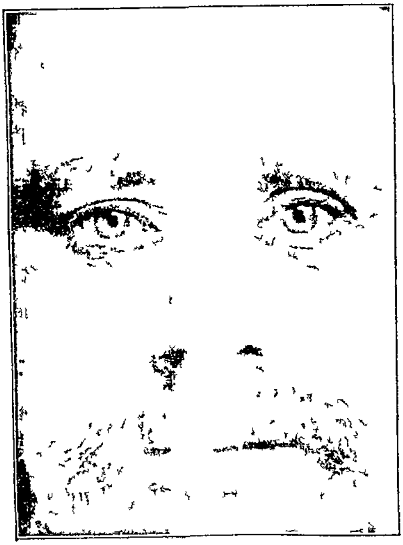


Fig. 2.

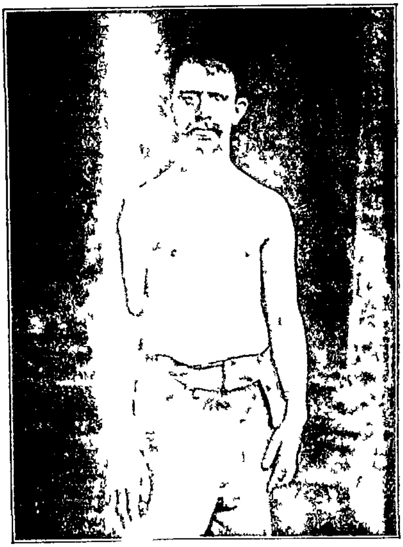


Fig. 3.

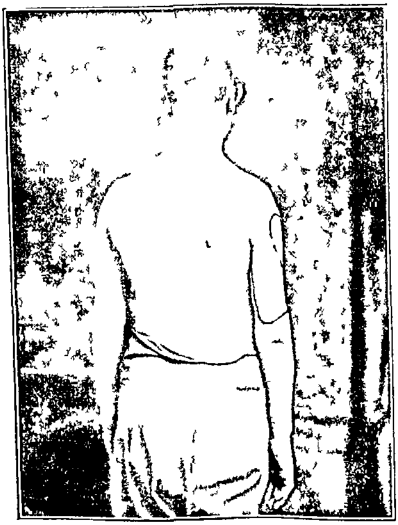
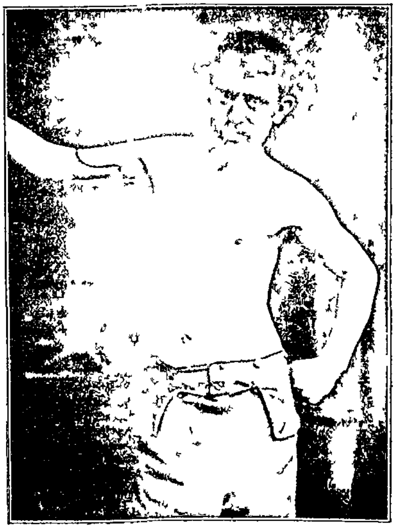


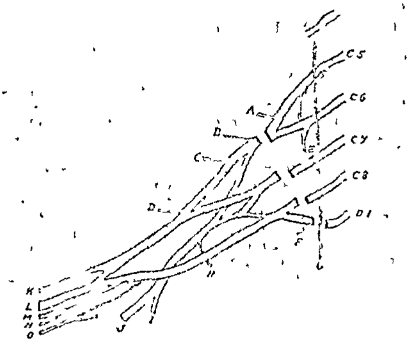
Fig. 4.



TO ILLUSTRATE A CASE OF RUPTURE OF THE BRACHIAL PLEXUS BY DR PURVES STEWART AND MR MAYO COLLIER

the patient sustained his injury by falling during an epileptic fit under his own cart, the wheel of which ran over his right shoulder and the lower part of his neck.

The accompanying diagram of the brachial plexus will serve to recall the chief anatomical distribution of the plexus. It will be observed that in this case the nerve to the rhomboids and that to the serratus magnus escaped, whilst all the other muscles supplied by the brachial plexus were totally paralysed. This proves that the lesion must have been one which affected the upper trunk (formed by the fifth and sixth anterior primary divisions) below the point where the nerve to the rhomboids is given off, but above the point of origin of the suprascapular nerve. The nerve of Bell, supplying the serratus magnus, arises by branches from the fifth and sixth roots respectively, which are given off before the fifth and sixth roots join to form the upper trunk of the plexus, so that a lesion of the upper trunk would leave the serratus unaffected, as was here the case. The seventh and eighth cervical and the first dorsal roots were all completely paralysed, and we can say definitely that the injury to the first dorsal root must have been close to its point of emergence from the inter-vertebral foramen, since there is distinct evidence of the partial paralysis of the cervical sympathetic (see Fig. 1) which receives its orbital fibres for the muscle of Muller, together with its pupil-dilating fibres, from the ramus communicans, this latter, as seen in the diagram, coming off from the first dorsal close to the inter-vertebral foramen before it has joined with the eighth cervical to form the lower trunk of the plexus. The lesion of the brachial plexus, therefore, was one which separated the nerve roots at the points indicated in the diagram, the fifth and sixth cervical roots having been torn across farther away from the spine than in the case probably of the seventh and eighth cervical and certainly of the first dorsal root. The distribution of the anæsthesia is very characteristic and is practically identical with that of a case under Dr. C. E. Beevor's charge which one of us (Dr. Purves Stewart) had the opportunity of studying over a year ago, in which, on account of brachial neuralgia, Mr. Victor Horsley excised the posterior nerve-roots from the fifth cervical to the second dorsal inclusive. After the operation there was a surviving strip of sensitive skin on the back of the upper arm, running towards the lower part of the triceps, as in our own case (see Fig. 3). In that case also the patient on passive movement of the anæsthetic limb felt as if she had a "phantom arm" whose posture never changed.



C 5, C 6, C 7, C 8, Anterior branches of the four lower cervical nerves. D 1, Anterior branch of the first dorsal nerve. A, Supplying rhomboid. B, Supplying supra- and infra-spinati. C, Supplying subclavius. D, Supplying pectoralis major. E, Supplying serratus magnus. F, Branch to pupil and orbit. G, Phrenic nerve. H, Supplying subscapularis. I, Circumflex. J, Musculo-spiral nerve. K, Musculo-cutaneous nerve. L, Median nerve. M, Ulnar nerve. N, Internal cutaneous nerve. O, Lesser internal cutaneous nerve.

The narrowing of the *palpebral aperture* and the *smallness* of the pupil on that side, with its deficient dilatation to shade, *together* with the *loss of* the *cilio-spinal reflex*, pointed clearly to a paralytic affection of the cervical sympathetic owing to interruption of the fibres of the ramus communicans of the first dorsal nerve. We were, therefore, prepared to have found on examination, ten weeks after the injury, that cocaine would fail to stimulate the sympathetic. Such, however, was not the case, for cocaine was still able to cause dilatation of the pupil and widening of the palpebral aperture. This is in favour of the statement that lower nerve roots, the second and third, according to Quain (tenth edition), also supply pupil dilating fibres to the cervical sympathetic, in addition to those supplied through the first dorsal root.

Harley street, W.

A SUGGESTION FOR A METHOD OF OPENING THE PERICARDIAL SAC, FOUNDED UPON A CASE OF PURULENT PERICARDITIS.

BY CYRIL OGLE, M.B. OXON., F.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO ST. GEORGE'S HOSPITAL;

AND

HERBERT ALLINGHAM, F.R.C.S. ENG.,
SURGEON TO THE HOUSEHOLD OF H.R.H. THE PRINCE OF WALES;
ASSISTANT SURGEON TO ST. GEORGE'S HOSPITAL.

A MAN, aged 36 years, according to his wife's account suddenly complained of tightness of breathing whilst shaving himself on April 12th, 1899, and was subsequently sick. No previous illness was known of and in particular no rheumatism. He was admitted into St. George's Hospital on the 17th with delirium, dyspnœa, and orthopnœa. His face was anxious, dusky, and pale. There was nothing heard in the lungs to account for these symptoms. A large area of præcordial dulness was found extending to the left anterior axillary line and to about two inches to *the right of the sternum. No cardiac impulse was* felt and no friction was audible, although friction had been heard by a medical man before the patient was admitted into the hospital. Leeches were applied to the region of the heart and the man was bled to 10 ounces. On the 19th he was transferred to my care (Dr. Cyril Ogle). There was then considerable distress of breathing with orthopnœa, suggesting a cardiac origin; a pinched, pale face with lips slightly blue, and not in the least bloated, although both external jugular veins were very distended, not altering during inspiration, and without visible pulsation or even flicker, but they contained liquid blood. There was no œdema anywhere, nor did any subsequently appear in the slightest degree. There was no ascites, and the liver was not apparently enlarged. The area of præcordial dulness measured about eight and a half inches in width at the level of the fifth cartilage, being limited to the left by the anterior axillary line and extending upwards to the second left intercostal space. Over this area no trace of friction was at any time to be heard whilst the patient was in hospital. In the sixth space and left anterior axillary line a feeble impulse could be clearly felt and was also perceptible in a diffused fashion between this point and the sternum. There was good resonance to the bases of both lungs behind, but breath sounds were somewhat choked with medium-sized and fine râles, rather crackling in character, on the left side. On the left side near the spine, at about the middle of the lower lobe, was a patch of relative dulness. Here no alteration from vesicular breathing was to be heard and no change in voice-sounds. The pulse was steady and regular, with a small wave, but of a shooting character; the arterial tension was very low, and both ulnar and radial arteries at the wrist were plainly perceptible and flashing; in both respects the pulse closely resembled that of aortic regurgitation. The *temperature* was about *from* 100° *to* 101° F. and continued so raised. During the next three days the patient's condition remained without much change. The impulse of the heart in the anterior axillary line and inwards, however, became more evident, and the heart-sounds were heard in this region, faintly but quite clearly. The first sound was very short in character. No murmur was ever heard and no friction. There was restless, wandering delirium; simple questions were apparently grasped, but the mind then immediately wandered again.

The diagnosis seemed to be between pericardial effusion with unusual signs and that of enlarged and dilated and, perhaps, fat-laden heart, with very probably clotting in the right cavities. On the whole I was inclined to take the latter rather than the former view, for the impulse of the heart was very fairly perceptible, and right out in the anterior axillary line; the sounds were audible, the first short and snapping, as is found in dilated heart; there was no extension of dulness to the left beyond the impulse; the character of the dulness over the sternum was not the dead dulness usually associated with pericardial effusion, but rather suggested that of the heart behind the bone; the orthopnœa was distinctly of the type seen in pulmonary embolism, and together with the distension of the jugular veins, which did not pulsate, suggested clotting in the right auricle or ventricle as its cause; and there was never any friction audible, at any rate since his admission. The low tension of the pulse with its shooting character suggested pericardial effusion, and the dull patch at the back of the left lung has been, of course, observed in this condition; but the character of the pulse would be equally well explained by clotting in the right heart preventing the blood from properly reaching the left ventricle. The dull patch at the back was there if looked for, but was not very definite, and there was no tubular breathing or change of voice to suggest much compression of the lung by a distended pericardial sac. It was consequently decided not to operate but to watch the condition of the patient. The impulse on the 21st and the 22nd became even more definite, although no decrease in the size of the dulness could be made out. Delirium and orthopnœa persisted. Strychnia and digitalis with oxygen inhalations were administered. The pulse-rate continued at about 120 and of the same shooting character, but on the 23rd it rose, with a tendency to run, and became somewhat irregular; it was therefore decided to operate immediately.

Mr. Allingham accordingly made an incision along the fifth left cartilage, two inches of which he removed, and then, carefully dissecting down to the pericardium, opened the sac. Thin, non-offensive pus spurted out with considerable force and to the amount of 15 or 16 ounces. There were great masses of tough lymph in flakes adherent to the heart and lining the sac. These were as much as possible loosened by introducing the finger into the pericardial sac and firmly scraping the heart's surface where it could be reached, and thus four or five ounces were removed, but much remained at the back and base of the heart, where it could not be reached by the finger. The sac was then freely irrigated with hot water, the edges of the pericardium were sewn to the skin, and the sac was left open to secure good drainage. During the process of handling and forcibly scraping the heart with finger and sponges, there was no intermission in its beat, and the pulse, which immediately before opening the sac had been nearly imperceptible, became regular, strong, and of very fair tension and so continued as long as the heart was being cleansed. After the operation, although much better than before, it declined somewhat in strength and fulness. The man's distress of breathing was somewhat relieved by the operation, so that he was able to lie down in comfort, but he lived only for 14 hours, dying from gradually increasing weakness.

At the post mortem examination it was found that the pericardium and both lungs were strongly adherent to the chest wall. The lungs were œdematous and the left lower lobe was in a condition of partial collapse. The branches of the pulmonary artery throughout the right lung were plugged by firm ante-mortem clot. The pericardial cavity was of large size and the heart was of about normal volume, with a good thickness of muscle, which, however, was very soft. The surface of the heart was clogged by layers of coherent lymph, which also had constricted the right auricle and obliterated its appendix. The apex of the heart was much displaced downwards and outwards, as it was very firmly adherent to the lower and left part of the dilated parietal pericardium. This adhesion was evidently not of recent date; at the posterior surface of the base of the heart, also, there were some firm adhesions. The valves were healthy. The origin of the pericarditis appeared to be a collection of inspissated pus lying close to the right of the sac between it and the lung and the chest wall which was the result of a previous pleurisy. The kidneys were healthy except for cloudy swelling. The spleen was small and firm but the liver was rather large and nutmeg in character. There were a few ounces of serum in the peritoneal cavity. The other organs, including the testes, were healthy.

The difficulties in the diagnosis of the case were thus in part made clear at the necropsy. The absence of friction and the septic condition of the patient were explained by the purulent character of the effusion; the persistent impulse of the heart, and its permanent position downwards and especially outwards was accounted for by the firm adhesion of the apex to the visceral pericardium, which also explained the fact that there was no extension of dulness beyond the apex beat. The shooting character of the pulse, with empty arteries, the great dyspnœa, and eventually death, were no doubt largely due to the extensive clotting in the branches of the pulmonary artery.

Remarks.—It must be admitted that the condition of pericardial distension was in this instance left too long unrelieved. This was due in part to the difficulties in diagnosis which have been already pointed out, but still more to not realising how freely the heart can be handled, not only without harm but with positive and very evident advantage, as was shown by the remarkable improvement of the pulse in regularity, strength, and tension during the process of cleansing the heart. Since such appears to be the result, we are led to think that the heart and pericardium may perhaps more frequently and with greater confidence be subjected to surgical treatment. If this should be the case it has occurred to us that a way of approaching the heart, better than those hitherto employed, would be by opening the pericardium from below, through the diaphragm, so that a finger or sponges on holders introduced into the sac would be able to sweep round the entire heart, both back and front, over its whole extent, and thus detach and scrape away adherent masses of lymph, which are always a difficulty in the proper drainage of the cavity, and which must considerably hamper the action of the heart and more especially of the auricles. Up to the present time we have not had an opportunity of trying this method on the living subject, but we have performed the operation on the dead body in more than a dozen instances, and have found it perfectly easy to accomplish in the following way: 1. An incision of about three inches in length with its upper end at the costo-xiphoid angle is made along the lower edge of the seventh left costal cartilage; the latter is then exposed by separating the abdominal muscles from it; the cartilage can then be pulled somewhat outwards and upwards, when the fibres of the diaphragm become visible, together with the cellular interval between its attachments to the cartilage

FIG. 1.

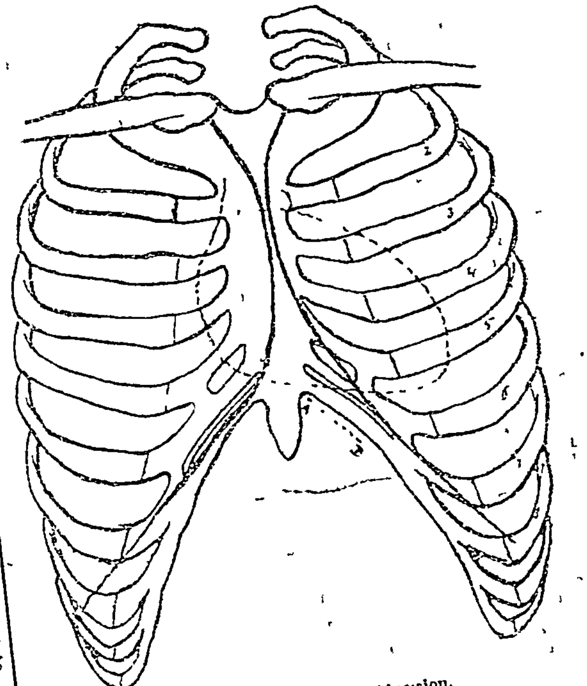


Diagram showing line of incision.

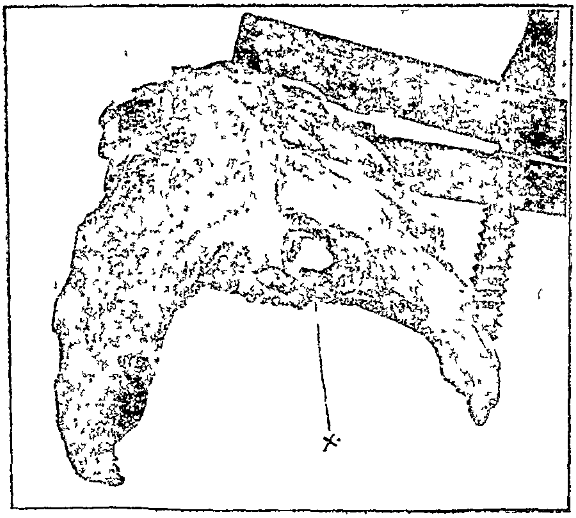
and to the xiphoid appendix 2 This cellular interval is enlarged by cutting or tearing through the muscle of the diaphragm as far as may be necessary, when a mass of fat is usually seen just above the diaphragm, in the space between the pericardium behind, the sternum in front, and the diaphragm below 3 This fat together with the diaphragm, is pulled downwards, when the pericardium presents itself and can be incised or opened up with forceps at its lowest part in front, and a large hole being made, a finger inserted can explore the heart over its whole extent, back and front, nearly as far as its extreme base During the operation the peritoneum may to a slight extent be exposed as it sweeps downwards from the under surface of the diaphragm It is, of course not injured, but is pushed aside as is done in performing a suprapubic cystotomy The superior epigastric artery is not wounded, but can be kept well inside towards the middle line, on separating the tissues after cutting through the attachment of the abdominal muscles to the seventh cartilage

The advantages of the method appear to be 1 The pleural cavity cannot be injured, as it is far away in the normal arrangement of the organs and would be still further removed in pericardial distension It would seem, indeed, that the method described is the only sure way of entering the pericardium without wounding the pleura, for the latter frequently covers the fifth and sixth intercostal spaces, even up to the sternum 2 Drainage is from the most dependent part of the sac, when the patient is half propped up, and is through a large opening not bounded by cartilage or sternum 3 Great ease is afforded for the exploration and cleansing of the heart, both back and front, to its extreme limits

Although the above operation is easy in a child or in an adult with flexible cartilages and ribs it would appear sometimes necessary, when such is not the case, to remove two inches of the seventh cartilage after the first incision, as otherwise there is not sufficient room in the xiphoid angle to make a satisfactory opening In other respects the stages of the operation are the same

Fig 1 shows the line of incision along the lower border of the seventh cartilage (A to B) It shows also the usual arrangement of the fold of the left pleura This however, would appear to vary considerably, but even in extreme cases never to reach lower than the upper border of the seventh cartilage close to the sternum It could consequently not be involved in the operation, and if it be in an unusually low position it is easily recognised by the finger and can be turned aside in an upward direction

FIG 2



Reproduction of a photograph from a dead body on which the operation was performed The parts have been dissected

Fig 2 shows the result of the operation which was performed after death and subsequently displayed by dissection No cartilage or bone was removed The upper surface of the diaphragm (A) is seen, pulled downwards, above this the parietal pericardium with the incision, through which a finger can be passed The seventh cartilage, somewhat everted and pulled upwards, is seen above The reflection of the pleural sac upon the front of the pericardium is not visible and is a considerable distance from the incision into the sac

ON THE APPLICATION OF ELECTRICITY IN MEDICAL AND SURGICAL PRACTICE[1]

BY H LEWIS JONES M D CANTAB, F R C P LOND,
MEDICAL OFFICER IN CHARGE OF THE ELECTRICAL DEPARTMENT IN ST BARTHOLOMEW'S HOSPITAL

[AFTER a few introductory remarks Dr Jones said —]

It is now 150 years since the beginning of medical electricity During the whole of that time it has had to fight its way in the face of many difficulties, and the most serious of these has been the passive resistance of medical men themselves The vitality which the subject has shown under adverse circumstances is most significant Medical electricity advances steadily and the progress during the last decade has been very great The commercial application of electricity and its house to house distribution by electric lighting companies have called into existence a large number of new instruments and new methods of treatment and are helping the spread of the study of medical electricity by simplifying the means of obtaining the current when required The accumulator has been of great service by affording a trustworthy source of currents for the use of surgeons in their galvano-cauteries and exploring lamp instruments. The discovery of the x rays and their application to surgery and medicine have also done good to the cause of medical electricity by bringing electrical apparatus into more extended use, and the founding of x ray departments in hospitals gradually leads to the development of electro-therapeutic departments in places where these are not already in existence. Most of the London hospitals now have electrical departments, and these are of manifest utility. At St. Bartholomew's Hospital we have about 600 cases referred yearly to the electrical department from all quarters of the hospital, exclusive of the cases for x ray photography, the numbers of which are even greater. And the results of our treatment will compare favourably with those in any other branch of medical practice.

---

[1] Abstract of a paper read before the Institution of Electrical Engineers on March 8th 1900

It is a little difficult to speak on a medical subject before a non-medical audience without incurring the suspicions of those who are always on the alert for signs of unprofessional behaviour, and there is no branch of medical practice upon which the fierce light of criticism shines more sharply than upon medical electricity. I shall therefore have nothing to say on such matters as the relation of cases, statements of cures and so forth, which might be thought to be unsuitable to my audience, but will try to meet you on the common ground of apparatus and methods, and in particular I shall try to lay before you some of the difficulties and problems which arise in the course of our medical work in the hope that some of them may be solved by the advice and suggestions of those who are here present. From conversations which I have had at various times with engineering friends I am disposed to think that the number and extent of the applications of electricity to medical practice are not generally realised by electrical engineers. Indeed, when I have observed any reference at all to medical electricity in the proceedings of this and of kindred societies the reference has usually been one of disavowal and dislike. I therefore feel that in making the present communication to you I am undertaking the task of trying to show that electrical applications have a large and legitimate field of usefulness in medical practice; that it is quite possible to practise medical electricity without thereby becoming an outcast; and that the advertisements of electropathic or magnetic appliances do not represent the position of medical electricity any more than, shall we say, Keeley represented all that was best and truest in electrical engineering.

If what I have to say to you may seem to be about trifling matters I hope you will bear in mind that our unit is the milliampère, while yours is the kilowatt, and that the currents which we handle and use would make but a small figure if their energy were expressed in terms of horsepower. Nevertheless, in the small technical matters which have to do with the management of various kinds of small electrical apparatus the medical man requires a thorough proficiency, because it is absolutely necessary that he shall be able to make his apparatus work. On that account we may appear in certain matters to take elaborate precautions which might seem to you to be hardly necessary. With our coils and batteries we require unfailing methods for increasing or decreasing the current sent through the patient, without stops or jerks. We have to deal with the electric light mains, either direct or alternating, or both. And we have evolved for ourselves a long array of contrivances for utilising the public supplies of electricity for medical purposes. Small transformers, portable accumulators, resistances to provide slopes of potential, which can be tapped as desired for varying voltages, contrivances for using the mains for all sorts of medical purposes, are all enlisted in medical work. The statical machine is also coming again into favour and to use a statical machine one must know enough about its management to be quite sure that after a patient's arrival there shall be no awkward failure of the machine to excite. Otherwise we are likely to be condemned as not understanding our apparatus and the patient may be lost. All these little matters can only be learned gradually and through a course of failures and disappointments. And when they have been learned thoroughly they constitute a very fair claim to the title of electrician.

The use of electricity in the production of hot air baths with incandescent lamps or electrically heated coils of wire as the source of heat is a development of some promise; while in the immediate future we can see the approach of new methods of treatment by the light of the arc lamp. Each of these will demand a fresh extension of the field of electrical operations which the medical man will have to learn.

[Dr. Lewis Jones then gave a short *résumé* of the various uses to which electricity can be put from a medical point of view, laying special stress on its use for diagnostic purposes. He continued:—]

One of the most encouraging points at the present time in medical electricity is the improved quality of the scientific work which is being done in it. Last year, the French Government having declared the subject to be of public utility, a section of Medical Electricity was inaugurated at the Boulogne Congress of the French Association for the Advancement of Science. I attended the meetings of the section during the greater part of the congress and was struck by the number and high scientific quality of the communications which were made in it. It was one of the best attended sections of the whole association. France, indeed, takes a long lead in the subject of medical electricity. They have at the present time three periodicals devoted entirely to the subject and abundance of material seems continually forthcoming to fill the pages. One of them, the *Archives d'Electricité Médicale*, is quite indispensable to students of medical electricity, for, in addition to its original matter, it provides its readers with abstracts and a bibliographical index which keep one in touch with all that is being done in medical electricity all over the world.

The progress in the small matters of detail, particularly with regard to apparatus, which has taken place during the last 10 years is considerable. I say 10 years because that represents the time during which my attention has been specially directed towards medical electricity. It will be interesting to consider and compare the types of apparatus in common use to-day with those used formerly.

Electrodes.—The current is applied to the body of the patient by means of electrodes. These may be of the most varied forms, particularly with electrodes for internal applications. The cylindrical brass handles fitted with sponges and held, one in each hand, are obsolete, or deserve to be, and for most external applications their place is now taken by a plate of flexible metal enclosed in wash-leather, and a disc of metal also covered with wash-leather and screwed into a wooden handle. The former is called the indifferent electrode and serves chiefly to complete the circuit through the patient's body; the other or active electrode is the one which is manipulated and applied over the affected region. For testing the active electrode is fitted with a closing key. Examples of electrodes and other forms of medical electrical appliances are shown upon the table. Bare metal must never be allowed to touch the skin unless electrolytic or painful effects are desired. Sores are easily produced in a few minutes by a few milliampères of current if at any point the metal of the conductor touches the skin directly. For this reason some water-holding material, such as wash-leather, is always used to cover the metallic surfaces of medical electrodes.

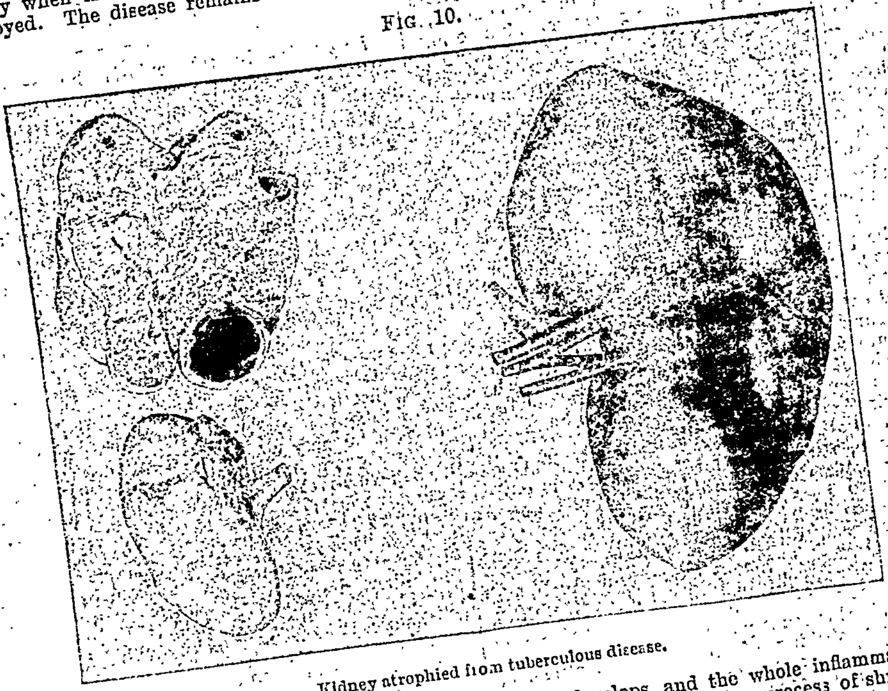
The battery.—The chief requirements in a medical cell are that it shall need no attention and will not spoil on open circuit. The past few years have seen the almost complete disappearance from medical work of open acid cells, such as the Smee cell, the Bunsen, and the bichromate cell. Formerly, when electrical treatment had to be carried out by means of ponderous oak boxes filled with cells of one or other of these kinds, the trouble and the dirt associated with them were enough to discourage all except enthusiasts. At the present day the Leclanché cell is the only type of battery which a medical man need consider, and even these are rapidly being abandoned, except for fixed installations, in favour of the modern, cheap, and convenient dry cell. With these small dry cells for currents of small magnitude and with a few accumulator cells for those medical purposes which require a current of an ampère or more, as, for example, for the heating of galvano-cauteries and the illumination of small exploring lamps, the medical man is sufficiently equipped and is no longer compelled to handle and prepare caustic solutions. Large bichromate batteries still survive in remote districts for the occasional production of large currents, but they are every year becoming less numerous, as secondary cells and the means of charging them from dynamos become more general over the country. All this simplification tends very greatly towards the increased popularity of medical applications of electricity, because, perhaps, one chief cause of its neglect has been hitherto the trouble of the management of the apparatus. The batteries needed for medical work divide themselves into two distinct classes, batteries for applying currents to patients for testing and treatment and batteries for galvano-cautery and lamp apparatus. The former is essentially a physician's battery, the latter is more for the surgeon. Most of the surgeon's requirements are met by a portable accumulator of four cells, for the little surgical lamps are for the most part eight-volt lamps, taking about an ampère, though usually they are overrun most cruelly. For galvano-cautery the currents average from five to ten ampères, but the cautery circuit has a low resistance and a pressure of eight volts is much more than is required. Sometimes the four-cell accumulator is arranged so that a switch will re-combine it as two sets of two in parallel for cautery work, or else it is left as a four-cell battery in series, the volts being expended in a resistance. For medical work a battery is fitted with from 25 to 40 small dry cells connected in series and having wires led off from them to a circle of studs from which a moving pointer takes up into circuit as many cells as are required. It is usually fitted with a milliampère meter permanently in circuit and a commutator for reversing the poles, also with an induction coil driven by a separate dry cell. The average working resistance of the human body and skin is about 2000 ohms when properly moistened with hot water. Salt or soda may be added to the water to reduce the skin resistance, but plain water is best as it corrodes the electrodes less

Next in importance to the battery of primary cells comes the induction coil. Indeed, if generality of use be considered, the induction coil should come first, as it is the form of electrical application which has the widest employment. The medical induction coil has developed in certain special directions, the chief requirement with such an apparatus being a means of careful regulation of its strength. Of the various ways of obtaining this regulation the one best suited to our purpose is the plan of using a sliding secondary coil, which can be brought close to the primary or can be removed further from it, as desired. Much has been done of late years to improve the induction coil and more has been written about the various effects to be got from coils of different sorts and construction. Attention has been given to the improvement of the vibrating spring or contact-breaker, and the best American coils are now fitted with two vibrators, one of slow speed and one of high speed. In the United States, where the construction of electro-medical apparatus has been much elaborated, it is quite customary to supply coils with several interchangeable secondaries. The same is done to a less degree by makers elsewhere. The various effects which have been ascribed to different windings of secondary are best considered as being due to the very great differences in their self-induction, according as they are made with windings of great length and many turns or of short length and few turns. The slower rise and fall of wave which is found with the high self-induction of the long coil of many windings has the effect of making the shock less sudden and less painful in its effects. So, too, in very long, fine secondaries a large part of the volts are dropped inside the coil, and the E.M.F. at the terminals, though high on open circuit, may fall almost to nothing when closed through a comparatively low resistance. On this account very long coils with very high speed contact-breakers have been much written about as affording painless currents for internal applications, but in my opinion the painlessness is due to the fact that very little current comes out of them. For practical purposes I have usually found it sufficient to use one secondary coil, which is tapped at one-third of its length and so can give long coil and short coil effects from the one instrument. Medical induction coils are not fitted with condensers. When simple stimulation is required in the treatment of a case the induction coil is probably the most convenient and cheap method of procuring it The battery current has a superiority in certain things, for example, it gives a wider range in degree and quality of stimulation; and certain living tissues respond better to battery currents slowly increased and decreased than they do to the sudden jerks of the coil. The intense effect of the coil on the sensory nerves of the skin makes it difficult to use coil currents of sufficient strength to penetrate to the deeper parts of the body, and for deep parts currents of large magnitude are necessary to make up for the weakening effect of diffusion

The strength of current used in treatment ranges between four and 40 milliampères for the most part, though smaller and larger currents are sometimes used. The larger the currents the larger should be the surfaces of the electrodes. The measurement of induction-coil currents presents difficulties which have not hitherto been surmounted, and the rough comparisons which are made by means of a scale of millimetres at the side of the sliding secondary cannot be translated into units and cannot be trusted to be alike for two consecutive days. Instruments which measure the mean current are of no use because the physiological effect does not depend upon mean current but upon the rate of change and the maxima. The use of a sinusoidal current from a dynamo to take the place of the induction coil might enable one to evade the difficulty, but the dynamo current of the mains, in certain cases at least, produces such painful skin effects as to be very unpopular with patients. It is difficult to say why this is so, but the subject wants further study. Possibly the use of condenser discharges, the condenser being automatically charged and discharged rapidly, might meet the difficulty of producing a current which would resemble that of the coil in its physiological action and would allow of measurement. I would like to ask the advice of members of the institution on this point: Would not the curve of *discharge* of a condenser have a close resemblance to the discharge curve of an induction coil? Could not one arrange a condenser of small capacity, such as a Leyden jar of diminutive size, and employ some very fine adjustment of spark gap for measurement and regulation? I have thought that in this way, using high voltages and small capacities, the disturbing factor of varying skin resistance would become comparatively unimportant.

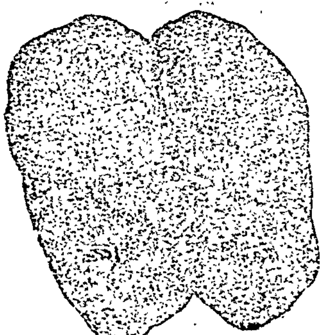
Current from the mains.—After its introduction into commerce the current of the electric lighting mains was quickly introduced into medical practice, and we make large use of it in the electrical department of St. Bartholomew's Hospital, which is connected with the mains of the City of London Electric Lighting Company. The current impulses from the alternating mains have a physiological action resembling those of the induction coil; that is to say, the effect upon nerve and muscle is to produce a permanent contraction so long as the current is applied. But it is superior to the induction coil in being a less violent stimulus to nerve and muscle by reason of the more even and gradual rise and fall of its waves. Larger currents can be borne than from the induction coil, and, judging from its effects in a long series of cases, it appears to be more thorough and more useful in its effects. Nearly all the cases formerly treated by the induction coil at the hospital are now treated by the current from the mains, the voltage being lowered to suit the requirements of the case (to about ten volts as an average), and indirectly we have gained largely in that the department is now free from the noise of eight or ten induction coils all vibrating and buzzing at once. Formerly the effect of that noise during a long afternoon was most trying. There is one marked difference in the effect of the alternating current which limits its use, and that is that if applied in the ordinary manner through moistened electrodes to the surface of the skin it has a peculiar, disagreeable, burning effect. The more thoroughly the skin is moistened the less this is noticed, and when the current is conveyed to the patient through the medium of water, as in a bath, this disagreeable cutaneous effect disappears enti[illegible] Consequently a mode of treatment by means of baths [illegible] sinusoidal current has been developed to a very con[illegible]xtent and with decided advantage to our patients [illegible] numbers of our cases are cases of paralysis of the [illegible]mbs from injury or disease of the nerves of the up[illegible]emities, and for these we use an arm-bath. The ar[illegible] is a stoneware trough, of suitable shape, having a m[illegible] electrode at each end; it is filled with warm water in [illegible] which the patient plunges the forearm and hand. The use of hot water as a medium for conveying electricity to a patient has many advantages. The current is much better borne and therefore a stronger current can be used. Manipulation of the electrodes and personal handling of the patient are done away with and the affected part is kept warm during the application. For these reasons we use it largely and I continue to advocate its use as one which again is likely to increase the popularity of electricity among the medical profession because it tends to simplify its mode of application. In addition to small local baths for parts of the body we have a large bath in which the whole of the body is animals—for example, swine plague—and never occur in man, while, on the other hand, other maladies attack the human subject while the lower animals enjoy immunity. In the guinea-pig even a few tubercle bacilli introduced into the body are certain to produce a localised tuberculosis almost invariably followed by a general dissemination of the disease. Dogs, on the other hand, are more highly resistant and a large number of bacilli must be used to produce any effect, and, as a rule, only when intra-peritoneal or intra-venous injections are employed. The disease remains localised and does not lead to a general tuberculosis. As regards susceptibility to tuberculosis certain human tissues seem to follow the course pursued in the guinea-pig while other structures offer greater resistance, analogous to that of the dog. In some structures the tuberculous process makes rapid headway, in others it remains localised for a long period, becomes quiescent, or even seems to undergo changes towards recovery. The circumstance that the tubercle bacilli may pass through the kidney and be found in the urine without producing any pathological effect illustrates the power possessed by the renal parenchyma in some individuals of resisting the injurious action of the organisms. When the lesion is limited to the parenchyma of one kidney and the bacilli are abundant and virulent rapid cell multiplication takes place, the virus speedily induces necrosis, which may extend beyond the tubercle into the vascular tissue around, inducing inflammatory changes which shut off the tubercle from the lymphatics and blood-vessels. In this way the tuberculous process may not extend into the pelvis, and in place of having an opportunity of being discharged may undergo fatty degeneration, caseation, and perhaps even calcification. Sometimes, however, even where caseation has taken place a cure is not effected, as the bacilli or their spores may still remain vigorous and active. So long as this is the case the process of caseation spreads and the tissues become infiltrated with inflammatory products. But as the organisms become less active fibrous tissue develops and the whole inflammatory focus becomes encysted. Very slowly a process of shrinking and absorption takes place. In almost all cases, however, putty-like masses or caseous nodules are left in the centre of the fibrous covering.

FIG. 10.



Kidney atrophied from tuberculous disease.

FIG. 11.



Longitudinal section of a kidney containing a caseous mass which has become encapsuled and inert.

The disease becomes quiescent so long as left undisturbed, but if injured in any way it may again become active. Tuberculous foci, even although the great bulk of the mass has become inert as a consequence of degenerative changes, almost always contain tuberculous bacilli or their spores, so that in the event of injury the imprisoned organisms may again become virulent. When a localised tuberculous centre ruptures into the pelvis of the kidney the material may become discharged by escaping externally by a process of gradual disintegration and breaking down of the tuberculous mass and evacuation of the débris; or the organ may be destroyed by suppuration and ultimately the only remnant left of the tuberculous process may be the fibrous tissue capsules.

While post-mortem examinations upon individuals who have died from other diseases provide us with illustrations of nature's methods of cure they also point out the kind of cases in which surgical intervention may be of some avail. Unilateral primary tuberculosis permits some time to elapse between the onset of the disease and the invasion to more distant parts. This period is in the great majority of cases not very long, but it is the only one in which the surgeon can interpose with advantage. A number of cases have been recorded where surgical treatment has prolonged life very considerably or where the patients have enjoyed good health for several years after the operation. The most favourable cases for operation are those in which, from the very circumstances of the case, the diagnosis is difficult and uncertain. Surgical treatment is, therefore, often not called for until the disease is advanced, or it is even postponed to a time when serious complications have set in. When, however, the physician fully appreciates the advantages of early surgical intervention and endeavours to recognise renal tuberculosis at an early stage better results will be obtained than those hitherto achieved. The medical attendant who makes an early diagnosis in a case of renal tuberculosis renders a service to his patient as valuable as that of the surgeon who at a later date performs a successful nephrotomy or nephrectomy.

Treatment.—As regards treatment tuberculous disease of the kidney may be compared to scrofulous lymphatic glands. The gland becomes infected, it enlarges, and, if not contaminated by pyogenic organisms in regular course, necrosis sets in and the whole structure becomes converted into a caseous mass, enclosed by a capsule through which the disease does not extend to the parts around although it may pass along the lymphatics to the neighbouring glands. When the whole of the lymphatic tissue is destroyed the activity of the tuberculous process becomes exhausted and a putty-like mass remains. The tuberculous glands can be easily recognised at an early stage and enucleated before the capsule has ruptured and an escape of the infective matter takes place into the surrounding parts. At a correspondingly early stage tuberculous disease is not recognisable in the kidney. It is only when the tuberculous material has broken down and the débris escapes with the urine that the true nature of the malady can be ascertained. It is true that the infective material as it escapes is very liable to produce a tuberculosis of the structures with which it comes in contact. On the other hand, the discharge of the caseous matter may be complete, and in that case healing occurs just as may happen in a lymphatic gland by the formation of granulation tissue. It is well known that where rupture has taken place the healing of a lymphatic gland is much accelerated. The danger of infection is distinctly diminished by laying the gland open and by removing its contents. So also incision, scraping, and a free drainage of the tuberculous cavity in the kidney or of the distended pelvis not only removes tension and subdues pain, but is also of value in checking the local extension of the disease and by retarding general infection.

From an examination of statistics the relative value of nephrotomy and nephrectomy in the treatment of renal tuberculosis can be roughly ascertained, but there are certain points of detail that require to be carefully considered. Take first the statistics of nephrotomies and nephrectomies collected up to 1888.[1] From an examination of the tables of nephrectomy for tuberculous disease[2] it will be observed that although the mortality is very high—namely, 36 3 per cent.—a sufficient proportion of the patients have recovered from the operation and enjoyed a prolongation of life to justify the surgeon in extending his sway where medical treatment is unavailing. The following table shows the general results:—

TABLE I.—*Nephrectomies for Tuberculous Disease.*

	Males.	Females	Recoveries	Deaths.
Lumbar	13	13	16	10 = 38 5%
Abdominal ...	—	7	5	2 = 28 6%
Totals ...	13	20	21	12 = 36 3%

Of the 33 cases operated upon in 26 the lumbar operation was performed (13 males with five deaths and 13 females with five deaths), and in seven female cases the abdominal operation was adopted with two deaths. The causes of death in the 12 fatal cases were as follows:—

TABLE II.

—	Abdominal.	Lumbar.
Shock and collapse	1	4
Septicæmia	—	1
Uræmia	1	1
Hæmorrhage	—	1
Vomiting	—	1
Cause unknown	—	2
Totals	2	10

Nephrotomy has been employed in 20 cases with six deaths (three males and three females). In six instances the minor operation of incision was followed by excision, and of these two patients died and the remaining four recovered. The following table shows the general result:—

TABLE III.—*Nephrotomies for Tuberculous Disease.*

—	Males.	Females	Recoveries.	Deaths.
Lumbar	7	12	13	6 = 32%
Abdominal	1	—	1	—
Totals	6	12	14	6 = 30%

In the fatal cases the causes of death were as follows. Two patients died from amyloid disease, one from shock following the operation, one from exhaustion, another died from an increase in the symptoms of the tuberculous disease, accompanied by epileptiform attacks, and in the sixth case the immediate cause of death is not stated. F. C. Facklam[3] included the above cases in his statistics published in 1893 and gives the following conclusions:—Nephrotomies: out of 20 cases 12 patients died, giving a mortality of 60 per cent. Nephrectomies: out of 88 cases 25 patients died, giving a mortality of 28 4 per cent. In the "Annals of Surgery," vol. xxvii., 1898, p. 18, Dr. L. Bolton Bangs of New York (referring to Facklam's statistics), in a paper on the Remote Results after Operations for Renal Tuberculosis, remarks: "This percentage should have been better and would have been if the best means of diagnosis had been used. For since 1888, the date from which I have had my cases selected, the means of diagnosis have been improved and made more accurate, especially through the perfection of the cystoscope and catheterisation of the ureters. This fact, together with the fact that in 1888 Newman's work on the 'Surgical Diseases of the Kidney' was published, led me to select the last ten years as an arbitrary period in which to begin my research. It should also be stated that all of Facklam's cases have been carefully excluded Therefore I believe that the cases which I herewith present have never before been summarised. There have been obtained from the literature 105, and through the courtesy of surgeons to whom a blank form was sent requesting details of their cases 30 cases more, making in all 135 cases Summary:—Whole number of cases 135. Deaths, one month or less after operation: exhaustion, two cases; extension tuberculosis, two cases; uræmia (42 per cent.), 11 cases; various accidents, 12 cases, deaths, total immediate, 27. Operative mortality, 27 out of 135 = $\frac{1}{5}$, or 20 per cent. Remote results: of 19 cases no record, of the remaining 89 cases, died two to three months, six cases, died four to nine months, seven cases—total, 13; immediate deaths, 27; number of deaths within nine months, 40. General mortality after operation, 40 out of 135 = 29 63 per cent. Survived one to eight years, 45 cases, or 33$\frac{1}{3}$ per cent. Prognosis good or improvement great in patients alive, one to nine months after operation, 31. Total survivors and promising cases, 31 + 45 = 76, or 76 out of 135 = 56 3 per cent. For the details of the state of health of the 35 cases who survived at least one to two years, which are instructive and in the main encouraging, I refer you to the schedule which I submit herewith and ask attention only to those which may be termed cases of prolonged survival. Of these there were ten." Dr. Bangs remarks with reference to his statistics: "The first and undoubted conclusion which they warrant is that the immediate result of the operation for renal tuberculosis in the cases in which they are indicated are brilliant. Many cases which seem to be *in extremis* and liable to speedy death from hectic, hyperpyrexia, pain, &c., have been immediately relieved, their existence made tolerably comfortable, and their lives prolonged. But a clear and positive conclusion as to the remote results has been an exceedingly difficult one to reach. ...... Still, I think the opinion, based upon such statistics as I have been able to get, is warranted that operation affords better remote results than hygiene." In many of the cases the patients recovered from the operation and lived for a few months, but in how many instances a cure in the proper sense of the term was effected it is more difficult to ascertain. While there is no reason to deny that in the kidney tuberculous disease may remain local and be completely removed by operation, the circumstance that the natural tendency of tuberculous disease is to attack simultaneously several organs, or one organ after another, renders the prospect of ultimate recovery less hopeful in this disease than in other suppurative lesions, notwithstanding that the immediate mortality from the incision is not much higher than in some of the non-tuberculous suppurative affections.

---

[1] Newman. Surgical Diseases of the Kidney, 1888, pp. 300 and 340.

[2] Ibid., p. 340.

[3] Archiv für klinische Chirurgie, 1893, vol. xlv., p. 31[illegible].

Nephrotomy may be practised in the first instance if the disease is limited to a small area or has formed only one cavity which can be easily drained. In such a case hope may be entertained that no further operation may be required. But should this favourable prospect not be realised and should the wound continue to discharge, then excision of the kidney must be resorted to, otherwise the prolonged suppuration may produce amyloid infiltration of organs, including the other kidney. This danger, together with the possibility of the tuberculous disease extending to other parts, may give rise to reasonable doubt as to the wisdom of leaving the tuberculous material to separate by suppuration alone.

Various methods are adopted to facilitate the discharge of tuberculous débris. It has been proposed to empty and cleanse tuberculous pyelitis by catheterisation of the pelvis of the kidney and by washing it out with aseptic solutions. I have only employed this method of treatment on one occasion and cannot recommend it. The case was one of unilateral tuberculous pyelitis in a female. A ureteral catheter was introduced, at first every second day and afterwards daily, and the pelvis was washed out with over a pint of sterilised boric solution. For six weeks the patient stood the treatment well, but although the quantity of débris in the urine was considerably diminished no distinct improvement in the symptoms occurred and subsequently a nephrotomy was performed and the tuberculous matter was scraped out with a Volkmann's spoon. The finger should be introduced through the wound at the time of the operation and the pelvis of the kidney should be freely explored, and any caseous matter should be removed either by scraping or by the application of the cautery.

Partial excision of the kidney has been recommended in the treatment of tuberculous disease, but probably is not so suitable an operation for that malady as for lesions, such as perinephric tumours and other localised growths in the cortex of the kidney which are strictly localised or only involve a small portion of the organ.

Nephrectomy should be performed as a primary operation when the disease extends over a large area and where there is little hope of success by incision and drainage, also in cases of strumous disease where nephrotomy has previously been performed but in which a sinus and discharge persist. Where there is no reasonable prospect of saving useful renal tissue or attaining comparatively rapid spontaneous evacuation nothing can be gained and much may be lost by delay; therefore, if the general health of the patient be such as to permit nephrectomy being performed it should be resorted to at the earliest possible date—indeed, whenever it has been shown that the disease is limited to one side.

In many instances the advanced condition of the tuberculous lesion prohibits all operation, but when the nature of the case is discovered early and the disease is limited to one side an incision should be made and the condition of matters explored. If the disease can be removed without excising the whole organ so much the better, but if on examination several centres are discovered, or if the disease is extensive, the kidney should be excised at once. Undoubtedly primary nephrectomy is the favourite operation and the one most likely to effect a permanent cure. Although drainage alone, or even with thoroughly scraping out the tuberculous lesions, gives relief, it is often only short-lived and the ultimate result proves unfavourable. In those cases in which operative interference is considered inadvisable the treatment must be symptomatic. The general constitutional treatment of renal phthisis belongs properly to the domain of the physician rather than to that of the surgeon, who can practically do nothing in the way of soothing local symptoms by instrumentation. On account of the great tendency of the urine to become alkaline and to decompose, washing out the bladder is n most instances contra-indicated. The internal use of boric acid, salol, or benzoate of ammonia frequently gives considerable relief to vesical irritation; the administration of antipyrin combined with extract of hyoscyamus has a similar effect. Strangury may be alleviated by the administration of preparations of opium per rectum or by the employment of warm sitz baths, and when the urine has become alkaline calomel administered by the mouth has also a very beneficial effect. Strict attention must be given to all hygienic details, to the careful regulation of diet, and if possible recourse should be had to a dry and elevated health resort.

Glasgow.

COMPLETE OSSICULECTOMY (REMOVAL OF REMAINS OF DRUMHEAD, LARGER OSSICLES, AND EXTERNAL ATTIC WALL) IN CHRONIC OTITIS MEDIA,

WITH ANALYSIS OF 50 CASES.

BY R. LAKE, F.R.C.S. ENG.,
SURGEON TO THE METROPOLITAN EAR AND THROAT HOSPITAL;
ASSISTANT SURGEON TO THE ROYAL EAR HOSPITAL, ETC.

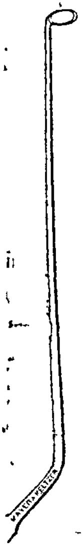
REMOVAL of the remains of the tympanic membrane and of the larger ossicles has been a recognised mode of treatment for chronic suppurative disease of the middle-ear for some considerable time. The results of continental surgeons have been reported and at various times papers have appeared in this country, of which one by Mr. A. Cheatle is fresh in the minds of many as a particularly useful expression of the opinions of a number of leading specialists at home and abroad. In none of the papers which have appeared of recent years is there any tabular list of cases by which one can estimate either the value of the operation or the class of cases for which it should be done or its results as regards the hearing power.

The table which accompanies this note shows some of these points. Thus it is seen to be a very successful operation, that it is entirely free from danger to health, and, finally, that the hearing is often improved and rarely, if ever, diminished. But perhaps the point of all which will be of most general interest is the probability of cure; this will be within a little of the results of the 50 cases following. It is not all cases of suppurative otitis media that yield to the operation. Unfortunately, many, and especially amongst the class from which hospital patients are drawn, require the radical operation, foremost amongst these being those accompanied by cholesteatomata of the attic and cases of destruction of the wall of the meatus in the posterior surface. In these cases the surgeon should, in my opinion, perform the operation, following it up later with the larger should it prove insufficient. I cannot go so far as some of our continental *confrères* who use it even in cases which threaten graver mischief.

The indications for the operation appear to me to be divisible into two main subdivisions—those for the cure of chronic suppurative otitis and those for the improvement of hearing after the cessation of discharge. It is difficult, and indeed impossible, to place any time-limit as to how long chronic otitis media suppurativa will remain harmless even when unaccompanied by any other symptoms. As a general guide one may say that this duration is directly affected by the effects of treatment and by the situation of the perforation. An uncomplicated otorrhœa which has resisted all forms of treatment for six months is certainly a case for ossiculectomy. This becomes more imperative when the perforation is situated in the attic or upper posterior segment of the drumhead. A perforation in either of these situations is more surely indicative of a lesion in some part of the ossicular chain; for instance, pus pouring down over the long arm of the incus and head of the stapes first destroys the joint and then the bones to a variable extent. Again, these perforations, if they heal, as they often do under appropriate treatment, are usually accompanied by a marked diminution in the hearing power if the suppuration is of long duration, which loss can often be remedied to a large extent by a careful operation. A very useful practical test has been formulated by Mr. A. Cheatle—viz., if in any case it is desirable to ascertain the continuity or discontinuity of the ossicular chain the membrana tympani is gently stroked with a Hartmann's probe; in the first instance this is *heard and felt*, in the second it is *felt* only. When the attic is the seat of cholesteatomatous degeneration it is especially imperative to do more than simply remove the ossicles; the outer attic wall must also be removed. This removal of the outer attic wall is now becoming considered as an integral part of the operation, though in the cases quoted it was not done, as I was only led to adopt it later from its good results in the hands of others, but I now consider it of such importance that I do it in all cases.

The condition of the ossicles—In none of my cases in which the operation in question has been performed for chronic suppurative disease have the ossicles been intact Either the head of the malleus, its long process, or some part of the incus has been destroyed. Of the latter bone the short process longest resists the corroding action of the pus, though frequently the whole incus is destroyed, and often the head and crura of the stapes also. More rarely the incus and malleus are firmly ankylosed, or the much thickened capsular ligament holds together two useless remnants. From this one sees that the chain is never intact in old-standing cases. The tympanic membrane is thus cut off from all communication and connexion with the labyrinth and can no longer perform its functions; in fact, it often becomes both an impediment to the inward passage of sound and the outward flow of pus. This is an additional argument for operative interference of some kind.

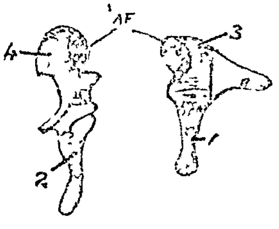
FIG. 1.



Author's attic (or incus) curette.

The indications for the operation have already been alluded to. They are briefly as follows. 1. Intractable disease of the attic with a perforation in Shrapnell's membrane, especially if accompanied by definite caries or deafness. 2. Intractable disease with perforation in the posterior superior quadrant. 3. Intractable disease with considerable destruction of the membrane in any other situation. 4. Residual deafness after suppuration without nerve deafness. Any more serious condition becomes a case for the radical operation, but in the foregoing there is, in my opinion, justification for attempting to avoid more serious measures The operation itself is so well known and so clearly described in text-books that all I can do here is to emphasise the necessity of removing the anterior attic wall. This may be done with any of the cutting forceps as Krause's, or by means of Cheatle's burr, which enables a more radical operation to be done. The use of my crotchet-shaped curettes, which were first recommended by me in 1896 as a means of removing the incus and clearing out from the attic granulation tissue and detritus, has much simplified the hitherto difficult task of removal of the incus. By its use the smallest particle of a necrotic incus can be removed with certainty from the iter ad antrum. The instrument in question, of which an illustration is given, is introduced into the attic after removing the malleus; it thus occupies the place vacated by the head of that bone. The handle is then rotated forwards and grips the incus or what remains of it, and by a forward and downward motion the bone is either dislocated into the tympanum or brought out in the loop of the instrument. As a last

FIG. 2.



Ossicles showing parts destroyed by suppuration A F, Articular facets. The shaded parts were destroyed in the order indicated by the numbers 1, 2, 3, 4.

Table showing Results of 50 cases of Complete Ossiculectomy.

No	Sex.	Age in years	Duration of disease in years.	Side.	Result.	
					Hearing.	Discharge.
1	F.	24	20	Left	Improved	Cured.
2	"	22	18	Right	Much improved.	"
3	"	20	18	"	—	"
4	M.	29	21	Left.	Improved.	"
5	F.	31	21	Right.	"	"
6	"	25	1	Left.	—	"
7	"	23	17	"	—	"
8	M.	46	25	Right.	—	"
9	F.	25	23	"	—	"
10	"	29	6	Left	—	"
11	M.	17	10	"	Improved.	Not cured.
12	F.	19	6	Right.	"	Cured.
13	M.	16	12	Left	Very much improved.	"
14	"	11	7	Right	"	"
15	F.	15	12	Left.	Much improved.	"
16	"	15	1	Right	—	"
17	"	15	13	"	—	"
18	M.	21	16	"	Much improved	"
19	"	21	16	Left	"	"
20	"	25	5	"	Very much improved.	"
21	F.	22	11	Right.	—	"
22	"	20	1½	"	—	Not cured.
23	M.	29	24	Left	—	Cured.
24	"	10	9	Right.	—	"
25	"	10	9	Left	—	"
26	F.	28	8	"	—	"
27	"	54	36	Right	—	"
28	"	21	10	"	—	"
29	M	36	30	Left	—	"
30	F.	35	21	Right	Improved.	Not cured.
31	M.	21	6	Left	—	"
32	"	25	13	"	Improved	"
33	"	13	10	Right	—	Cured.
34	"	16	15	"	Improved	"
35	F.	18	10	Left	"	"
36	M.	26	20	"	—	Not cured
37	"	18	15	Right.	—	"
38	F	29	8	"	—	Cured.
39	M	26	20	"	—	"
40	"	26	⅓	"	—	"
41	F	22	18	"	—	"
42	M	33	25	"	—	"
43	"	24	22	"	—	"
44	"	24	22	Left	—	Not cured.
45	F	19	10	Right	—	Cured.
46	"	22	2	"	—	"
47	"	16	14	Left	Improved.	"
48	"	16	9	Right	"	"
49	M	27	3	Left	—	"
50	F	25	4	Right	Improved.	"

REMARKS.

CASE 1.—Vertigo occurred on syringing before the operation.
CASE 5—There was vertigo for two weeks after the operation
CASE 6—Hæmorrhage occurred before the operation
CASE 12.—Vertigo was present for three weeks after the operation
CASE 13—The stapes, with the exception of the footplate, was also removed
CASE 17—Recurred and again discharge ceased
CASE 26.—Recurrence took place and again ceased
CASE 35.—There was vertigo one week after the operation.
CASE 40—The hearing was fair Facial palsy was present before the operation, but recovery occurred later
CASE 44—There was cholesteatoma of the attic.
CASE 47—Vertigo was present for ten days after the operation.

precaution the cavum is thoroughly cleansed with Lister's strong solution, a precaution which contributes materially to the ultimate success of the operation. Transient vertigo occurs in a small proportion of cases, but septic absorption has never been reported.

These 50 cases are almost equally divided amongst the sexes, but nothing can be deduced from that fact, as the proportion of otorrhœas in the sexes is fairly equal. As to cure, no less than 42 were cured, although three had temporary relapses and in several of the remaining eight the patients disappeared before a cure was effected and some may now be well if all are not. Improvement was noted in the hearing power in 21 cases. In three cases hearing returned to normal, in four cases it was very much improved, and in the remaining 14 the improvement was sufficient to be appreciated by the patients and their friends and was demonstrated as well by careful tests. The right ear was the seat of disease in 29 cases and the left in 21 cases The average age of the patient was 22·4 years and the average duration of the disease was 13 years. From this table can be derived information on all points save as to the time that should be allowed to pass before taking some radical step to check the disease, and the surgeon must rely upon his own judgment in this matter rather than upon any written rule.

Harley street, W.

A CASE OF

GUNSHOT WOUND OF THE ABDOMEN WITH INJURY TO THE INTESTINE;

RECOVERY WITHOUT OPERATION.

By O. REISSMANN, M.A., M.B. CANTAB, B.Sc. LOND.,
CIVIL SURGEON AT NO. 1 GENERAL MILITARY HOSPITAL, WYNBERG, CAPE TOWN.

THE patient, a well-built man, aged 31 years, was shot by a Mauser bullet in the engagement at Elandslaagte on Oct. 21st, 1899 The shot was fired from a distance of about 200 yards. The patient at the time was advancing in the direction of the enemy at a "double" when he felt a burning sensation in the right hypochondriac region which a minute later grew into a severe griping pain. Becoming immediately faint, though without loss of consciousness, he fell and at once vomited about half a pint of nearly pure blood. The pain, which became still more severe, was confined to a small roughly circular area three inches in diameter with its centre over the inner extremity of the ninth right rib in front The patient lay on the ground for about 20 minutes, during which time there was considerable hæmorrhage from the wounds. He was then dressed by a comrade, the dressing consisting of a puttee unwound from the patient's leg and which had been worn for several days and through heavy marching. This rude dressing was placed in immediate contact with the wounds and was wound several times round the body, nor was it disturbed for four days. After this first dressing the patient lay on the field for five or six hours and was then carried sitting in a chair to a farmhouse where he remained in a sitting posture for two days, when he was removed by train to the field hospital at Ladysmith. Here on Oct. 25th the first dressing, which was soaked through with blood (now dry), was replaced by one of cyanide gauze. The patient remained at Ladysmith for eight days, during which time he was kept on liquid diet; he was then removed to Pietermaritzburg where the wounds were dressed for the third time. From Pietermaritzburg, after a week, he was removed here. Ten days after the injury he was given solid food (meat and vegetables). There was never any universal abdominal pain nor was there any distension of the abdomen. The patient did not micturate for 18 hours after the injury and he stated that his urine then was dark in colour; it was not ascertained whether it contained blood. The bowels were not opened for two days and the patient stated that the motions contained much blood. He had not taken medicine.

On Nov. 17th the patient was up and about and in his usual health. Over the inner end of the ninth rib on the right side in front and half an inch outside the nipple line was a regular-shaped oval scar with a long diameter for one-third of an inch, indicating the point of entrance of the bullet. There was a similar scar, identical in size and shape, situated half an inch above the right iliac crest behind and four inches to the right of the vertebral spine. The wounds had healed without suppuration and there was no thickening about them. The abdominal respiratory movements were free. The liver dulness, which commenced at the sixth rib, extended to the costal margin, and the edge of the liver could just be felt below the ribs on deep inspiration. The entrance wound above described was half an inch above the lower limit of the liver dulness. There was no abdominal tenderness or induration and no dulness in the flanks.

There can be no doubt that the bullet penetrated the peritoneal cavity, possibly perforating the liver and, I think, certainly penetrating some part of the alimentary canal, either the pyloric end of the stomach or the ascending colon. It is impossible to join the points of entrance and exit of the bullet by a right line which does not also pass through the peritoneal cavity. In itself, of course, this affords no proof that the bullet must have penetrated the peritoneum, since it is well known that by impact with a bone bullets sometimes deviate considerably from their course and occasionally even pass a considerable distance round the body beneath the skin before again emerging. In such cases also a hard cord can often be felt following the track of the bullet beneath the skin from its point of entrance to that of its exit. No such hard cord was present in this case 18 days after the injury when he was first seen by me. But the fact that the injury was immediately followed by hæmatemesis and shortly also by melæna is sufficient to prove that the intestine was injured and in all probability perforated. I do not think that the kidney was injured, and the dark colour of the urine which has been referred to was probably due to concentration and not to admixture of blood (the patient was suffering from shock at the time).

The case is of importance from the point of view of treatment, for we are taught that cases of gunshot wounds of the intestine should be submitted to immediate laparotomy without waiting for symptoms to develop. That is to say, in war time such cases would require to be operated upon at the field hospital, which is stationed near the fighting line and moves with it, and where the conditions for performing so serious an operation as a laparotomy for intestinal suture are by no means good.

Here, then, we have a case where the risks of peritonitis would seem to have been of the greatest, for the peritoneal cavity was in direct continuity both with the exterior of the body by a wound covered with a dressing hardly likely to be sterile or antiseptic and also with the interior of the gut, and yet peritonitis did not supervene and the patient made an uninterrupted recovery.

From observations made upon a single case one would not, of course, propose to draw general conclusions. Nevertheless the statement that all perforated wounds of the intestine must be dealt with by an immediate laparotomy would appear to be somewhat too rigid and to require modifying.

Wynberg.

CARDIFF SEAMEN'S HOSPITAL.—The net proceeds of the bazaar recently held in aid of this institution were £4276.

CORNGREAVES HALL RETREAT.—This retreat for inebriate women of any religious denomination voluntarily submitting themselves to the treatment and regulations of the institution is in Staffordshire, between Halesowen and Old Hill. The nearest railway station is Old Hill on the Great Western Railway, distant a mile and a half. Cradley and Halesowen stations are also convenient. The retreat is managed by a committee of ten ladies and nine gentlemen, all of whom are members of the Worcester Diocesan Church of England Temperance Society. Applications for admission may be made to the lady superintendent, Corngreaves Hall, Cradley Heath, or to the secretary of the Worcester Diocesan Church of England Temperance Society, Temperance Institute, Corporation-street, Birmingham, or to the honorary secretary of the Retreat, Mr. J. H. Broscomb, 571, Moseley-road, Birmingham. No person will be admitted for less than 12 months except under special resolution of the committee, and patients are strongly advised to enter for two years. Patients under special circumstances may have their children under the age of 12 months with them. The terms are £1 1s., or 10s. 6d., or 5s. per week according to class of patient. The age limit is from 20 to 45 years.

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias tum aliorum tum proprias collectas habere et inter se comparare —MORGAGNI *De Sed et Caus Morb* lib. iv Proœmium

KENSINGTON INFIRMARY

A CASE OF TRAUMATIC TETANUS WITH RECOVERY

(Under the care of Dr H P POTTER)

WE have published within the last year in THE LANCET[1] many cases of tetanus, in some of which the antitoxin has been employed while in others the treatment has mainly consisted in giving sedatives When the results are examined it must be acknowledged by any unbiased critic that the antitoxin treatment has not fulfilled the expectations to which its first successes gave rise When injected subcutaneously it seems to benefit those cases only which are not very acute or very severe and even when injected under the dura mater or intra cerebrally it does not appear to be much more efficacious In a paper on the intra cerebral injection of the antitoxin 13 cases are collected, and of these six recovered, but even with this method an early diagnosis is of the greatest importance in order that the treatment may be commenced before the nerve centres have been much involved The efficacy of tetanus antitoxin is readily demonstrable *in vitro*, and in the body also the antitoxin can destroy the toxin if it can meet the toxin before the latter has reached the nerve cells with which it enters into a firm union The intra cerebral injection is also not without obvious risks of its own and one case has been recorded[3] in which death occurred from two abscesses in the brain eight weeks after the last intra cerebral injection The plan of treatment by sedatives though of distinct value in mild cases appears to be of little use in severe attacks yet in some cases as in that recorded below, it is efficacious Krokiewicz has published[4] three successful cases of the treatment of tetanus by the injection of brain emulsion but the cases are too few to justify the expression of any definite opinion in its favour A treatment which deserves to be more extensively tried is that introduced by Baccelli This consists in the subcutaneous injection of a 2 per cent solution of carbolic acid The total quantity of phenol injected must be large even as much in some cases as 35 centigrammes per diem As Ascoli[5] points out this method of treatment must be accompanied by thorough local disinfection, attention being also paid to the support of the patient's strength Ascoli has collected 33 cases of this treatment and of these only one patient died, and in that case no more than 23 centigrammes of phenol were injected in the three days during which the treatment lasted In no instance were any signs of poisoning produced This method certainly deserves a more thorough trial than it has hitherto had in this country The mortality from tetanus is very high and seems to depend chiefly on the length of the incubation period The following figures have been given[6] in cases in which the incubation period was less than eight days the mortality was 91 per cent, when between eight and 14 days the death rate was 80 per cent, but when longer than a fortnight the mortality was only 52 per cent

A man, aged 45 years, was admitted into the Kensington Infirmary on Dec 29th 1899 for stiffness in movement of the lower jaw of four days duration He stated that he had been drinking heavily and walking about the country with badly fitting boots 14 days before admission a nail had pricked his heel causing a sore When admitted the first thing which attracted attention was well marked risus sardonicus with fixation of the lower jaw, which could be forced open to the extent of half an inch The muscles of the neck and back were firmly contracted, and such was the stiffness of the limbs that the patient could do nothing for himself with the arms nor could he stand upright There were occasional spasms of the face and trunk with profuse sweating and much distress An excoriated blister of the size of a shilling with an inflamed area around was present on the heel, there was also slight excoriation of the arm and knee, to these carbolic dressings (1 in 40) were applied During the evening he had three spasmodic attacks, in which the angles of the mouth were retracted and the alæ nasi were dilated The patient was removed to a quiet darkened room and every four hours was given 15 grains each of chloral and potassium bromide, which he swallowed with a sudden gulp On the following day in consequence of three severe paroxysms, the chloral and bromide were increased to 30 grain doses every four hours From this time there were no spasms although the dysphagia continued, but in spite of this the nurse induced the patient to take a fair quantity of milk Constipation, which was continuous throughout the illness was relieved with calomel and enemata the temperature and urine were normal An attack of delirium tremens ensued on the 31st and lasted for four days During this complication the pulse on one occasion became almost imperceptible and the countenance was alarmingly livid The medicine was discontinued on Jan 4th 1900 but it was necessary to repeat it two days later for a relapse in the fixation of the jaw From this date the patient made an uninterrupted recovery and suffered only from loss of coordination in the lower limbs with exaggerated patellar reflex

Remarks by Dr POTTER —The report of a case of tetanus under the care of Dr W Dyson interested me exceedingly as the above case has lately been treated for the same disease with similar drugs and a successful result I may also mention that a case of acute tetanus following a small puncture of the foot by a nail in the boot was treated in this infirmary in 1897 The man died and at the inquest the somewhat paradoxical but true verdict was returned, 'Asphyxia following injury from a nail

SOUTH DEVON AND EAST CORNWALL HOSPITAL

A CASE OF INTESTINAL OBSTRUCTION DUE TO THROMBOSIS OF SOME OF THE MESENTERIC VESSELS, LAPAROTOMY DEATH, NECROPSY

(Under the care of Mr C WHIPPLE)

MR TREVES in his work on 'Intestinal Obstruction (p 447) points out that thrombosis of the mesenteric arteries produces symptoms which are as a rule more acute than those manifested when the corresponding veins are involved Recovery in acute cases is only probable if an early laparotomy be performed

A man aged 48 years, was admitted into the South Devon and East Cornwall Hospital on Oct 22nd 1899 He had been in the hospital 12 months previously under the care of Dr Lawrence Fox with symptoms of Bright's disease and delirium when he was found to have albuminuria and retinitis The present illness began on Oct 19th when he had pain in the abdomen and nausea but he went about his work as usual On the 20th the pain and nausea continued and on the 21st these symptoms became worse and he passed no urine On the morning of the 22nd he called in Dr C J Cooke who passed a catheter but found no urine in the bladder and as the man's condition was bad and his abdomen was distended and painful he sent him to the hospital

On admission the patient was found to be a stoutly built man of bloated aspect He was suffering from nausea and vomiting of greenish fluid and from constipation since Oct 20th The abdomen was moderately distended and dull from the presence of fluid in both flanks, and it presented an indefinite fulness and tenderness in the hypogastric region Under the influence of gin he passed eight ounces of urine in the evening and seemed to be somewhat better. On the 23rd he passed more urine, but was still suffering from nausea and vomiting of greenish fluid. Compound powder of jalap was given in the morning, and later in the day an enema containing castor oil was administered, but with no result. At 2 A.M. on the 24th Dr. H. W. Webber, who was called by the house surgeon to see the patient as his condition was rapidly becoming worse, found him to be dusky in colour, with a feeble intermittent pulse of 140 to the minute and with a distended abdomen; he continued to vomit.

---

[1] THE LANCET 1899 April 22nd p 1091 April 29th p 1156; May 17th p 1290 and p 1291 July 9th p 9 August 27th p 553 and Oct 14th p 1012.

[2] University Medical Magazine of Philadelphia, February 1899

[3] Brit Med Jour July 1st 1899 p [illegible]

[4] Wiener klinische Wochenschrift, 1899 No 23

[5] Bull dell R Accad Med di Roma, 1897 9? part [illegible]

[6] Berliner klinische Wochenschrift, 1899 No 29

[7] THE LANCET Feb 24th, 1900 p [illegible]

Ether being cautiously administered a two-inch incision was made in the middle line below the umbilicus. On opening the peritoneal cavity some chocolate-coloured fluid escaped and the presenting small intestine was seen to be deeply congested and distended. Two fingers inserted into the wound felt distended bowel everywhere and towards the pelvis an indefinite nodulated mass. The patient's condition being extremely bad, one of the distended coils of bowel was brought up to the wound and fixed there by a horseshoe shaped flat metal rod (designed for this purpose by Mr. Hamilton Whiteford) and the bowel was incised, when gas and a little fæcal matter escaped. A large rubber drainage-tube was fixed in the enterotomy wound, dressings were applied, and the patient was removed to his bed in a moribund condition. The operation only lasted a little over 15 minutes. On recovering from the anæsthetic he became violently delirious and could with difficulty be kept in bed; he then sank rapidly and died at 5 A.M.

Necropsy.—At the post-mortem examination, which was held on the same day, it was found that a portion of the ileum, 38 inches in length, was deeply congested and in places pulpy and becoming gangrenous. Two sections, each of about four inches long, were adherent along this length. The bowel wall was thickened and nodulated with blood-vessels distended with firm clot. The portion of mesentery corresponding to the affected bowel showed many vessels filled with firm dark blood-clot. Very little fæcal matter was contained in the bowel. The thoracic organs were not examined.

Remarks by Dr. WEBBER.—The specimen was shown at a meeting of the Plymouth Medical Society and in the discussion as to treatment in these cases the opinions were expressed: (1) that if the portion of bowel and mesentery involved is not extensive and the patient's condition is good the affected area should be excised and junction should be effected by immediate suturing or with the aid of some mechanical support such as Murphy's button; and (2) that if the amount of bowel and mesentery involved is extensive or the general condition of the patient is serious the affected area should be brought up to the abdominal wall and fixed in the wound, and the healthy bowel immediately above should be opened and drained until such time as a secondary resection of the diseased area becomes feasible. For permission to publish the notes of the above case I am indebted to Mr. Connell Whipple, senior surgeon.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Results obtained by Injecting β-amido-butyric Acid into Animals.—Observations on the Excretion of Nitrogen in Rheumatoid Arthritis.—Experiments on the Rootlets of the Ninth, Tenth, and Eleventh Cranial Nerves in Cats and Dogs.—Demonstrations of Various Experiments.

A MEETING of this society was held on March 6th at the Laboratories of the Royal Colleges of Physicians of London and Surgeons of England, Victoria-embankment, Mr. PEARCE GOULD, the Vice-President, being in the chair.

Dr. KARL GRUBE of Neuenahr communicated the Results on Animals which he had obtained by Injecting β-amido-butyric Acid, the experiments being undertaken to obtain some information on the causes that produced diabetic coma He first discussed the various theories that had been brought forward to explain the occurrence and symptoms of diabetic coma, and then directed attention to a paper by W. Sternberg which was published a short time ago in the *Zeitschrift für Klinische Medicin*, in which on theoretical grounds as well as on experimental evidence β-amido-butyric acid had been shown to be the probable cause of diabetic coma. By modifying the experiments of Sternberg Dr. Grube succeeded in producing in cats a condition very like the typical diabetic coma He not only got deep narcosis but also an alteration in the respiration analogous to that found in diabetic subjects and which had given the typical diabetic coma the name of "dyspnœic coma." He also succeeded eight times out of nine in demonstrating the appearance of diacetic acid in the urine, and in four experiments acetone could also be demonstrated. According to his experiments he was therefore able to produce by injecting β-amido-butyric acid (1) coma; (2) a respiration very similar to that appearing in diabetic coma; and (3) to show the presence in the urine of some of those substances that are found in the urine of comatose diabetic patients. Dr. Grube therefore concluded from his experiments that β-amido-butyric acid might possibly be one of the substances, if not the substance, that produced diabetic coma.

Dr. W. BAIN described a typical case of Rheumatoid Arthritis occurring in a young man in which he made a quantitative examination of the urine for seven consecutive days, the patient being on a fixed diet. The average daily amounts of the constituents estimated were as follows: urea, 18 856 grammes; uric acid, 0·266 gramme; phosphorus pentoxide, 0·986 gramme; alloxur bases, 0 033 gramme; and ammonia, 0 397 gramme. Lactic acid was not detected. It would be observed that there was a diminution in the excretion of uric acid and phosphates.

Mr. A. W. CADMAN described Experiments on the Rootlets of the Ninth, Tenth, and Eleventh Cranial Nerves in Cats and Dogs, the general arrangement of the rootlets in these animals being in three main bundles—viz, (1) an upper bundle consisting of two large rootlets—the so-called "glosso-pharyngeal"; (2) a middle bundle consisting of four or five smaller rootlets—the vagal; and (3) a lower bundle consisting of two well-marked rootlets—the accessory, these bundles, however, being often further subdivided into smaller strands. Two series of experiments were described. The first series was carried out by direct electrical and mechanical stimulation of the divided rootlets in animals which had been bled and the bone then rapidly removed. These experiments were on the palate, pharynx, and œsophagus, the fibres to the œsophagus and levator palati being found in the upper bundle, and those to the constrictors of the pharynx in the upper bundle, and the upper rootlets of the middle bundle. The second series of experiments was carried out by reflex excitation of the central cut end of the right vagus, after division of the left rootlets, in living animals whose carotids had been ligatured. These experiments were on (1) cardiac inhibitory fibres which were shown to be in the lower rootlet of the lower bundle; and (2) respiratory (Hering Breuer) fibres which were found in the lower rootlet of the upper bundle.

Dr. T. G. BRODIE and Dr. W. E. DIXON performed an experiment demonstrating the Action of Certain Drugs on the Pulmonary Circulation and the Bronchial Muscles. The injection of suprarenal extract gave rise to an increase of blood-pressure and to congestion of the lung. The injection of muscarine caused a spasmodic condition of the bronchial muscles and the demonstrators stated that pilocarpin had the same effect. On the other hand, it was found that atropine counteracted the effect thus produced, and they had also found that urethan had the same antagonistic action to muscarine and suggested that this latter drug might be of service in cases of asthma.

Dr. PAVY, Dr. BRODIE, and Mr. T. G. SIAN demonstrated the Effect of Phlorizin in Producing Glycosuria in an Artificially Perfused Kidney. It had previously been shown that the injection of phlorizin into the renal artery of one kidney gave rise to an increased flow of urine from that kidney and to the presence of sugar and that the other kidney was only affected later when the drug passed into the general circulation. The experiment performed showed that in an extirpated kidney in which the circulation was maintained the injection of phlorizin gave rise to the presence of sugar in the urine excreted. The sugar was produced from a proteid molecule and the effect of the drug was to allow it to pass through the epithelium of the kidney.

Dr. PAVY then demonstrated the Production of Glycosuria by Exalted Respiration. He said that he had shown this some years ago, but he had not then the convenient apparatus for maintaining exalted respiration that he now had. In an animal in which exalted respiration had been kept up for some time he demonstrated the presence of sugar in the urine and showed at the same time, by the red colour of the liver, spleen, and vessels of the intestine, that the blood was in a supra-oxygenated condition.

Dr. **BRODIE** demonstrated the action of Diphtheria Toxin on the Spleen. He said that he had previously shown that the diphtheria toxin produced paralysis of unstriped muscle. With the spleen in an oncometer he showed that the first effect of injecting five cubic centimetres of a weak diphtheria toxin was a constriction of the vessels of the spleen This was rapidly followed by a relaxation, then by an alternate relaxation and contraction, and, lastly, there was complete paralysis of the spleen, and the further injection of toxin produced no constricting effect.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Urotropine as a Urinary Antiseptic.—Intestinal Obstruction.—Contracted Pelvis.—Exhibition of Cases and Specimens.

A MEETING of this society was held on March 2nd, Dr. **GORDON BLACK**, the Vice-President, being in the chair.

In the absence of the President Dr. **BLACK** alluded to the loss sustained by the death of Mr. Thomas Scattergood, dean of the medical school and a past President of the society.—A vote of condolence with his family was passed.

Mr. **P. J. CAMMIDGE** described in detail a number of bacteriological and chemical experiments which he had carried out in his investigations on the manner of the Excretion of Urotropine in the Urine and the Cause of the Antiseptic Properties possessed by the Urine of the Patients taking the Drug. Mr. Cammidge pointed out the very marked inhibitory power which it showed over the growth of the typhoid bacillus and urged that urotropine should be used in all cases of enteric fever to prevent dissemination of the bacilli by the urine and to avoid the cystitis, &c., liable to complicate the disease.—Dr. **GORDON BLACK**, Dr. **T. CHURTON**, and Dr. **E. F TREVELYAN** took part in the discussion which followed and Mr. **CAMMIDGE** replied.

Dr. **BASIL HALL** (Bradford) read the reports of two cases of Intestinal Obstruction caused by Meckel's Diverticulum. The first case occurred in a boy, aged 15 years, and was quoted as a typical instance of strangulation by a band, the *onset and symptoms being of an acute character.* The abdomen was opened in the right iliac region and the diverticulum was removed, the patient making an uneventful recovery. The second case was that of a boy, aged three years, and was peculiar on account of its very gradual onset. For a period of four days the child suffered from constipation and occasional vomiting, but continued to play about the house. On the fourth day some abdominal distension appeared, the child passed very rapidly into a state of collapse, with greatly increased distension and signs of peritonitis. The abdomen was opened in the middle line and a Meckel's band was found constricting a loop of ileum. The loop was in a condition of volvulus, evidently of recent formation, thus accounting for the onset of acute symptoms on the fourth day. In both cases the diverticulum was attached to the root of the mesentery near its termination —Dr. **T. W. GRIFFITH** and Mr. **B. G. A. MOYNIHAN** discussed the paper and Dr. **BASIL HALL** replied.

Dr. **J. B. HELLIER** described a case of Kyphotic Pelvis in which the transverse diameter of the pelvic outlet was reduced to 1⅜ inches. The patient was 4 feet 8 inches in stature and had lumbo sacral kyphosis due to injury in infancy. She was admitted into the Leeds Infirmary on Christmas Day after having been 24 hours in labour. The uterus was in a state of tonic spasm and the head was impacted against the ischial spines. She was delivered by craniotomy. Dr. Hellier showed drawings and photographs of the case and described the relation between angular curvature and pelvic deformity.

The following cases, specimens, &c., were exhibited,—

Mr. **T. R. JESSOP**: A case of Aneurysm in the Neck treated by Ligation of the Common Carotid. The patient was shown.

Dr. **E. O. CROFT**: Uterus removed for early Columnar Carcinoma commencing at the Internal Os, with Microscope Specimens.

Dr. **E. WARD**: (1) Malignant Disease of the Rectum; (2) Biliary Calculi removed from the Common Duct; and (3) Leucocythæmic Spleen.

Dr. **T. CHURTON** and Mr. **H. LITTLEWOOD**: A case of Lumbar and Subphrenic Abscess bursting through the Lung. Operation was performed with recovery.

Mr. **P. J. CAMMIDGE**: (1) Growth of the Œsophagus (Dr. Chadwick's specimen); (2) Section of Tuberculous Intestine showing Bacilli; and (3) Fibrinous Pericarditis.

Mr. **H. LITTLEWOOD**: (1) Three-quarters of a Stomach removed for Diffuse Malignant Growth (Columnar Epithelioma) involving the Great Curvature, together with some Enlarged Glands. The ends of the stomach and duodenum were closed and the jejunum was attached to the stomach by means of a Murphy's button. The patient was a man, aged 53 years. He suffered very little from shock after the operation. He did well for three days He died on the seventh day from peritonitis. The part of the stomach near the button was soft and sloughy and here the contents had leaked into the peritoneum. (2) The Bladder and Kidneys *from a case of Enlarged Prostate.*

Dr. **E. F. TREVELYAN**: (1) A specimen of Atheromatous Endocarditis of the Aortic Valves. Two of the cusps showed firm cohesion with a calcareous mass in the line of union. There were early adhesions between one of these cusps and the remaining cusp. (2) Punctiform Hæmorrhages with Erosions in the Mucous Membrane of the Stomach. Both these specimens were taken from the body of a diabetic patient, aged 56 years.

Dr. **T. CHURTON**: (1) A case of Biliary Cirrhosis in a girl aged eight years; and (2) a case of Gonorrhœal Rheumatism of the Ankle-joint.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS

Pathological Ovary—Clinical Report of the Rotunda Lying in Hospital.

A MEETING of this section was held on Feb. 9th, Dr. **A. V. MACAN**, the President, being in the chair.

Dr. **ALFRED SMITH** showed an interesting Pathological Ovary which he had removed from a patient, aged 25 years, who enjoyed good health up to Christmas, 1899, when her abdomen commenced to become distended. She rapidly emaciated, was extremely weak, and on admission into hospital no diagnosis could be made, the distension from the *free ascites was so great* On exploration the *omentum* was found to be quite solid, mobile, confined to the upper abdomen, and in appearance like boiled sago grains; it bled easily. The left ovary was normal. The right ovary was of normal size and consistency; it showed in the fresh state numerous small whitish warty elevations in appearance not unlike grains of boiled sago, identical in appearance with the omentum. Microscopic examination showed that these growths consisted of a delicate stroma, containing in its meshes, in a somewhat alveolar arrangement, groups of large globular degenerate looking cells. The nucleus was eccentric and flattened against the cell margin; in many cases it was broken up and absent, whilst the protoplasm, containing many oil droplets, yielded the typical fatty and mucoid reactions. In parts the growth seemed to be converted into true fat. It sprang altogether from the surface of the ovary and did not infiltrate the subjacent tissues. The section of omentum gave the same characteristics. The fluid in the abdomen was light brown or straw-coloured; it contained no blood and poured out quite easily.

Dr R D **PUREFOY** read some cases from his Clinical Report of the Rotunda Lying-in Hospital for 1898-1899—Dr. A. **SMITH** criticised the absence of the date of entry into and departure from hospital of patients. He pointed out that a new expression ("mixed hæmorrhage") had been introduced as a form of accidental hæmorrhage and he considered the use of this term a mistake, as it was quite unnecessary. It was curious that several of these accidental hæmorrhages occurred rather early in pregnancy. He pointed out cases occurring in the eighth, seventh, and sixth months, and he thought it was not proved satisfactorily that these were really cases of accidental hæmorrhage. There was a case of locking of twins recorded but on reading the account he could not agree that they were looked at all in the ordinary sense. On page 12 of the report the serre-nœud was stated to have been employed in a Porro's operation. He himself would not think of using a serre-nœud at all, and he did not see why they should go back to the old Porro's operation, when they had modern methods of doing it. He congratulated Dr. Purefoy on the mortality, which was very low. The hospital still maintained its high position among similar institutions.—Dr. W. J. SMYLY agreed with Dr. Smith in deprecating the use of the expression "mixed accidental hæmorrhage." When he was master of the Rotunda he followed the rule that the indications for the forceps should be danger to the mother or danger to the child, and the result was that he had only 20 forceps cases in the house. If this rule was still followed he asked why there were 40 forceps cases one year and only 20 another year? All through the report he found little imperfections which seemed to show that it had been carelessly put together.—Dr. F. W. KIDD said that they need not pay attention to the clerical errors appearing in the report. It was stated in reference to a case of rupture of the uterus that strips of iodoform gauze ten yards long were passed through the rent in the uterus into the abdominal cavity. This seemed to him an extraordinary length, but perhaps it was a clerical error.—Dr. H. JELLETT, speaking of the treatment of abortions, remarked that the number of cases in the house that were curetted was nearly 50 per cent. Though he could not say that the curetting had led to any bad results he thought they would do harm if they sent out men with the idea that 50 per cent. of abortions required curetting. The same idea had occurred to him as to others regarding the term "mixed hæmorrhage," but certain German writers divided accidental hæmorrhage into concealed, external, and mixed, the last meaning cases in which there was sufficient of both concealed and of external hæmorrhage.—The PRESIDENT said that though the mortality and morbidity results were very good he agreed that most of the cases had been reported in such a way as to leave the important points out. He commended the term "mixed hæmorrhage."—Dr. PUREFOY said that owing to the advanced hour of the evening he would like to defer his reply until the next meeting of the section.

HARVEIAN SOCIETY OF LONDON.—At a meeting of this society, held on March 1st, Dr. W. H. Lamb, the President, being in the chair, Dr. Risien Russell made a communication on the Clinical Evidence upon which they Relied for the Localisation of Cerebellar Disease, illustrating his subject by lantern slides. While dealing with the question from a clinical standpoint frequent reference was made to the evidence derived from experimental physiology, and Dr. Russell showed how this was to be utilised in clinical work. In referring to the attitude which characterises a unilateral lesion of the cerebellum (inclination of the head to the affected side so that the ear and shoulder were approximated, and rotation so that the chin pointed to the opposite side) he said that this sign could not be too implicitly relied on in clinical investigations and quoted a case in which a tumour was situated in the opposite lateral lobe of the cerebellum to that indicated by the patient's attitude. Moreover, he had met with cases of cerebral tumour in which the same sign had been present in one of which the growth was situated too far forward to allow of the possibility of direct pressure on the superior peduncle of the cerebellum. Rotation was so rarely met with clinically and the direction of reeling was so inconstant that these phenomena were of little value in localisation, but ataxy of the limbs was commonly more marked on the affected side in unilateral lesions of the cerebellum. Motor paresis was sometimes met with in the limbs on the same side as the affections of the cerebellum and was an indication of cerebellar insufficiency, for such theories as had been advanced to account for it by pressure on the pyramidal fibres could not account for the fact that the phenomenon had resulted from softening of the cerebellum consequent on vascular occlusion. Convulsions did not belong to the symptomatology of cerebellar lesions, except as consequences of secondary disturbance of other parts of the central nervous system, unless Dr. Hughlings Jackson's view were accepted that peculiar tetanic-like seizures which occurred in certain cases of tumour of the middle lobe were of cerebellar origin. Rigidity followed experimental ablation, but when present as a result of disease of the cerebellum it usually indicated secondary interference with the pons, for with the cerebellum alone affected there was more likely to be hypotonia of the muscles. The state of the knee-jerks afforded little aid in localisation, for while there might be increased activity on the affected side, as after experimental ablation, there might, on the other hand, be diminution on this side or there might be great variability, or both might be abolished. Valuable information as to the side affected was derived from evidence of implication of the fifth, the seventh, and the eighth cranial nerves, and, in a few cases, of the twelfth; but even this evidence could not be relied upon as infallible, for in some instances one or other of these nerves might suffer on the opposite side instead of on the side of the cerebellar lesion.—Dr. Leonard Guthrie cited cases illustrating the difficulty in localising cerebellar lesions and even in deciding whether they existed at all. A boy, aged five and a half years, had typical "cerebellar" gait, loss of knee jerks, ataxy, and "intention" tremors of the upper extremities, left-sided facial paralysis, headache, and increasing drowsiness and languor for nearly three months. He then made a rapid recovery and three years later remained in perfect health. Here symptoms of cerebellar disease were probably due to polyneuritis. Another boy, aged seven years, had cerebellar gait leading to astasia, weakness and ataxy of the right arm, loss of the left knee-jerk and exaggeration of the right, double optic neuritis, vomiting, and frequent headache referred to the left frontal region. The symptoms pointed to right-sided cerebellar lesion, but a cyst of the middle lobe of the cerebellum was discovered. This case showed that the "crossed cerebellar" headache was not so valuable a localising sign as it had been held to be. A lad, aged 18 years, who was now under observation, had "intention tremors," ataxy, and weakness of the right arm, slight spasticity of the right leg, with exaggerated knee-jerk and ankle-clonus but normal plantar reflex, shambling awkward gait, double optic neuritis, but neither headache nor vomiting. The symptoms, apart from the optic neuritis, resembled those produced by destruction of the right cerebellar hemisphere, yet they were not conclusive evidence of such a lesion. Finally, Dr. Guthrie mentioned a case in which symptoms pointing strongly to tumour of the right cerebellum proved to be due to tumour of the corpora quadrigemina.—Dr. H. A. Caley remarked on the clinical importance in relation to localisation and spoke of the association in some cases of unilateral paresis with a lesion of the cerebellar hemisphere on the same side. To overlook this point might lead to serious error in differentiating between cerebral and cerebellar lesions.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—An ordinary meeting of this society was held in the Medical Institution, Hope street, Liverpool, on Feb. 15th, the President, Dr J. B. Hellier, being in the chair.—Dr. H Briggs (Liverpool) showed: 1. A Fibro-myoma almost completely calcified removed from a patient, aged 60 years, by Baer's operation. The tumour weighed five and a quarter pounds. The patient made a good recovery. 2. A Calcified Fibro myoma weighing five and a half pounds enucleated from the parametric cellular tissue of a woman, aged 52 years. The patient died on the eighth day from exhaustion. In both cases ascites was present.—Dr. Lloyd Roberts (Manchester) showed a Calcified Fibro myoma of the size of a child's head removed post mortem from a woman, aged 70 years.—Dr T. B. Grimsdale (Liverpool) exhibited a Uterus with Multiple Fibro myomata removed per vaginam by morcellation.—Dr. J. E. Gemmell (Liverpool) showed a Fibro myoma removed by enucleation from a uterus three months pregnant. The pregnancy was not interrupted.—Mr. J. E. Burton (Liverpool) exhibited a Pedunculated Fibro-myoma removed by abdominal section.—Dr. A. Donald (Manchester) read Notes of a Case of Ruptured Extra uterine Pregnancy and showed the specimen. The patient, aged 30 years, had been married four and a half years and had had no previous pregnancy. The menstrual periods were regular until October, 1899, but in that month the period was delayed four days. Uterine hæmorrhage then came on and lasted until the date of operation (16 weeks). In December the patient had sickness and nausea and was seized with pain in the right iliac region. Early in January, 1900, the sickness was very severe. The abdomen was distended and tender, and an obscure swelling was felt bimanually in the right iliac region. The diagnosis was tubal pregnancy with rupture into the right broad ligament.

Palliative treatment was recommended as it seemed probable that the embryo had succumbed. The conditions improved somewhat—although the sickness was at times troublesome—until Feb. 3rd, 1900, when the patient had severe abdominal pain and marked increase of sickness and exhaustion. On Feb. 6th abdominal section was performed. The abdomen contained large clots and much fluid blood. A four months' fœtus and placenta were found lying loosely amidst coils of intestine. No sac and no amniotic fluid were seen. The pelvic organs were not felt, as they were completely shut off by adhesions. The abdomen was cleansed with gauze sponges, but no attempt was made to remove clots adherent to the intestines. A large quantity of iodoform gauze was packed into the abdomen. Convalescence after the first 48 hours was uninterrupted. The case was probably one of secondary rupture into the abdomen. Neither the fœtus nor the placenta showed any signs of maceration or degeneration. From a clinical point of view it was interesting that the most prominent symptom throughout was the vomiting and that even after the final rupture pain and exhaustion and symptoms of peritonitis were more marked than the signs of hæmorrhage.—Remarks upon the case were made by Dr. H. Briggs.—Dr. T. B. Grimsdale related a case of Metrorrhagia occurring in a single woman, aged 31 years. The bleeding had been almost continuous for three years. She had been in bed for 18 months and various modes of treatment, including plugging and electrical methods, had been tried without effect. Vaginal examination revealed no cause for the bleeding, the uterus being small and mobile. The uterus was explored and curetted, but three weeks later the bleeding again commenced with little diminution of the amount. The patient was extremely anæmic. Examination of the blood only gave evidence of simple anæmia. Abdominal section was performed and the ovarian arteries were ligatured. The bleeding immediately ceased and since then the patient had had a normal menstrual period lasting five days.—Remarks were made by Dr. Briggs, Dr. Donald, and Professor Sinclair.—Dr. Grimsdale replied.—Dr. Nathan Raw related two cases of Eclampsia treated with success. In the second case the patient appeared to be moribund for some hours after delivery. Two pints of normal saline solution were transfused into a vein. This was followed by immediate improvement and life appeared to be undoubtedly saved by this measure. Dr. Raw also showed a full term Fœtus removed by Cæsarean section after repeated attempts had been made to deliver by forceps. The child was dead, but the scalp and vertex showed extensive subcutaneous hæmorrhage.

MANCHESTER THERAPEUTICAL SOCIETY.—A meeting of this society was held on Feb. 28th, Professor J. Dreschfeld, the President, being in the chair.—Dr. Walker Hall made a communication on Mercuriol in Syphilis, describing Ahman's method of treating syphilis by means of cotton bags which were fastened to the front of the body and charged with mercuriol. The method was the outcome of Professor Welander's views as to the absorption of mercury when applied to the external surface being chiefly due to inhalation of the volatilised mercury. Mercuriol was described as an amalgam of mercury, aluminium, and magnesium, containing 40 per cent. of mercury. It was first prepared by Apoteke Blomqvist. It was stated that in this preparation the globules of mercury were in a condition of much finer division and were therefore more rapidly volatilised. The method were carried out by means of putting five grammes of mercuriol into a cotton bag (Welander's bag), which was fastened round the patient's body. These bags had a twill surface outside and a smooth soft texture inside. For a course of treatment 20 powders of five grammes each were required. For the first five days one powder was put in the bag every evening and afterwards a powder was put in every other day. The advantages claimed for the method were that it was the most elegant mode of administering mercury and that it was effective without producing bad results, such as dermatitis, stomatitis, or gastritis. The only precaution necessary during the treatment was to test the urine at least once a week, should albumin appear the treatment should be stopped for a few days. Dr. Hall showed specimens of mercuriol and of the bags used in the treatment.—Dr. R. B. Wild stated that he was using mercuriol but had not tried it long enough to be sure of the results. He doubted whether any method would cure syphilis in such a short time.—Professor Dixon Mann doubted whether mercuriol was a true amalgam. Globules of metallic mercury could be seen in it by a lens.—The President referred to a recent paper on the method of treatment by Dr. Schuster, who had obtained no good results from it and who had had to return to the use of mercurial ointment.—Dr. R. T. Williamson made some remarks on the Diminution of the Sugar Excretion in Diabetes during Medical Treatment, in which he pointed out how difficult it was to be certain that the diminution of sugar excretion was actually due to medicinal treatment. In mild cases of diabetes many factors might come into play to reduce the sugar excretion and it was necessary to eliminate these before drawing conclusions as to the beneficial action of drugs. Bearing this in mind he was, nevertheless, inclined to believe from experience in three cases that salicylate of soda did sometimes exert a favourable influence. In these three cases of mild diabetes in old people the sugar excretion diminished or disappeared after administration of sodium salicylate, although the patients were allowed to take nitrogenous and fatty foods and as much white bread and milk as they wanted, potatoes and sugar being practically the only foods excluded. Dr. Williamson found it necessary to increase the amount of sodium salicylate to 80 grains or 100 grains per day, and had not found any serious complications arise from these large doses.—Professor D. J. Leech read a paper on Saline Baths. He referred first to the pharmacological effects of the external and internal applications of sodium chloride solutions of various strengths, and then gave an account of some English and continental health resorts where sodium chloride waters were used medicinally, mentioning the various kinds of cases which were said to be benefited by the different baths. Professor Leech pointed out that the bromides and iodides present in some of these waters were in such insignificant amount that they could produce no effect, but calcium chloride in many cases was present in considerable quantity and might account for some of the beneficial results obtained by drinking certain waters.—The discussion on this paper will be taken at the next meeting.

CHELSEA CLINICAL SOCIETY.—An ordinary meeting of this society was held on Feb. 20th, Mr. J. Foster Palmer, the President, being in the chair.—Dr. Ewart gave an account of a case of Relapsing Pernicious Anæmia. The patient, a man, aged 43 years, had had eight attacks in all, from each of which he recovered under appropriate care and under treatment usually by arsenic, but on two occasions by iron. In December, 1899, he became an in-patient of St. George's Hospital and was treated with mercury and iron, together with daily supplies of soup made of mixed vegetables. The result was a great improvement in every respect.—Dr. Ewart also gave details of a case of Vertical Displacement of the Liver and Stomach and discussed the probable mechanism of the affection.—Dr. Vincent Dickinson read a paper on Gynæcological Therapeutics. There has always existed, he said, a school of practitioners whose aim has been to found a rational system of treating disorders of the female genito-urinary systems by vaginal injections and antiphlogistic drugs, their operation procedures being limited to the use of the lancet and a stick of lunar caustic. Recent improvements in surgery and the advent of the "abdominal surgeons" had brought about great changes in this department of practice, but in suitable cases it might be useful to give a more extended trial in the light of modern knowledge to some of those old bulwarks of the "Art of Physic" which without doubt made the reputation of the Sydenhams, the Lettsoms, and the Harfords of the last century. The subject was then reviewed under the following heads:—1 External applications, including caustic, astringent, antiseptic, resolvent, and anodyne. 2 Drugs exhibited internally, special reference being made to the use of cimicifuga in dysmenorrhœa, assafetida in repeated abortion, helenin, pulsatilla, salix nigra, viburnum prunifolium, &c. 3 Douches and baths, including the application of heat and cold. 4. Rest, exercise, and position. The use of the inclined plane, which was known to Hippocrates, was of value in the treatment of enlarged and prolapsed ovaries and in threatened attacks of pelvic peritonitis and irritation of the bladder. A less degree than raising the foot of the bed from 12 to 18 inches would not produce any effects. The effect of position on displacement of the uterus was also discussed. 5. Electricity. The results were best in the hard variety of fibro-myoma of the uterus and relief was often given to hæmorrhage and pain, although no appreciable diminution in the size of the tumour could be ascertained.—A discussion followed in which the President, Dr. A. Symons Eccles, and Dr. C. A. Morris took part.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held at 20, Hanover-square, W., on Feb. 28th, Dr. H. Radcliffe Crocker, the President, being in the chair —The President showed: (1) A man, aged about 50 years, exhibiting the Beneficial Effects of Treatment by a Free Use of the Knife in Rhinophyma; and (2) a case of Urticaria Pigmentosa in a boy, aged 14 years.—Mr. F. Jaffrey (introduced) showed a case of Urticaria Pigmentosa in an infant aged 12 months.—Dr. T. D. Savill showed: (1) A Case for Diagnosis in a man: ? Psoriasis, ? Seborrhœic Dermatitis; and (2) a boy with a Body Eruption of groups of Pruriginous Lichenous-looking Papules.—Dr. P. S. Abraham showed: (1) A man with Acne Varioliformis; and (2) a woman with Alopecia Areata. In the case of acne varioliformis there were similar spots on the backs of both hands.—Dr. Radcliffe Crocker remarked that it might be a case of the "acne lupus" of Tilbury Fox, and it appeared to correspond with his own description of "adenoid acne."—Dr. D. Walsh showed a case of a girl, aged 22 years, with very marked œdematous infiltration of the left hand and wrist, which condition had lasted for many weeks. A few months ago she had a similar attack which lasted several weeks and then cleared up. The right hand had also previously been twice attacked. There was a rheumatic history including heart trouble.—Mr. G. Pernet suggested that it was a case of hysterical œdema and gave references to similar conditions mentioned by Sydenham and Charcot.—Dr. Crocker was not familiar with the condition.—Dr. A. Eddowes showed: (1) A case of Sycosis; (2) a woman with Erythematous Patches on the Face and Neck; (3) two cases of Alopecia; (4) a male patient, aged 50 years, with (? specific, or ? malignant) Ulceration of the Left Cheek and Ear; (5) a man, aged 50 years, with Lichen Planus of seven years' standing and with Eczema Seborrhœicum of two years' standing; and (6) a woman aged 20 years, with Bazin's Disease.—Mr. G. Pernet exhibited a Hair from the Upper Lip from a case of Tinea Nodosa, showing the mycelial tubes closely arranged, side by side, bound together by cement substance, and growing more or less at right angles with the hair shaft. The cement substance formed a continuous covering over a free edge —Mr. Pernet also read a note of a case of Tinea Versicolor of the Face, by Dr. Arthur Powell of Kalain, Cachar, East Bengal. Photographs of the case were shown and the fungus prepared from scrapings was also exhibited under the microscope.—The President, Dr. Rufenacht Walters, Mr. T. J. Hitchins, and others joined in the discussions.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A clinical meeting of this society was held at the West London Hospital on March 2nd, Mr. L. A. Bidwell, the Vice-President, being in the chair.—Dr. Campbell Pope showed a case of Bradycardia in a child. The girl, aged nine years, had had pleuritic effusion on the left side following whooping-cough two years previously. She had also been run over and had been kicked in the head by a horse. The usual pulse-rate was 33.—Dr Campbell Pope also showed a man who had been operated on by Mr. Marmaduke Sheild for Abscess of the Spleen.—The cases were discussed by Dr. Seymour Taylor, Mr. Rickard Lloyd, and Mr. L. A. Bidwell, and Dr. Campbell Pope briefly replied.—Dr. Seymour Taylor showed a case of Palsy of the Sixth, Seventh, and Eighth Cranial Nerves.—Remarks were made by Dr. S. D. Clippingdale, Mr. G. Pernet, Dr. Campbell Pope, and Mr. R. Lake, and Dr. Seymour Taylor replied.—Dr. Phineas Abraham showed two cases of Skin Disease: (1) a case of Pemphigus, and (2) a case of Dermatographia. The latter was an extremely well-marked instance of a rare affection. Some words which had been written on the skin of the chest in the afternoon were quite distinct at a late hour in the evening and indeed still stood out prominently from the surrounding skin —Mr. L A. Bidwell made some interesting remarks on the condition and Dr. Abraham replied.—Mr. H. J. Paterson showed a case of Psoriasis. There was great difficulty in the diagnosis between simple and syphilitic psoriasis. Although the eruption had the character of a syphilitic rash, and although it had not the appearance and distribution on which they relied in making a diagnosis of simple psoriasis, yet the general opinion was that the case was one of simple psoriasis —Remarks were made by Dr. Phineas Abraham, Mr. G. Pernet, and Dr. T. H Dickson.—Mr. L. A. Bidwell showed two cases of Pyloroplasty.—Dr. A. H. W. Clemow showed a case of Excision of the Pylorus in which the operation had been performed by Mr. C. B. Keetley with excellent result.—Mr. Matthews Duncan, for Dr. F. G. D. Drewitt, showed a case of Aneurysm of the Aorta in a woman aged 41 years.—Mr. Bassano showed a man suffering from great Deformity of the Chest on the left side due to congenital absence of ribs.

KIDDERMINSTER MEDICAL SOCIETY.—A meeting of this society was held at the Kidderminster Infirmary on March 2nd, Mr. J. Lionel Stretton, the President, being in the chair.—The President read notes of the case of a female infant, aged 19 months, who was brought to him because she made a Double Stream of Urine. On examination two small orifices were discovered, one close to the clitoris and a second about three quarters of an inch behind it; a probe passed in at the anterior orifice struck a director passed in at the posterior orifice. On slitting up the tissue between the two orifices the urethra was discovered immediately under the posterior one; the vestibule had been roofed by the adhesion of the two labia minora and the only escape for the urine was through two small openings. The condition was congenital; no mention of it was found in the ordinary text-books.—The President also showed a multilocular ovarian cyst which he had removed from a woman, aged 53 years. It had evidently ruptured some time before removal as the abdominal cavity contained much fluid and there was a round hole in the cyst wall through which the fluid had escaped. The cyst weighed 8 lb. and 12 pints of fluid were removed. The rupture of the parent cyst had not given rise to any acute symptoms —Dr. B. Addenbrooke read notes of the case of a woman, aged 36 years, who had been confined one month previously, delivery being instrumental. 48 hours after labour she had a maniacal attack which passed off in a few days and she did well for a fortnight, when she complained of a swelling extending from the left inguinal region to the mid pubes. An incision was made, foul-smelling pus was evacuated, and on introducing the finger the pubic bones were found to be bare and separated about one-eighth of an inch. The patient made a good recovery.

ERRATUM.—In the report of the meeting of the Society of Anæsthetists in THE LANCET of Feb 10th, p. 389, the expressions "specific gravity 1017" and "specific gravity 0 817" and 1020" ought to be respectively "specific gravity 0 820."

Reviews and Notices of Books.

Essentials of Modern Treatment of Disease: for the Use of Practitioners. Alphabetically arranged for ready reference By K. M. NADKARNI, Associate Editor *Indian Medico-Chirurgical Review*; formerly Editor *Doctors' Magazine*, Bombay; Fellow of the Incorporated Society of Science, Letters, and Art of London, &c. , Madras: N. K Rao and Co. London: Baillière, Tindall, and Cox. 1898. Price Rs. 4 and Rs. 5.

WE do not think that the aim of this little work can be better stated than has been done in the preface. Its author's object has been to supply the busy practitioner with a pocket compendium of ready reference containing an epitomised account of the various modes of treating each disease recommended by eminent authorities of various countries in order to widen the resources of the practitioner as far as practicable. It contains some 460 pages and consists of two parts which can be obtained bound together in one volume or separately in two, each with interleaves. For facility of reference it could not be well improved. The treatment of 600 diseases is arranged alphabetically and 800 prescriptions gleaned from various sources are also added. It need scarcely be said that in addition to the standard and recognised treatises which have been laid under contribution a voluminous amount of periodical literature devoted to medical science has of necessity had to be consulted and ransacked in the compiler's therapeutical journey in search of well established and useful methods of treatment as well as of those of a more novel and consequently less accredited kind. In a work of this kind everything obviously depends upon the amount of care, judgment, and discrimination exercised in its production. It would have been impossible to have gone through the volume from cover to cover, nor is it necessary. We have followed the plan familiarly adopted by the cheese-taster—that of testing its nature and quality by small samples from within, and judged in this way the work seems to us to have been brought up to date and to be well done. The plan followed is to give the briefest possible description of the disease, the principles on which it should be treated and the therapeutical indications for its treatment, with the remedial agents and formulæ that may be most usefully selected and employed for obtaining the end in view. Books of this kind are not of course intended to teach what should have been acquired elsewhere or to give that kind of scientific and systematic knowledge which the practitioner presumably possesses already, but to afford a ready reference and reminder to such as are busily engaged in the practice of their profession, and this the little handbook on the "Essentials of Modern Treatment of Disease" seems calculated to do.

Microscopic Researches on Glycogen, Part II.: Glycogen of Snails and Slugs in Morphological and Physiological Correspondence with the Lymph System of Vertebrates. By CHARLES CREIGHTON, M.D. Aberd. With Plates. London: Adam and Charles Black. 1899. Pp. 127. Price 7*s.* 6*d.*

IN the first part of this work, published in 1896, Dr. Creighton gave the details of his observations on the characters and functions of glycogen in the embryos of mammals, and showed how he had been led to regard it as the precursor, or the temporary substitute, or the accessory of red blood. In the present part he describes with great precision the distribution of glycogen in the invertebrata, the mode in which, and the period when it is deposited in various examples, and develops at some length the view which he has been led to adopt. The relations between glycogen and the lymphatic and hæmal systems do not at first sight seem obvious. It is startling to find a solid carbohydrate starch or its modification regarded as the blood of vegetables, and to discover further that in Dr. Creighton's opinion glycogen or animal starch is coordinate in value with the blood or lymph of animals, but the reasoning by which he has been led to this conclusion is both ingenious and cogent. There can be no question that starch plays a very important rôle in vegetable life. It is very constantly present when growth and development are about to take place, being sometimes stored up in large quantities in roots and tubers and bulbs, and these stores are exhausted as development and growth proceed. It is not, then, unreasonable to name starch as a fixed instead of a fluid nutriment and to regard it as the equivalent in plants of the blood in animals. The occurrence of a substance in animals resembling starch in composition but differing from it in giving a red reaction with iodine instead of blue has long been known, and Dr Creighton has collected the observations of many chemists and biologists showing how much attention has been paid to this subject and how wide is the distribution of animal starch. It has been found in protozoa, less distinctly in cœlenterata and vermes, very clearly in the chief families of mollusca, and in arthropods. Great interest attaches to the positions occupied by the material. In the higher mollusca, which have been the special object of Dr. Creighton's investigations, it is accumulated around the vessels and is contained in large plasma cells around those of the nerve centres and of the digestive and generative tracts—that is to say, exactly in those parts which are nearest to the sources of supply and those in which the most active processes are taking place. In the arthropods it is also found in the organs of reproduction as well as elsewhere at certain stages of development. Now, the plasma cells in the mollusca mentioned above, with their contained zo-amyline, occupy the position of the vascular sheaths of the vertebrata, and just as the tissues in the vertebrata derive their pabulum from the lymph which circulates in the perivascular sheath so do the tissues of the mollusca draw their nourishment from the carbohydrate stored up in the plasma cells. In the vertebrata the original vascular system of the molluscan series no longer contains a lymph-like fluid, but is filled with red blood. The nitrogen required for the assimilative processes must of course be derived from other sources, as from the plasma of the plasm cells or from some combination with proteid which the glycogen subsequently forms, and in connexion with this it is to be remembered that glycogen is present in large quantity in embryonic structures where it precedes or accompanies the development of blood and in various pathological formations. The treatise is illustrated by many original drawings and is well worthy of study.

La Pratique des Accouchements: Obstétrique Journalière (Midwifery Practice: Everyday Obstetrics.) By Professor HENRI VARNIER. Paris: G. Steinheil. 1900. 8vo. 440 pp. in Two Columns. 387 Illustrations. Price 26 francs.

THE ideal which the author has laid before himself in this book is to produce a work which will enable the student when consulted by a patient who believes herself to be pregnant to recognise the condition, to carry the patient safely through her period of gestation, and to ensure for her a safe and normal delivery of a living child and an uncomplicated puerperal period.

The "Obstétrique Journalière" is divided into four chapters. The first of these is concerned with the Diagnosis and Hygiene of Normal Pregnancy. With the aid of reproductions of all the most important sections of early pregnant uteri the author points out that the diagnosis of pregnancy in the first few months depends upon the recognition by physical examination of the typical tumour formed by the developing uterus. As he is a follower of Professor Pinard it is not surprising to find that the study of the uterus during the second half of pregnancy by abdominal palpation is discussed in great detail. Not only are the methods of recognising the normal position of the fœtus fully explained, but in cases where any abnormality of presentation is met with the method of correcting it by external manipulation is clearly laid down. This is one of the best chapters of the book and is illustrated by a large number of photographs and drawings from nature. The concluding section of the first part is devoted to an account of the best methods of performing the important duties imposed upon a medical man who is responsible for the care of the health of a pregnant woman. He must take means to safeguard her from all conditions likely to produce a premature confinement, and he must carefully regulate the various functions of the body, especially those of assimilation and excretion, so as to ensure for the infant a rapid and safe birth and for the mother a normal confinement and puerperium.

The second chapter treats of the diagnosis, prognosis, and conduct of labour, and also contains an analytical and clinical study of its course. That the long-debated question as to the condition of the cervical canal at the commencement of labour may be finally considered as decided is amply proved by the author's researches and his figures. The stage of dilatation of the cervix and the part played by the bag of membranes is admirably described and illustrated. The author's method of preserving the perineum is shown by a series of photographs.

He aims at preventing the birth of the forehead and the occurrence of extension of the head until the parietal eminences have emerged from the vulva and the neck has become well engaged under the symphysis pubis In his analytical study of the course of labour Professor Varnier enables us to follow (very fully), with the aid of many excellent illustrations, the various changes that occur in the genital canal, the uterus, and the child during the progress of the latter through the pelvis. Under the Prognosis and Conduct of Labour its duration, its special characters in old primiparæ, the effect of occipito-posterior presentations and of multiple gestation are all considered. Lastly, the indications for the applications of forceps and the special dangers of their use are discussed.

The Delivery of the Placenta and Membranes is studied, partly anatomically and partly clinically, in the third chapter. The researches of Schroeder, of Barbour, and of Pinard, in conjunction with the author, are all quoted. The reader is given the choice of three methods of delivering the placenta—traction upon the cord, Credé's method of expression, or the combined method recommended by Professor Pinard of traction and expression.

In the last chapter the author describes the progress of a normal puerperium and the changes that occur in the genital canal and the uterus. The description of the involution of the uterus is particularly full and is illustrated by numerous original drawings and photographs. A most interesting historical account is given of puerperal fever, and the great debt that we owe to the labours of Semmelweiss, Simpson, Pasteur, and Lister is duly acknowledged.

The necessary details of antisepsis and asepsis in midwifery practice are treated with great fulness and a most complete account is given of the various organisms met with in the different varieties of septic infection and septic intoxication.

The printing and illustrations are worthy of the highest praise and the author is to be congratulated upon the production of a most interesting book embodying the results of a large amount of original work of great value. An intelligent study of this volume should go far towards equipping the student with a complete knowledge of the course of normal labour and enabling him to become the perfect accoucheur of Dionis, who holds, as Professor Varnier points out, that such a man should be a "man of perfect honesty and skill, simple, unaffected, and full of sympathy for the sufferings of women in childbed."

Spencer's Disease. Dermatitis Multiformis Exfoliativa. By WALTER SPENCER, M D Brux. London: Pewtress and Co.

THE author of this pamphlet of 16 pages anticipates the gratitude of posterity and christens what he considers to be a new disease after his own name. The disease broke out in a lying-in hospital in Sydney to which the author is physician, and between Oct. 1st, 1898, and March 31st, 1899, out of 48 children born 25 were attacked and five died. The elementary lesion varied, showing "erythema, macule, papule, vesicle, pustule, or bulla as the initial sign." It was an infectious dermatitis of sudden onset without premonitory symptoms, showing special affinity for infants under three weeks old but avoiding adults, usually unattended with any constitutional symptoms, and the polymorphic eruption underwent a rapid evolution until it became lost in exfoliation more or less extensive In cachectic subjects it proved rapidly fatal. The author, after comparing the symptoms with those of Ritter's disease, pemphigus neonatorum, and other somewhat similar affections, came to the conclusion that it was a disease *sui generis*. As far as we can judge from the author's description the condition was probably due, like pemphigus neonatorum, to staphylococcus aureus infection and the sanitary arrangements of the hospital should be carefully investigated.

A Manual of Diseases of the Nose and Throat. By CORNELIUS GODFREY COAKLEY, A.M., M D. London: Henry Kimpton. 1900

THIS is a handy and well-printed volume of 536 pages. It contains a full index, 92 engravings, and two coloured plates Generally speaking the engravings and plates are well executed. Special attention is devoted to the methods of examination and diagnosis. Although both in diagnosis and also in treatment many considerations and methods are omitted, the author aims at describing those which his experience at the New York hospitals leads him to believe are most trustworthy and useful to the student and practitioner The book is not quite free from faults so often noticed in "special" treatises on the throat and nose. For instance, to make seven varieties of hypertrophic rhinitis seems hardly needful. The chapter on Laryngeal Nerve Affections is distinctly good and clear. Professor Keen has added a short chapter containing his methods of performance of the more extensive laryngeal operations. A feature of the book is an appendix of excellent formulæ which are also scattered through the book. Altogether this work may be recommended to students and practitioners as a trustworthy guide for diagnosis and treatment of the maladies with which it deals.

LIBRARY TABLE.

Natural and Artificial Methods of Ventilation. London: Robert Boyle and Son, Limited. 1899. Pp. 66 —The contents of this little anonymous book appear to have been collected to form a diatribe against all mechanical or artificial means of ventilation. Of course, we have yet to learn how to ensure efficient ventilation that shall be conducive at the same time to comfort and to health. There are arguments in favour of so-called natural ventilation and there are arguments in favour of so-called artificial ventilation. Which is best adapted for the purpose depends mainly on the circumstances of environment. After all, ventilation implies essentially the removal of contaminated air and it does not matter much whether this removal be effected by the vagaries of atmospheric movements or by mechanical contrivances. That efficient ventilation is essential to health no one disputes and everyone will welcome the system which best fulfils this end This little contribution is very instructive and those who would be familiar with the *pros* and *cons* of the various methods of ventilation will find it a convenient source of reference.

CORNELIA HOSPITAL, POOLE.—At the annual meeting of the friends of this institution, held on Feb 28th, it was stated that there was a deficiency of £700 during the past year, and that Lady Wimborne had paid it off.

CARDIFF INFIRMARY.—The annual meeting of governors and others interested in this institution was held on Feb 28th under the presidency of General Lee. The annual report stated that during 1899 there had been 1700 in-patients admitted. The out-patients numbered 13,556, an increase of 513 as compared with the preceding year The financial statement showed that the ordinary income amounted to £6988, an increase of £98 as compared with 1898 Legacies and donations amounted to £2600 and the subscriptions of working men had increased by £300. The total expenditure was £9050, an increase of £520 as compared with the previous year. The chairman stated that the adverse balance of the infirmary was now about £8000

THE LANCET.

LONDON: SATURDAY, MARCH 10, 1900.

THE analysis which we have given of that portion of the report of the Indian Plague Commission dealing with the anti-plague inoculations will have shown that it is a very able and painstaking criticism of the HAFFKINE system. Nothing of importance has been omitted in the survey by the Commission, and though their views on the bacteriological aspects of the subject are somewhat theoretical in their character, as distinguished from the results obtained by the practical application of the prophylactic, yet the report forms, on the whole, a valuable commentary on the inoculations and will strengthen the basis on which they are founded. We search in vain, however, for a due and sympathetic appreciation of the great work performed by Mr. HAFFKINE and by the medical men and civil officers who have assisted him. In its absence it is particularly gratifying to notice that Lord CURZON, in the resolution of the Government of India on the Commission's report, has not forgotten this aspect of the question and has paid a high tribute to Mr. HAFFKINE.

It is evident from a perusal of the report that the Commission are not influenced or restrained by any special regard for either the difficulties or conditions under which the work has been carried on in India. The highest scientific standards have been set up and compared with existing arrangements. As might be expected, the comparison is much to the disadvantage of the latter, in which it is shown that important defects obtain in the use of cultures of different ages and in the methods of decanting, bottling, preserving, standardising, and fixing the dose of the vaccine. Fortunately, none of these can be shown to have had any injurious effect on the inoculated, though it is probable that they have placed the prophylactic under unfavourable conditions for attaining the best results. The remedy for these defects is only discussed in a general way, but there can be no doubt that it consists in providing in the laboratory more scientific workers and more plant and making adequate arrangements for manufacture of the vaccine on a large scale. With a more uniform period allowed for the ripening of each culture and the selection of flasks which give a uniform growth there would be no need to vary the dose according to the opacity of cultures, and there would be no difficulty in standardising the vaccine by ascertaining the febrile reaction produced by certain samples. The methods in use and their defects were evidently forced on the laboratory by having to meet a large demand with an insufficient organisation, and now that the Government of India have accepted this portion of the Commission's report we trust that suitable arrangements will be made, if they have not already been carried out, to meet the requirements.

Of even greater importance than the criticism on the methods adopted are the views expressed by the Commission on the composition of the prophylactic fluid and the relative value of its constituents. They are of opinion that the efficacy of the vaccine lies wholly in the bacterial sediment and not in the supernatant fluid. Considering how much this means if true we are astonished to find that the reasons are mainly hypothetical, for the small amount of the evidence and the experiments brought forward cannot be taken seriously to affect the question, while, as a matter of fact, the conclusions based on the experiments mentioned have been discounted to a certain extent by later ones. The arguments against Mr. HAFFKINE's views are academical in their nature until it can be shown by numerous experiments on man that the supernatant fluid is useless in plague inoculations. This is tantamount to beginning the observations on man over again and comparing the prophylactic effect of the bacteria and of the supernatant fluid separately. This has not been suggested by the Commission. In the meantime it is to be noted that not only the plague attacks but also the case mortality in plague are reduced by the present vaccine, the composition of which is based on the experience gained by Mr. HAFFKINE in his observation on cholera inoculations, and by the fact then discovered by him that the bacilli alone did not affect the case mortality.

Nor do we think the Commission have been more fortunate in attacking Mr. HAFFKINE's method of statistical expression and adopting another which is obtained by subtracting percentages. The latter is not only an unusual method, but it is also misleading. To work out the percentage of deaths and attacks among the inoculated and non-inoculated and then subtract the percentages from one another is an erroneous method of arriving at the relationship between the two. We must regard the relationship existing between two quantities as expressed, not by the differences between them which indicates how much larger the one is than the other, but by how many times the one is contained in the other. To illustrate this let us suppose that typhus fever has a mortality equal to 15 per cent. of the persons attacked and measles has a mortality equal to 5 per cent. of the attacks. We cannot express the relation of these by simply subtracting one from another and stating the difference between the percentages as 10 per cent. The actual relation consists in the ratio between the two. Thus typhus fever is three times as fatal as measles. The fatality of the first disease exceeds that of the last by 200 per cent. It is obvious from this illustration that the Commission have been led astray by their own statistics, and we are not surprised to find that they are unable to give an arithmetical value to the results secured by the inoculations. The subject, however, is treated at greater length on p. 724. In this connexion it is only fair to say that in their synoptical tables the ordinary ratios are given. Notwithstanding this defect in the report there can be no doubt as to the thoroughness with which the investigation has been entered into and the care which has been taken before coming to conclusions which are highly satisfactory as regards the merits of the inoculations. From their study of the nature and effect of the anti-plague prophylactic the Commissioners sensibly conclude that the inoculation quickly diminishes the incidence of plague attacks and deaths in the inoculated population, that the protection continues for some weeks, possibly for a number of months, and that under the safeguards and conditions of accurate standardisation and sterilisation of the vaccines and other simple precautions the inoculations should be encouraged whereever possible, and in particular among disinfecting staffs and the attendants of plague hospitals.

◆

THERE are several papers of much interest at the present time, seeing that our thoughts are now focussed on what is going on in South Africa, in the seventeenth volume of the Transactions of the American Surgical Association of 1899 just published. The articles to which we may specially refer those interested in military surgery—as who is not just now with the excellent surgical and other work which is being done by officers of the Royal Army Medical Corps and with the admirable contributions from the theatre of war by Sir WILLIAM MACCORMAC to THE LANCET fresh in their minds—are those on the "First-aid Package in Military Surgery," by N. SENN, M.D.; "Observations upon the Organisation and Equipment of Military Field Hospitals in the Volunteer Army," by GEORGE RYERSON FOWLER, M.D.; and one on "The Effects of Modern Small arm Projectiles, as shown by the Wounded of the Fifth Army Corps during the Campaign resulting in the Capture of Santiago de Cuba," by CHARLES B. NANCREDE, M.D., together with a report of the discussion on the surgery of the Spanish-American war consequent on the reading of these papers.

We cannot on the present occasion deal with the many interesting and important matters contained in the volume of the Transactions of the American Surgical Association but must content ourselves with a brief reference to a few points in the first-named paper. Dr. SENN of Chicago says that it is fortunate for the armed forces of the world but unfortunate for military surgery that no great wars have occurred since antiseptic and aseptic surgery came into general use. This void, we may remark, is being filled in with the results of the recent experience of the Americans and by those of the much wider and more recent experience now being acquired in the campaign in South Africa, which, we may well hope and believe, will add much to our knowledge that will prove of benefit to humanity in general and to the practical improvement of military surgery in particular. During the time that the Franco-Prussian war was being fought LISTER was quietly at work framing the great principles which have altogether re cast the work of the surgeon. Antiseptic and aseptic surgery have not hitherto had a full and fair trial on an extensive scale on the battle-field. Without following Dr. SENN through his brief historical survey of the progress of Listerism and its adaptation to battle-field surgery we may say that he correctly states that the first tentative efforts to practise asepsis in military surgery were made by REYHER and VON BERGMANN in the Russo-Turkish war. Two things were brought out clearly during that war—viz, the value of a first aid antiseptic occlusive dressing in the prevention of wound-infection and the importance of immediate mobilisation of gunshot fractures—the latter being sometimes a very difficult thing to accomplish, we may parenthetically remark, under all the exigencies of battle. REYHER and VON BERGMANN did most excellent service on that occasion in condemning the too common practice of searching for and extracting bullets on the battle-field and in hospitals. It soon came to be recognised that the first great division that has to be made of gunshot wounds, as regards their favourable progress or otherwise, is into the befingered and unbefingered. Although we cannot, unfortunately, in practice trust to such a protective agency wen evertheless carry in our own persons an aseptic material in the blood which is effused, dries up, and seals our wounds if only it could be always kept aseptic and unmixed with any "baser matter" of pathogenic germ origin. We are a long way yet from having realised perfect asepsis on the battle-field and Dr. SENN is obviously right in saying that better results will be obtained by the use of dressing material impregnated with an antiseptic substance than by one composed of simply sterile material.

The value of antiseptic and aseptic precautions in military practice was afterwards demonstrated on a limited scale in Bulgaria, Servia, Chili, Greece, Turkey, Japan, and in Africa and in the late Spanish-American war. In India during the Afghan campaigns and in the late tribal wars on the North-Western frontiers antiseptic precautions and practice were generally followed, and in our Egyptian war of 1882, with its small engagements ending with the battle of Tel-el-Kebir, it was shown that no case of infective wound disease occurred among the wounded, nor did any soldier lose his sight out of the large number of cases of ophthalmia that occurred in the British army serving in Egypt—results attributable to the wide use of antiseptic agents and dressings. Dr. SENN describes the first-aid antiseptic dressings used by different armies, including that of America, and tells us that during the Spanish-American war the Surgeon General issued 270,000 first-aid packages to the troops in Cuba and Porto Rico and the soldiers in home camps. A dry dressing is the best means of preventing wound infection, and, as Dr. SENN points out, nothing should interfere with the conversion of the wound secretion and dressing employed into a dry crust which hermetically seals the wound.

Mr. TREVES has told us, as the result of his experience in South Africa, that the field dressing carried by every British soldier answers its purpose admirably and that Tommy Atkins "has a great regard for it and takes every care he has it on him" All the smaller wounds can be dressed by this means at once and no further dressings are commonly required. The first field dressing now in use in the British army is an adaptation of that employed in the French service. It forms a component part of the soldier's kit on active service so as to be available at all times and in all places as a first dressing for wounds, and when he goes into action it is placed in the pocket on the right side of the tunic. The antiseptic agent used is corrosive sublimate, 1 in 1000, and directions for use of the first dressing are printed both on the outside and the inside covers. A detailed description of this first field dressing, together with some very clear and excellent remarks and directions regarding the objects sought to be obtained and the precautions and methods to be followed in the use of antiseptics generally in wounds and operations, are given in the official manual issued for the men of the Royal Army Medical Corps.

Dr. SENN lays down the requirements which a first-aid package for use in the field must meet, and at the end of his paper he emphasises his conclusions. He declares that first-aid packages are indispensable on the battle field in modern warfare, and in this all who joined in the discussion seemed to be in accord with him; that the dressings should be sufficiently compact and light to be conveniently carried by the soldier and in such a way as to be conformable to military regulations; that the Esmarch triangular bandage, although of great value in the school of instruction, is in a first-aid package inferior to the gauze bandage; that the first-aid dressing must be applied as soon as possible after the receipt of the injury; that the dressing must be dry and should be kept so, and that it should not be disturbed unnecessarily, but any defects should be corrected at the first dressing station. He considers that the first aid dressing, if employed behind the firing line, should be applied by ripping up the clothing over the injured part without removing it. The dressing is to be fastened to the skin with strips of rubber adhesive plaster, the bandage being applied over and not under the clothing.

◆

THE friends of sheer quackery, as well as those persons who in a desire to be open-minded favour the claims of irregular medicine, will point with triumph to the fact that the General Medical Council failed to get a judgment against Mr. ALABONE in the North London Police-court "for wilfully and falsely pretending to be a doctor of medicine, and wilfully and falsely using titles and descriptions implying that he was recognised by law as a practitioner in medicine." It is not in mortals to command success. They can only deserve it. And it may be that the General Medical Council, whose legal procedures have met with considerable criticism, in this case deserved success without attaining it. It may be, however, that though their case was a good one their presentation of it was not.

We withhold a final opinion on this point; but meantime we can explain why, with no prepossession in favour of Mr. ALABONE, the magistrate should have decided as he did. Mr. S. G. LUSHINGTON, the counsel for the prosecution, pointed out that the defendant described himself as EDWIN W. ALABONE, M.D. Bellevue College, M.D. Phil., U.S.A., D.Sc., F.R.M.S., Ex-M.R.C.S. Eng., and added that the degrees of the Bellevue College, New York, and the Jefferson Medical School, Philadelphia, were registrable in this country, and that the defendant had adopted a style which might lead the public to believe him to be a registered medical man. (The titles in question are no longer registrable, but that is a detail[1]). Mr. ALABONE'S counsel, Mr. SCHULTESS YOUNG, naturally made a strong point of Mr. ALABONE'S candour in stating the American source and origin of the degrees on the possession of which he based the use of his titles. Mr. YOUNG said that since the Royal College of Surgeons of England removed Mr. ALABONE from its list of members he had been careful to state the American origin of all his degrees "so that no one could be deceived." Mr. YOUNG took the ground in defending his client that it could not be said that he was wilfully and falsely representing anything when he only represented that which was true. This formed a powerful appeal to the magistrate, and we do not wonder that in the absence of more explicit evidence of the source of Mr. ALABONE'S American degrees the summons was dismissed. The magistrate held, and we think rightly, that because the defendant said that he was an M.D. of Bellevue College and an M.D. of Philadelphia, he must not be assumed to have implied that he was an M.D. of the Bellevue College of New York and of the Jefferson Medical School, Philadelphia, both of which degrees at one time entitled their holders to registration in England. But would the magistrate have taken the same favourable view if the nature of the two institutions whence Mr ALABONE derived his degrees had been brought to his notice by the General Medical Council? It may be said that the admitted facts concerning the way in which Mr. ALABONE'S American degrees were obtained ought to have given sufficient information to anybody on the subject, but we do not think that the magistrate understood what kind of distinctions Mr. ALABONE was candidly laying claim to. The only Bellevue College in the United States, not the Bellevue College of New York, appears to be the Bellevue Medical College of Boston. It is thus described in the list of medical colleges issued by the Illinois State Board of Health:—

> "Bellevue Medical College of Massachusetts, Boston, Mass. Organised in 1880 Fraudulent. Exposed by the Illinois State Board of Health in 1882"

The same excellent publication dealing with medical education in the United States and Canada speaks as follows of the Philadelphia University:—

> "Philadelphia University of Medicine and Surgery (Eclectic), Philadelphia, Pa. Incorporated in 1865. Fraudulent. Extinct in 1880."

There does not seem to be any other Philadelphia University. Now these are not institutions which could give or could ever have given reputable diplomas, diplomas which a man ought to care to have, or which an English court, fully informed, would be likely to regard as other than bogus. But apparently the prosecution was not ready with this full information. The United States is a large place and in the absence of any such evidence it is intelligible that Mr. PAUL TAYLOR should have concluded that the degrees possessed by the defendant were proper *bonâ fide* medical degrees, upon which it followed that he must consider the prosecution instigated by the General Medical Council a vexatious one. It was not a vexatious prosecution, but it does not appear to have been a well conducted one.

◆

THE President of the Local Government Board received at the House of Commons on March 7th a deputation representing various hospitals and infirmaries throughout Great Britain. The object of the deputation was to ask that these institutions should be exempted from local rates. Everyone knows the stereotyped programme for a deputation to a public Minister. The deputation is introduced and proceeds to lay the matter nearest its heart before the Minister. That gentleman replies in the regular official form to the effect that the objects of the deputation are worthy of the highest praise, but that, though these objects are of the deepest interest to himself personally, he is unable to give any other answer than "the subject will be carefully considered," or "a Royal Commission is sitting," or "a Committee to inquire will, I hope, be appointed."

---

[1] These degrees are registrable if obtained prior to June 25th, 1886, as additional titles by practitioners previously registered. (See Medical Register, Table I)

The deputation of Wednesday last followed the usual type. Some of the most influential and hard-working of those interested in hospital work attended, and stated to Mr. CHAPLIN through the medium of a memorial that the institutions in which they were interested were almost entirely carried on by voluntary efforts and that the services rendered were practically given without cost to, or payment by, the public. The institutions relieved the poor-rates to an incalculable extent and yet had to pay towards these rates. The annual amount of rates payable on hospitals and infirmaries in Great Britain was, according to the memorial, about £50,000, of which sum £21,801 were raised in the metropolis of London. Until the year 1865 hospitals were not considered to be rateable, and Parliament had from time to time exempted churches and chapels, buildings occupied by societies for the promotion of science, free public libraries, and Sunday and voluntary elementary schools, from the payment of rates. In Birmingham and Halifax hospitals paid no municipal rates and in Ireland all hospitals and charitable institutions were exempted from paying both poor-rate and county cess. Mr. CHARLES BIRT, who spoke as the representative of the London Central Hospital Fund, added that if London hospitals were exempt from the payment of rates, provision could be made for 4000 more in-patients than at present—a statement that should have great weight at the present time when so many beds in our largest hospitals are closed for want of means. Mr. CHAPLIN, in reply, said that of course everyone must sympathise with the object which the deputation had in view—namely, that the voluntary hospitals should be able to extend their operations even more widely than at present. It was true that there were certain institutions which did not pay rates, and also true that hospitals did not pay rates before 1865. But he was not quite sure that hospitals stood upon the same footing as the institutions which were exempt. It would not follow, for instance, that the relief in all cases would be wholly to the rates of the district in which the hospital was situated. Patients came to some hospitals from all parts of the country and therefore the ratepayers in one particular district would be bearing additional burdens, and not only those of their own people but those of patients who came from a distance and ought to be supported by outside districts. If they were to exempt hospitals where were they to stop? Another point was that the whole matter of local taxation was being considered by a Royal Commission. They must not think, however, that he was the least indifferent to the subject. He would very carefully consider the question and would lay it before his colleagues at the earliest opportunity.

We do not suppose that the deputation expected any other answers than one or more of those which we have indicated as being, and being of necessity, the regular official answers, but Mr. CHAPLIN'S words of reply are by no means convincing to those who advocate the relief that is being prayed for. If only a local institution should be exempt from rates why is it that the London Library, the Royal Institution, and Spurgeon's Tabernacle are exempt? The London Hospital is specially exempted from the payment of rates by a local Improvement Act, so that Mr. CHAPLIN'S doubt as to where things would stop may be answered by a reference to the case of that charity. The rating of the London hospitals produces a sum under £22,000 per annum. Exemption from this tax would mean a great deal to the hospitals in question and would hardly be felt as an addition to the enormous sums now raised by the local rating authorities. Exemption would of course hit some parishes harder than others. Chelsea, for instance, has within a stone's throw of one another two hospitals, and part of a third —namely, the Cancer Hospital, the Chelsea Hospital for Women, and part of the Brompton Hospital for Consumption. But we do not suppose that the loss to this parish of the rates paid by these charities would be so very serious that the case of Chelsea ought to be used as an unanswerable argument against remission of the rates, and in most other parishes exemption would scarcely be felt at all. The deputation, in our opinion, made out a very good case for exemption, and we earnestly hope that the matter will not be allowed to drop, but will again and again be pressed upon the notice of those in power.

Annotations.

"Ne quid nimis."

THE QUEEN'S VISIT TO IRELAND.

WE have learned with admiration of the Queen's expressed intention to visit Ireland next month. Her Majesty's motive is easy to read and does both her heart and her judgment infinite credit. She desires to recognise in the most public manner the remarkable part played in the South African war by her Irish soldiers. That this is the interpretation to be put upon her courageous departure is proved by the following special Army Order, which was issued on Wednesday almost simultaneously with the publication of the news of her impending stay in Dublin:—

> *Gallantry of Irish Regiments in South Africa—Distinction to be worn on St Patrick's Day.*
>
> Her Majesty the Queen is pleased to order that in future upon St. Patrick's Day all ranks in Her Majesty's Irish regiments shall wear, as a distinction, a sprig of shamrock in their headdress to commemorate the gallantry of her Irish soldiers during the recent battles in South Africa.

Her Majesty by this Order, as well as by her desire to sojourn among her Irish people, pays particular and delicate attention to the national susceptibilities of a proud race, who have had in the past distinctly just causes of complaint against the Crown, and many of whom consider that these causes are still in existence. Her subjects in every part of her realms will see with pleasure in the visit to Dublin more evidence of the Queen's motherly tact—another proof of her promptitude to respond in the fittest and fullest manner to her generous instincts. We may feel sure that in Ireland men of every rank, class, and religion alike will make their Queen royally welcome, for they all share with her her admiration of the Irish soldier The courage and devotion of Her Majesty to the best interests of her subjects is displayed in a marked manner by the project before her for at her advanced age the strain upon her physical resources of such a journey, undertaken under such emotional circumstances must be very severe It is stipulated we understand, that the visit, which is to last a fortnight, is to be a very quiet one and we may be certain that all possible precautions will be taken to spare her from fatigue

THE NATIONAL DRINK BILL FOR 1899

THE increase in the consumption of drink still goes on Dr Dawson Burns's annual letter setting forth the facts appeared in the *Times* of Feb 27th It excites little attention and is the subject of little comment But the facts are amongst the most significant not to say appalling, of any in a sociological and medical sense One day when the exceptional excitement of the war is over they may receive the attention that they deserve The cost of our alcoholic drinks in 1899 was £162 163 474, as compared with £155 994 019 In other words we spent over such things in 1899 £6 169 455 more than we did in the previous year The particular items of increase were—on spirits, £2 842 998 , on beer, £4 798,745 ; and on wine, £40 797 The estimated expenditure for alcohol per family of five persons for 1899 is £19 19*s* 9½*d* —say £20 The alcohol consumed in the several chief liquors which absorb so large a portion of the nation's income is estimated in gallons as follows in spirit, 25 341 648 , in beer 66 313 938 in wine, 2 499 296 and in cider, &c , 750 000 The consumption of alcohol per head in the different divisions of the country is as follows England, 2 51 gallons , Scotland, 1 84 , and Ireland, 1 60

THE HOUSING OF THE WORKING CLASSES PROBLEM

A WRITER in the current number of the *Contemporary Review* points out that the housing problem becomes acute about once in every decade and suggests as a reason for this periodicity that what is done at each explosion as it were suffices for ten years We rather question this inference It would seem on the whole more probable that in relation to this vast and very difficult question there is some sort of systole and diastole of the philanthropic and utilitarian spirit and that in the past at least the diastolic period has been somewhere approaching a decade Be this as it may, there are distinct indications that another acute phase is upon us, and that when the ring of battle is over and the public have adapted themselves to the income tax we may find a reaction in a housing of the working classes atmosphere The Bill to amend Part III of the Housing of the Working Classes Act, 1890, which has been introduced by the President of the Local Government Board is in itself a sure and certain sign that the matter presses, and the Bill introduced by Mr Steadman and Mr John Burns shows us whither perchance we may be tending In certain particulars Mr Chaplin and Mr Burns see almost eye to eye The one proposes that for the purposes of Part III of the 1890 Act a local authority may establish or acquire lodging houses for the working classes outside its own area the other that a local authority may acquire land outside its own area Mr Burns, however, goes many steps further He proposes that for the purposes of Part III a local authority may after six months notice acquire compulsorily land at any price representing 25 years purchase based on the annual value assessed for taxation Money too, is to be forthcoming upon easy terms and the Public Works Loans Commissioners are to grant loans which are to bear interest at a rate *not exceeding 2 per cent* the repayment of such loan to extend over a period of *100 years* To prevent anything approaching an undue return on money laid out there is to be created in the district of every local authority a "fair rent court " which is to consist of three members and in London there are to be six such courts Of these three members one is to be elected by the local trades council consisting of working trades unionists, another by the local chamber of commerce, and the third is to be nominated by the two members above referred to or if they disagree, by the Board of Trade This "court in estimating a fair rent shall, " after allowing for average expenses of repair and management, allow not more than a clear profit of 3 per cent per annum on the original outlay The promoters of the Bill propose, too, that in any scheme under the 1890 Act the space to be provided for each adult shall be no less than 600 cubic feet the same allowance to be provided in all common lodging houses This last provision shows a wholesome tendency

INCREASING PREVALENCE OF CANCER IN THE UNITED STATES

DR G BETTON MASSEY of Philadelphia has published a valuable critical and statistical article illustrated with many charts and devoted to the above subject [1] According to several writers an increase in the prevalence of cancerous affections is shown by mortality statistics of the past 30 or 40 years Concerning the prevalence of cancer it may be noted that it is said to be extremely rare in such countries as Arabia East Central Africa, Iceland, Jamaica, Mauritius and Persia [2] The testimony as regards civilised countries is both ample and startling . The figures given by the Registrar General's Report for England and Wales during 31 years [3] shows that there has been an increase from 38 5 persons dying from cancer in 100 000 living population in 1864 to 75 5 dying from cancer in 100 000 living in 1895—In other words the ratio of the mortality from cancer has almost exactly doubled in England and Wales during the 31 years preceding 1895 According to figures collected and published by Dr Herbert Snow [4] a corresponding increase may be asserted for Scotland and Ireland The condition of affairs is also serious in America and in a recent paper Dr Roswell Park [5] has ventured the prediction that "if the present rate of increase of cancer in New York State continues during the next ten years its mortality will become greater than that of consumption typhoid fever, and small pox combined The objections put forward by some writers that the population of great cities is a shifting and changeable quantity which vitiates statistical records is shown by Dr Massey to be inadequate For, assuming the reasonable accuracy of the decennial census returns it may be further pointed out that the statistics are gathered from a large number of American cities in which the registration of the causes of death has been obligatory for many years, that the populations of these cities are, it is true, estimated , but that these estimates have been frequently checked by municipal enumerations As no deceased person can be buried in these cities without certification and registration it is evident that the total deaths from cancer in the statistical tables furnished for each year have but one source of inaccuracy and that is a mistaken diagnosis on the part of the attending physician but this source of inaccuracy must be small indeed When the number of deaths from cancer in each of these cities for a period of years is reduced to the ratio per 100 000 of population and the ratios are represented on graphic charts a glance shows that there is a gradual and sustained increase in the proportion of deaths from cancer. It may be added that Dr. Massey's figures represent *the first compilation made from the registration returns* of the cities mentioned below, and that they are official, having been prepared for him by the statistical officers of the departments of health of each city. These cities include San Francisco, Boston, Chicago, Brooklyn, New York City, Philadelphia, New Orleans, St. Louis, and Baltimore. It appears from these tables that the greatest increase has occurred in the city of San Francisco, where the ratio has crept up from 16 5 cases in 100,000 of population in 1866, to 103·6 per 100,000 in 1898. "This enormous increase of more than six times as many cases in 32 years is deserving of special attention." The city of Boston shows the next most considerable increase, the ratio of cancer mortality having trebled in the 24 years between 1863 and 1887. After the latter date there was a temporary decrease, followed by a tendency to increase to the present time. In Chart VIII. Dr. Massey has combined the figures representing the cancer mortalities of the seven largest American cities, exclusive of Chicago, the records of which city were probably considered by its officials of too recent date to be valuable in this connexion. The 28 years from 1870 to 1898 have been included in this chart which must therefore be a reasonably accurate record of the cancer death-rate under modern conditions of diagnosis. The chart shows that in these seven great American cities, with a combined population of 8,207,464 in 1870, the ratio of deaths from cancer was 35 4 per 100,000 living persons. In 1898 the population of the same cities was 17,035,235, and the ratio of deaths from cancer was 66 4 per 100,000 living persons, showing that the ratio of mortality from cancer in these cities had almost doubled itself in the comparatively short time of 28 years. Dr. Massey carries on the curve of mortality into the future by the method of extrapolation[6] and concludes that "if the same mean rate of increase is maintained until the year 1910 there will be an average of 80 deaths in each city in that year to 100,000 living persons." From a careful consideration of the prevalence of cancer among the urban and rural populations it is shown that there must be at the present date about 100,000 victims of cancer in the United States. And this great army of sufferers is by no means made up of the aged and infirm. "The greater number of victims are attacked in the prime of life and while in the possession of vigorous bodily powers—some indeed, even in youth." Dr. Massey dwells on the need for further investigation and research into the causation and the mode of propagation of cancer, and he points out that there is at present but one State laboratory of research and one special cancer hospital, and that means and appliances should be extended for the study of the disease and for combating its present serious increase in the United States of America.

---

[1] American Journal of the Medical Sciences February 1900

[2] Davidson's Geographical Pathology 1892

[3] Vide Chart IX in the Report for 1895

[4] Cancers and other Tumours London 1893

[5] Medical News April 1, 1899 p 435

THE METEOROLOGY OF BEN NEVIS.

BEN NEVIS being the highest peak in the British Isles the observations taken at the observatory on its summit (4407 feet above the sea-level) present some peculiarities not found in those taken at ordinary altitudes. When the published observations, which began to appear in 1884, had been brought down to 1897 it occurred to Mr. J. Y. Buchanan that it might be useful to study the meteorological phenomena observed during clear weather on the one hand and during fog on the other. He has now completed this task and his paper on the subject is printed in Vol. xxxix. of the Transactions of the Royal Society of Edinburgh. A separate reprint, consisting of 42 pages of letterpress and eight plates of graphic curves, is published by Messrs. Robert Grant and Son in Edinburgh and by Messrs. Williams and Norgate in London. The period covered by Mr. Buchanan's paper is from Jan. 1st, 1885, to Dec. 31st, 1897, and it was a task of great labour to sort these 13 years into periods of clear and of foggy weather, leaving out all days of mixed weather. The results with regard to rainfall, barometric pressure, tension of aqueous vapour, and temperature were as follows. In continuous clear weather it practically never rains on the mountain at all. In continuous foggy weather, on the other hand, the average daily rainfall is almost exactly one inch. There is a large and continuous excess of barometric pressure in clear weather over that in foggy weather. In foggy weather the vapour tension is that of saturation at the temperature of the air and the variations are slight. In clear weather the variations are considerable. The mean temperature of the year is 3·57° F. higher in clear weather than in foggy weather. The fog which characterises the climate of the mountain is nothing but cloud under another name. The observatory of Ben Nevis, in fact, furnishes a record of the meteorology of the clouds and in this respect it is unique.

THE INEBRIATE AND THE CERTIFIED REFORMATORY.

COMMENTING more than a year ago[1] on the Inebriates Act of 1898, we pointed out the difficulty that might arise in the practical application of it, not from any failure of judges or magistrates to appreciate the new powers given to them but from the lack of reformatories, the institution of which the Act seemed to regard as assured. When we wrote the Home Secretary had intimated that the immediate provision of a State inebriate reformatory was not to be expected, but even if one had been prepared before the Act came into force it would only have accommodated a small number of those to whom the new law applied. The habitual drunkard convicted on indictment of a serious offence was to be committed to the State reformatory or to the certified inebriate reformatory willing to take him in, while the drunkard convicted four times within 12 months of certain scheduled offences, such as being found drunk in a highway, had only the certified inebriate reformatory open to him, subject to the same proviso that the managers should be willing to receive him. In considering the matter with the section before us which enables, but does not compel, county councils and similar bodies to contribute to or maintain reformatories or to defray the expenses of detention of any person in such an institution, we perhaps needlessly hesitated to express in plain terms what we intended to suggest—that to leave to public or private benevolence the building and organising of these institutions was to invite delay in putting into force an experimental Act which was capable of doing a considerable amount of good and of preventing the recurrence of charges in our police-courts in the manner associated with the name of the late Jane Cakebread. We, however, said: "Obviously those reformatories which county and borough councils institute will only be willing to receive inmates from contributing districts, while private ones may be far to seek; and, again, public bodies may wait to take steps until the resources of private benevolence within their jurisdiction or within easy reach of it have been exhausted." The state of things which has, in fact, arisen is shown by what passed at the hearing of a charge of drunkenness the other day by Mr. Fordham, a London magistrate. The prisoner had been remanded in order that it might be ascertained whether there was any institution to which she could be sent, and the court missionary, who had corresponded with the Government inspector under the Act, had received from him the following reply: "I am afraid I cannot help you. I am at my wits' end to answer half the queries from London police-courts just now. Duxhurst is, I believe, full. Ashford being Roman Catholic is out of it, and Bristol won't take London cases into either of their reformatories. The London County Council's own place will not be ready till April. Until that time I fear it means a block. Can you not address the same question to the clerk of the Inebriates Committee of the London County Council? It might spur them up." In explanation of the attitude of the Bristol reformatories towards London inebriates the warden of the Royal Victoria Homes at Brentry, near Bristol, writing to the *Pall Mall Gazette*, has since stated that the accommodation in his homes is ample "if only the London County Council saw its way to do as other county and borough councils in England have done—e g., contribute as the Act provides." We take this to mean that the London County Council has refused to pay for London patients being treated at Brentry, as it would hardly be expected to contribute in the ordinary sense while it was itself about shortly to open a reformatory of its own. Whatever the cause of this attitude of the London County Council may be its result is deplorable, if it is anything like that which is stated in the letter of the Government inspector, a gentleman not likely to exaggerate. Apart from the desirability of applying without delay the remedy provided, the County Council could only have gained by experience in watching the treatment of its inebriates in the Victoria Homes or any other homes in which it might have been able to come to terms with the management. We wish every success to the Council's home, which, it is said, will be opened in April, but if London, which should lead the kingdom in such matters, is so tardy what can be expected of other districts? Perhaps in due course and after experiment local bodies will be compelled to provide for their inebriates instead of being merely permitted to do so. At present, as far as we can see, they can either refuse to take any steps at all with regard to them, or if they do so by building a home at the expense of their locality, the managers can still at their discretion refuse to receive the inebriate who in the view of a magistrate within the district is a proper inmate for their reformatory.

---

[6] To extrapolate is "to obtain by extending a series of numbers by an empirical law deduced from the observed law of progression of the numbers."

[1] THE LANCET, Feb 11th, 1899, p 392.

THE COLLEGE HOSPITAL, PIETERMARITZBURG.

IN the *Times of Natal* of Feb. 9th, 1900, appears a correspondence between Major H. Heath, Assistant-Adjutant-General, Lines of Communication, and the editor of the *Times of Natal*, Mr. C. H. Lepper. There is also a copy of a report signed by Sir William Stokes who inspected the above hospital on Feb 5th in consequence of certain statements made in the *Times of Natal* on Feb. 3rd in reference to the condition of the management of the hospital and the treatment of the wounded therein. It appears that a member of the staff of the *Times of Natal*, Mr. Harrison, went to the hospital on Feb. 2nd and on Feb. 3rd there was published in the paper an account either written by him or founded upon information supplied by him. The article was, according to Major Heath, headed "Serious Complaints by the Wounded; Wounds Undressed since Spion Kop." This battle, it will be remembered, was fought on Jan. 24th. Therefore the allegation was that the wounded had been practically left with their wounds undressed for a space of 10 days. Sir William Stokes in his report states that he found on inquiry that every man wounded at Spion Kop allowed that his wounds had been attended to at the various hospitals on the way down from the front and that they were also attended to on arrival at the College Hospital either on the same night or next morning. Confronted with this statement the editor wrote to Major Heath saying that he was prepared to publish a statement to the effect that "we desire to make plain that the non-dressing of wounds mentioned (in the article of Feb. 3rd) referred solely to absence of treatment after arrival at the hospital." Mr. Harrison, the member of the staff of the *Times of Natal* mentioned above, made the following statement about three cases: (1) That a man wounded in the cheek and leg had never been dressed since he left the battlefield; (2) that a man with an injured eye could get no lotion; and (3) that a man who had been shot through the thighs had had no sleep for six nights and had had no attention beyond the placing of a plaster over the wounds and a pillow under his knees. At the official inquiry, at which the Commandant of Pietermaritzburg, Lieutenant-Colonel Johnston (principal medical officer), Sir William Stokes, and Mr. Harrison were present the first man said that he was examined on the field, dressed at Mooi river, and passed by the medical officer on arrival at the hospital. The second patient, the man with the injured eye, stated that his wound had not been attended to at the hospital up to Feb. 2nd. This statement is made by the editor in an "appendix" to his letter of Feb. 8th. Mr. F. W. Gray, however, who accompanied Mr. Harrison, gives a different version in a sworn declaration. He there says that the medical officer saw the second patient and ordered lotion, but there was none in the hospital, so a bandage was applied. Sir William Stokes reported that atropin drops were ordered and supplied. The third patient, the man who was shot in the thighs, denied Mr. Harrison's statements point blank. The editor finally maintains that he is quite content to leave the matter to the judgment of the public. We think it is about the best thing he can do. But the honest course would be to allow that, to put it mildly, he and Mr. Harrison had made a mistake.

PULSATING EMPYEMA.

IN the February number of the *Albany Medical Annals* Dr. J. L. Archambault has published a case of this rare affection, of which, in 1889, Osler could collect only 42 cases. The most complete study of the subject is Comby's, which appeared in 1891 in the *Archives de Médecine*. On this the following description is largely based. Under the term pulsating empyema two different conditions are included. In one the pulsations cover a wide area of the thorax; in the other they are confined to a fluctuating tumour which communicates with the effusion. The pulsating tumour is not always single, there may be two. Its most usual position is between the second and sixth ribs in front, outside the mamma, but the pulsating area may, as in Dr. Archambault's case, be in the lower axillary region. It may also be distant from the thorax; a case is reported where it was in the lumbar region. Pulsating empyemata are almost always left sided. The recognition of the pulsation is important, for it shows that the effusion is purulent. Pulsating empyema has often been mistaken for aneurysm—an error which leads to the delay of necessary intervention. The presence of a large effusion, the situation of the pulsation, and the absence of a murmur, thrill, or pressure symptoms, differentiate the condition from aneurysm. Again, a pulsating abscess in the præcordia may be confounded with pulsating empyema. For example, a girl, aged four years, had for several months pain in the region of the heart. A tumour appeared in the præcordia and increased rapidly. It showed pulsation synchronous with the pulse and was slightly reducible. The overlying skin was red, tense, thin, and hot. There were no signs of pleural effusion and no cardiac murmurs. Puncture gave exit to pus. On incision a [illegible] at the junction of the sixth costal cartilage and rib, making a communication between the superficial abscess and another beneath the thoracic wall. The rib was denuded. There were evidently costal periostitis and "shirt-stud" abscess. The posterior pocket must have been in contact with the pericardium. Sinuses persisted for about three months, but finally cicatrisation took place. In pulsating empyema if the pleural cavity be emptied by aspiration pneumothorax usually results, for the atelectasis of the lung is such that it cannot dilate to fill the vacuum. The heart is deviated to the right and fixed there by adhesions. Pulsating empyema is essentially chronic and if left to itself is usually fatal. Dr. Archambault relates the following case. A boy, aged six years, had scarlet fever in April, 1893. During the last stage of the fever cough appeared; after recovery it persisted and grew worse, and pain in the side and dyspnœa occurred at times. Advice was therefore sought in August. The skin was almost livid and the dyspnœa was intense. A pulsating, soft, and fluctuating tumour of the size of the palm was situated over the left seventh, eighth, and ninth ribs, about midway between the axillary and scapular lines. There were signs of a large left pleural effusion. Dulness extended anteriorly nearly to the clavicle, below which there was Skodaic resonance. The apex beat was to the right of the sternum. Aspiration at the angle of the scapula showed the presence of pus. An operation differing from that for ordinary empyema only in that the incision was made in the centre of the fluctuating area, penetrating the pleura between the eighth and ninth ribs, was performed. Progress was satisfactory and a month after operation the pleural cavity had contracted so that it admitted only one fourth of the quantity of liquid which had been used for irrigation. The heart had moved half way towards its normal position, the side was slightly depressed and flattened, and some respiration was present. In 1899, when the child was 12 years old, the chest was symmetrical and expanded well; no abnormal signs were present. The heart was hypertrophied from valvular disease and the apex beat was outside the nipple line. This case is important because it is opposed to the teaching of Comby that in pulsating empyema the lung is permanently contracted.

MEMORIAL TO THE LATE MISS MABEL ELIZABETH WEBB, M.B. LOND.

AFTER the annual meeting of the Governors of the Royal Free Hospital on Feb. 28th, the new museum and laboratories recently added for the benefit of the Medical School attached to the hospital were formally opened by Lady Reay, C.I. This addition has been made as a memorial of the late Miss Mabel Webb, who was curator of the museum and assistant pathologist to the hospital until her sudden death on Oct. 28th, 1898. She had been curator of the museum for two years and realising how much pathological work was hindered at the hospital from want of space she had originated and designed the extension of building which has now been completed to perpetuate her memory. The influence of Miss Webb's fine character and personal charm upon all with whom she came in contact was such that before definite arrangements for a memorial had been made the students who worked under her had spontaneously raised a fund of money for such a purpose. The medical staff of the Royal Free Hospital and its lay governors were no less impressed by their late curator's service to the hospital and good influence generally, and thus from the willing subscriptions, of colleagues, students, and friends, bountifully supplemented by the generosity of Miss Webb's mother, a memorial of the most appropriate kind has been raised to her memory. The new floor contains a museum with shelves for 6000 specimens, a laboratory for the use of the curator and medical staff, and an assistant's room. The room below, which in Miss Webb's day had to answer all these purposes and also accommodated the curator's classes, is now devoted entirely to the last purpose. A bronze memorial tablet which is to be placed in the museum bears the following inscription: "This building was enlarged by the family and friends of Mabel Webb, M.B. Lond., Curator to the Museum of this Hospital from 1896 to 1898, to honour her memory and to carry out a scheme originated by her for the improvement of the Pathological Department. Through devotion to duty and pursuit of high ideals of work and conduct her term of service here was in an unusual degree fruitful of good. *Beati mundi corde: quoniam ipsi Deum videbunt.*"

METROPOLITAN BRANCH OF THE BRITISH DENTAL ASSOCIATION.

THE annual dinner of this association was held at the Hotel Cecil on March, 3rd, the President, Mr. Ashley W. Barrett, M.B. Lond., M.R.C.S., L.D.S. Eng., being in the chair. The attendance was large and included many guests. The loyalty of the audience found felicitous expression in the President's speech and in the National Anthem, which was twice sung. The President also proposed "The Association and the Metropolitan Branch." The branch is in a prosperous state and seems to be very efficient for the promotion of harmony and coöperation. A very pleasing part of the entertainment was furnished by the songs by Mr. J. Clulow and Mr. R. H. Manning, and the recitations by Mr. Percival Reed, which were nearly all encored. Dr. Glover, in responding for the guests, touched on the wonderful development of dentistry as a profession since the Act of 1878; and by way of illustration alluded to the fact that the Government had sent out Mr. Newland Pedley and a staff of dentists to help to complete the arrangements for the medical comfort of our brave soldiers—a refinement of care which distinguished the present from all previous wars.

BERI-BERI IN THE STRAITS SETTLEMENTS.

IN his annual report on the Straits Settlements civil hospitals for the year 1898 Dr. Max. F. Simon, the principal civil medical officer, says that the estimated population of the whole of the Straits Settlements for that year was 592,587, as compared with an estimated population of 580,563 for 1897. The number of births that were registered in 1898 was 12,781 and the number of deaths registered was 18,032, giving birth- and death rates per 1000 of population of 21·57 and 30·43 respectively. The colony was very free from epidemic disease during the year. Only nine deaths from cholera were registered in Singapore and 39 in Penang; no cases occurred in Province Wellesley or Malacca. The deaths from small-pox were 46 in Singapore, two in Penang, one in Province Wellesley, and 23 in Malacca. There were considerably fewer cases of beri-beri admitted into all the hospitals of the colony during 1898 than during 1897, the admissions numbering 1329 as against 2095. The disease also appears to have been slightly less fatal, 420 deaths having occurred (a percentage on admissions of 31·6) in 1898, as against 692 (a percentage on admissions of 33·28) in 1897. The death-rate from this disease was, as usual, higher in Singapore than in any of the other settlements. There appear to be upwards of 16 hospitals in the colony, and the whole number of admissions to them for 1898 was 23,662 with 3296 deaths. The diseases which caused the greatest number of admissions to hospital were as follows: dysentery, 875 admissions, 369 deaths; malarial fever and cachexia, 2174 admissions, 158 deaths; beri-beri, 1329 admissions, 420 deaths; venereal diseases, 2594 admissions, 121 deaths; rheumatism (acute and chronic) 1438 admissions, three deaths; diseases of the digestive system (including diarrhœa), 1938 admissions, 585 deaths; and diseases of the skin, 4058 admissions. In Tan Tock Seng's hospital for paupers in Singapore the number of cases of beri-beri occurring among patients who have been admitted for other diseases has attracted the attention of the Government. In his report on the lunatic asylum Dr. W. G. Ellis, the medical superintendent, states that beri-beri has been even more prevalent than in 1896 and 1897, and unless the better ventilation of the lower levels and the use of a small hospital to be built on the sea coast prove more satisfactory than former attempted remedies the question of removing the whole asylum to some other site must be considered. In 1896, with an average daily number of 233 patients, there were 85 deaths, 40 of which were from beri beri; in 1897, with an average daily number of 228, there were 81 deaths, of which 48 were from beri-beri; and in 1898, with an average daily number of 208, there were 95 deaths, of which 55 were from beri-beri. Seven attendants suffered from the disease and two of them had to leave the service on account of persistently recurring attacks; the other five made good recoveries. With respect to Singapore Prison Dr. J. Leask, the surgeon in charge, mentions that for a period of 12 years—namely, from 1885 to 1897—only two patients were treated for beri-beri, one of whom was suffering from it at the time of admission. In November and December, 1897, three cases occurred, and in 1898 there were 124 cases, of which 14 appeared from the beginning of January to the end of September, 10 in October, 78 in November, and 22 in December. Only one death was due to this cause in 1898. Strychnine in large doses was the principal treatment, commencing with five-minim doses and rapidly increased to 16 minims every four hours. In no case was the physiological action of the drug observed. Digitalis was given in all cases. Diuretics and purgatives were largely used, elaterium being found the most satisfactory of the latter. For dyspnœa solution of nitro-glycerine in frequently repeated doses acted admirably.

A GOOD RECORD IN OPERATIONS FOR CATARACT.

DR SAMUEL THEOBALD of Baltimore has recently published in the form of a pamphlet a report on 100 consecutive cases of cataract extraction. They were certainly not selected cases, since they include two eyes on which iridectomy had been previously performed for glaucoma, two in which the lens was dislocated through injury, one of high myopia, and various cases affected with choroiditis. The section was in all instances made at the sclero-corneal junction, and in many instances a small conjunctival flap was made. In the majority of instances the extraction was combined with iridectomy, either performed at the time or effected by a preliminary operation. Still a considerable number of cases, 19 in all, were done without iridectomy. Cocaine was used as an anæsthetic in 89 cases, chloroform was administered in six, and no anæsthetic was given in the rest Careful antisepsis was practised In the after-treatment no bandage was applied, but the eyes were closed with strips of isinglass, or in restless patients a pad of cotton-wool was placed over each eye and retained by similar strips. The patient was kept in the bed where he was operated upon for three days, after which the dressings were changed and a daily instillation of a solution containing four grains of atropia and ten grains of boric acid to the ounce of water was applied. As a matter of routine 20 grains of sulphonal or trional were given to the patient on the evening of the operation. The results are such as Dr. Theobald may congratulate himself upon having obtained, and are better than he could have anticipated considering that the cases were consecutive and not selected. He counts vision $\frac{20}{100}$ to $\frac{20}{200}$ as successes, and of these to have had about 90 per cent.—a very satisfactory number. There were two losses from suppuration. The other failures were from collapse of the globe consequent on loss of fluid vitreous, detachment of retina, and choroido-retinal changes. No losses occurred amongst those in whom the simple operation was performed.

CHELSEA CLINICAL SOCIETY.

Two special meetings of this society will be held in the Holy Trinity Parish-hall, Pavilion road, Sloane-square, S.W., on Tuesday, March 13th, and Tuesday, March 20th, at 8.30 P.M. At these meetings the annual clinical debate will be held and the chosen subject this year is the Treatment of Rheumatism, with special reference to Prophylaxis and Cardiac Complications. The debate will be opened on March 13th by Dr. William Ewart and the following among other speakers are announced to take part in the discussion: Dr. T. J. Maclagan, Dr. A. E. Sansom, Dr. Donald Hood, Dr. David B. Lees, Dr. Archibald Garrod, Dr. Pye Smith, Dr. R. Caton, Dr. Burney Yeo, and Dr. Isambard Owen. Sir Richard Douglas Powell, Bart., will give a closing address on March 20th. The meetings will be open to all members of the medical profession on presenting their cards. The special subject for debate is to be considered under the following aspects. On March 13th: (1) the general factors bearing upon the Prophylaxis of Rheumatism: the need for organised investigation; (2) the general, medicinal, and dietetic treatment of the acute attack and of the rheumatic tendency; and (3) the relative anti-rheumatic value of various drugs and modes of treatment. On March 20th: (1) the Special Prophylaxis against the occurrence or aggravation of Rheumatic Valvulitis: can valvulitis be prevented or cured at its early stage? (2) the methods which have been advocated for the prevention or cure of the valvular affection; (3) the alkaline treatment and its varieties and the salicylic treatment and its varieties: should they be combined? and (4) the unfulfilled indications and requirements.

PLAGUE IN THE ARGENTINE REPUBLIC.

ON Jan. 26th the existence of bubonic plague in the city of Rosario was officially declared by Government decree and on the following day the city was completely isolated from the rest of the country, all railway and river traffic being suspended. Troops of the line formed a cordon by land and torpedo destroyers and gun-boats guarded the river, which is many miles broad. The authorities hope that this complete investment by sea and land will prevent the escape of those infected by the terrible bacillus, which is, however, reported to be already in Buenos Ayres, the capital of the republic The existence of plague in Rosario has been suspected for some time and bacteriological investigations have been carefully carried out, but the Government hesitated to declare the fact officially—a policy which was a source of embarrassment to foreign ministers and consuls, who could not obtain from the Argentine Government the corroboration requested by their respective governments. Rosario is a large city of 100,000 inhabitants, and as a port it comes next in rank to Buenos Ayres. It is the outlet for the great grain region of Santa Fé and every year sends to Europe over 1,000,000 tons of wheat, maize, and linseed, as well as thousands of tons of wool. It is also a port of call for all vessels going to, and returning from, Paraguay, where bubonic plague has been present for some months past but not actually in epidemic form. In fact, nowhere along the South American coast has the plague taken a strong hold, a few isolated cases at Rio Janeiro, Santos, São Paulo, and Asunción (Paraguay) being the record up till now. This outbreak in Rosario is limited to some wharves along the river side where hundreds of thousands of bags of wheat and maize are stored, and measures have already been taken to isolate this produce and the workmen, 280 in number. Both Rosario and Buenos Ayres are well able to deal with the plague or any other epidemic. They have a constant and abundant water-supply, are well drained, and there are no slums, such as are in New York, Glasgow, or London. The municipality of Rosario has taken some practical measures. Free baths have been opened, and all dustmen, sewage-men, and scavengers in municipal employ are obliged to have baths on finishing their day's work. The ordinary house refuse is to be removed by the dustman twice a day in the poorer neighbourhoods (being the height of summer the average temperature is 90° F. in the shade). Daily inspection of the common and larger lodging-houses is being carried out; and last, but certainly not least, the immense ponds of stagnant water which still exist as a danger and eyesore between the long series of docks and the streets proper of the city are to be immediately filled up—no light task, as it will require many millions of cubic feet of cinders, sand, and other materials. As will be seen from the letter of our Rome correspondent Italy is specially interested in the outbreak owing to a large percentage of the foreign residents being Italian by nationality.

THE ANNUAL REPORT OF THE COAL-SMOKE ABATEMENT SOCIETY.

THE report of the Coal-Smoke Abatement Society for 1899 has just been issued. Although the society has been in existence for little more than a year, and owing to lack of funds can only support one inspector, yet it has achieved excellent results. Mr. Petty (the inspector) has since May, 1899, reported 1250 observations. In 680 instances official complaints have been made to the vestries which led to statutory notice being given in most cases and to legal proceedings being taken in 62 cases. In 30 of these the nuisance was entirely suppressed and in 32 cases it was much lessened. Summonses were taken out and convictions obtained in 34 cases. We are glad to see that a Smoke Amendment Bill is to be introduced by the London County Council. The report points out that the greater part of the evil—namely, the emission of smoke from the chimneys of private dwellings—remains untouched, but that a technical committee has been formed to examine and report upon the means of preventing smoke from private dwellings without extra expense for fuel. There is no doubt that the fogs of late have been much less smoky—fog in London can never be averted owing to climatic conditions—but it is possible to ensure that it shall be clear. In the last dense fog which we experienced this improvement was specially noticeable, a fact upon which we commented at the time.[1] The Coal-Smoke Abatement Society has done excellent work, and if by its efforts the magistrates can only be brought to understand, as in many instances they have been, that the plea of "No Welsh coal" is no excuse in the eye of the law, we may hope to see the atmosphere less smoky this year than even during that which is past.

GENERAL LEONARD WOOD, GOVERNOR OF CUBA.

THE announcement that the President of the United States had appointed General Wood Governor of Cuba met with the unanimous approval of the American people. Of all the officers of the United States Army who served in the Cuban campaign no one fulfilled his military duties with greater credit than the man who before the Spanish-American war was an assistant surgeon in the regular army. It was through the influence of his friend Theodore Roosevelt, now Governor of New York State, but who at the time of the outbreak of the war with Spain was assistant secretary of the navy, that Dr. Leonard Wood was placed in command of the famous "Rough Rider" regiment. But although General Wood proved himself a good soldier it is as an organiser and sanitarian that he exhibited his genius. The condition of Santiago when he assumed command of that province could scarcely have been worse. Pestilence and famine were abroad everywhere and to the city of Santiago itself even more than to Havana might the term of "sink-hole" have been aptly applied. General Wood immediately organised and placed on a proper working footing an efficient sanitary system, at the same time insisting that his orders should be carried out to the letter. Owing to this vigilance and energy the death-rate of Santiago was decreased 75 per cent. in six months. Yellow fever, which in its season used to decimate the population and which was dreaded alike by white men and natives, was held at bay and no serious outbreak occurred. But looking after the physical welfare of the people was by no means the extent of General Wood's labours. He formed an effective police force, the members of which were chiefly recruited from the natives. He organised schools and set on foot a scheme of school inspection. Parents were compelled to keep their children clean, the latter not being allowed as in former times to roam the streets. Houses were inspected and if not found in a hygienic state were disinfected and their occupants punished. Precautions were rigidly enforced on the slightest indication of the appearance of infectious disease. In fact, every known measure calculated to render a city which was notorious for its filth and disease a healthy place of residence was thoroughly carried out. The results were, as before mentioned, almost magical and furnish yet another instance of the effects of sanitary methods carried out with a strong hand. The prediction may be safely made that General Wood will regenerate Cuba in the same manner as the British have regenerated Jamaica and that in the course of time yellow fever will be exterminated in the former island.

THE ABATEMENT OF KAKKÉ IN THE JAPANESE NAVY.

DR. TATSUSABURO YABE, principal medical officer in the Imperial Japanese Navy, contributes a short article under the above heading to the *Archives de Médecine Navale* for January, 1900. Not long ago *kakké*, or beri-beri, was the most prevalent malady in the Japanese fleet, at times absolutely paralysing action, just as formerly scurvy used to behave in European squadrons. In 1882 during the Corean expedition, and about the same date in a fleet off the coast of South America, *kakké* placed between 30 and 40 per cent. of the total strength *hors de combat*. "At the commencement of the eighteenth century, continues Dr. Yabé, "the English Admiral Flosier (*sic*) *en route* for the East Indies at the head of seven ships of the line, had he not the pain of losing his crews twice over by scurvy, and did he not himself die broken-hearted?" Scurvy was at length mastered by means of prophylactic measures—they gave the men fruits, fresh vegetables, lime-juice, and lemonade; *kakké* was brought under control by amelioration of the rations—an innovation due to Mr. Kanébiro-Takaki. Scurvy and *kakké* resemble each other by the uncertainty in which their etiology is enveloped. They are said to be epidemic diseases, but as yet the specific microbes have not been discovered. Mr. Takaki believes that *kakké* is a disease of nutrition, and although Dr. Yabé cannot share the belief he nevertheless freely acknowledges the beneficial results that have attended on the prescriptions of the eminent creator and organiser of the Japanese Naval Medical Service. During the sexennial period 1878-83 the average percentage[1] of sickness from *kakké* was 32 5 and there were 246 deaths. In February, 1884, the Takaki ration was introduced, when at once the disease began to disappear from the navy. In 1885 the percentage was 0 59 and during the next eight years it averaged only 0 02. From 1885 to 1893 inclusive not a single death from *kakké* took place. In 1894, during the war with China, two fatal cases occurred, and the following year there was one, but the percentage of *kakké* sickness for the biennium was only 0 19. Dr. Yabé thinks that excessive rice-eating predisposes to *kakké*, whereas barley, and especially pearl-barley—which has long been a favourite article of food amongst the Japanese peasantry—acts as an almost never-failing prophylactic. It was while there was dearth of barley in the Chinese campaign that *kakké* committed its ravages.

---

[1] THE LANCET, Oct 28th, 1899, p 1183.

A MEETING of the Hunterian Society was held on Wednesday, Feb. 28th, at the London Institution, the new President, Dr. Dundas Grant, presiding. The second Hunterian Society's Lecture was delivered by Mr. C. Mansell Moullin. A vote of thanks to the lecturer, proposed by Mr. J. S. E. Cotman, and seconded by Dr. F. J. Smith, concluded the proceedings of the evening. We hope to publish the lectures in an early issue of THE LANCET.

MORE replies to our circular letter to the profession concerning the Midwives Bill have come in during the week, and about half the constituency have registered their views with us. The proportion of five to one against the Bill is maintained, and the figures may be taken to represent the state of professional feelings.

THE annual general meeting of the Medical Defence Union will be held on Tuesday, March 13th, at St. Martin's Town Hall, London, W.C., at 4 P.M. The chair will be taken by Dr. W. S. A. Griffith, the President of the Union.

WE regret to record the death in his seventy-second year of Dr. William Marcet, F R S , which took place at Luxor, Egypt, on March 4th. He had been in failing health for some time.

FORMS have been issued to be filled up by English medical men proposing to be present at the International Conference on Pulmonary Tuberculosis to be held at Naples on April 25th next.

THE WAR IN SOUTH AFRICA.

THE news of last week, which has changed the whole aspect of the war in South Africa, was received with exultation throughout the British Empire. When we consider what Lord Roberts has gone through in his long and distinguished military career, his age, and the great sorrow that had befallen him in the loss of his son, his response to what he regarded as the call of duty was a noble display of patriotic self sacrifice. Apart from the great military services which he has rendered in this war the judgment, tact, and urbanity which he has displayed in dealing not only with his Boer foes but with the colonial troops and all who have been brought into contact with him have been conspicuous

As regards Ladysmith, the news of its relief was well calculated to give immense satisfaction in the state of nervous tension which had existed in the public mind from the time that we had all heard that its garrison was "very hard pressed." The topographical obstacles which had to be overcome in its relief were of the most formidable kind, in the face of which and a succession of Boer entrenchments General Buller's relieving force had repeatedly recoiled only to advance again with splendid determination and gallantry until their efforts were finally crowned with complete success. Of all this, however, there is now no need to tell. When the history of this war comes to be written the siege and relief of Ladysmith will occupy a proud place in our military history. Its relief was a most arduous undertaking and, considering the relatively small force that had to accomplish it and all the attending circumstances, the highest credit is, in the opinion of competent military judges, due to Sir Redvers Buller's military capacity, judgment and determination, in having accomplished it with a loss which, although heavy, was, all things considered, really less than might have been anticipated.

The facts connected with the siege of Ladysmith and its defence for four months under Sir George White speak for themselves. Every word of General Buller's recent general order congratulating the besieged and his own force is well merited and exactly describes the situation. No one can read the brief record of what occurred there on the eventful entry of the relieving troops without a thrill of pride and without realising the dramatic pathos of the situation. It was this that stirred the heart of all English-speaking people. The news of the successful strategy of Lord Roberts, welcome and all-important as it was, had not these elements; it did not involve the rapid transition from anxiety to joy and the commingling of happiness with grief and pitifulness. Somehow the nation, like the troops, held fast to the conviction that there was a plan of campaign existing in the military mind which had never been lost sight of but was only delayed by exceptionally untoward circumstances and would be forthcoming in due time when the military machine was in proper working order.

The garrison of Ladysmith has had a terrible experience during the siege. Their losses by fighting and bombardment have been considerable, but those resulting from enteric fever, dysentery, and other diseases have been still greater. This is not to be wondered at considering the semi-starvation, the privations, the bad water, the fouled soil, and the overcrowding that existed. The troops were in deplorable plight and bore evident marks of the physical suffering and nervous exhaustion which they had undergone. The town contained 21,000 half-starved inhabitants. Although the actual mortality remained comparatively low until the middle of January the general health of the troops suffered severely from the want of good nourishing food and of essential comforts. As many as 8424 persons passed through the hospitals and the daily average under treatment ranged from 1500 to 2000. There were 1710 cases of enteric fever alone, and 800 cases were under treatment at the time of the relief of the town. Ladysmith has never had a particularly good bill of health and sanitary reputation at the best of times and, as we took occasion to point out almost at the beginning of the war, typhoid fever and dysentery were usually prevalent there at this season and were to be expected. Under all the insanitary conditions which must have been accumulating during the siege and the desirability of removing the troops and the sick from these and the depressing conditions surrounding them, the military authorities have exercised a most wise discretion in evacuating the station as far as practicable, and this has been, and is now being, done. It is, unfortunately, unavoidable that the sick should feel the fatigue and exhaustion of this movement and its attendant discomforts under even the best arrangements; but change of site was essential under the circumstances in their interest and, still more so, in that of the healthy, in order to limit the spread of disease as far as possible. A large number of nurses will be required to attend upon the sufferers from enteric fever and other patients

Speaking generally, the sanitary state of the army in South Africa is fairly satisfactory. The troops actually in the field look sturdy and strong and are in excellent form. There is, of course, a considerable amount of those diseases which are incidental to field service in hot weather, and notably of enteric fever, dysentery, and diarrhœa The enteric fever rate is, as we have said, very high in the besieged garrison at Ladysmith. It is not limited to Ladysmith, however, cases having shown themselves at other stations and among different columns operating in the field. Cases of dysentery also are of frequent occurrence. Hitherto the rapid succession and severity of the fights have occasioned a disproportionate number of surgical cases, but we are afraid that we must expect a progressive increase of sickness as the campaign goes on. Pneumonia and respiratory affections occasionally appear among soldiers from shipboard. The Government has provided for the requirements of the army in South Africa on a liberal scale and with much care and foresight and has thereby prevented a great deal of disease and suffering. The Army Service Corps has proved very efficient and has rendered conspicuous services to the troops. In all these respects, and especially considering the very severe fighting and the arduous nature of the campaign, there is every reason to feel satisfied, especially when the sanitary and medical arrangements of the present war are compared with those of the French expeditions in Madagascar and Tonquin, for example, or with those of the campaign in Cuba.

---

[1] It is not clear whether this percentage refers to strength or to total sick from all causes, but probably the latter is the case.

In congratulating Lord Roberts on the brilliant success which he has so far achieved we do not forget that as medical journalists it is especially gratifying to us to do so, seeing that medical officers have invariably met with considerate appreciation and fair treatment at his hands during the course of his long and distinguished service. It must have been extremely gratifying to the Queen to have received his lordship's telegram just as Her Majesty was leaving Windsor for Netley and to be the bearer of its good news to her wounded soldiers, in whose welfare and comfort Her Majesty has always taken a very keen and sympathetic interest.

FIELD FORCE.—SERVICE ABROAD, SOUTH AFRICA.

Table showing Personnel of Medical Units on the Lines of Communication.

Unit and place of mobilisation.	Names.	Remarks.
No. 9 General Hospital (Woolwich).	*Royal Army Medical Corps.*	134 non-commissioned officers and men (including 50 of the St John Ambulance Brigade), one special cook. The two warrant officers will join the unit on its arrival in South Africa.
	Lieutenant-Colonel F E. Barrow, R.P. (a).	
	Major A. Hosie (b).	
	,, M. T. Yarr.	
	Captain F. Smith.	
	Quartermaster Hon. Lieutenant E. P. Offord.	
	Volunteer Medical Staff Corps.	
	Surgeon Lieutenant J. W. Smith.	
	,, ,, E W. Herrington.	
	Civil Surgeons.	
	Mr. J L Brownridge (c).	
	,, H A Bryant.	
	,, J. M. Crawford.	
	,, C W. Donald (c).	
	,, H. N. Goode.	
	,, J. Hunter.	
	,, W. C. Mayo	
	,, T Milton	
	,, H. E. Pace	
	,, A. B Smallman.	
	,, E Turton (c).	
	,, W. Wright.	
	Army Nursing Service.	
	Superintendent—Miss S. E. Webb.	
	Army Nursing Service Reserve.	
	Nursing Sister Miss E. McC. Anderson.	
	,, ,, ,, G. Beesley.	
	,, ,, ,, J. M. Clay.	
	,, ,, ,, E. A. Deacon.	
	,, ,, ,, E. G. Eastmead.	
	,, ,, ,, E. M. Edwards	
	,, ,, ,, A M. Ferguson.	
	,, ,, ,, R. Griffiths.	
	,, ,, ,, E. M. B. Hall.	
	,, ,, ,, M. Hilson.	
	,, ,, ,, B M. Hoare.	
	,, ,, ,, M. N. Jephson.	
	,, ,, ,, B J. Jones.	
	,, ,, ,, E. M. Pethick.	
	,, ,, ,, S. F. Pollard.	
	,, ,, ,, E. J. Stonehouse	
	,, ,, ,, N. C. P. Tabuteau.	
	,, ,, ,, M. E Tippetts.	
	,, ,, ,, A. M. Winder.	
	(Three female servants.)	

(a) Officer in charge. (b) Secretary and registrar. (c) Has knowledge of x ray work.

Medical Division, War Office, Feb. 26th, 1900

Table showing Personnel of Medical Units on the Lines of Communication.

Unit and place of mobilisation.	Name	Remarks.
No. 10 General Hospital (Depot R.A.M.C., Aldershot).	Surgeon-Lieutenant-Colonel W. W. Lake, M.M.S.C. (a)	Two warrant officers (one to join the unit on its arrival in South Africa), 133 non-commissioned officers and men (including 50 men St. John Ambulance Brigade), one special cook. Arrangements for charge of x ray apparatus to be made in South Africa. ease
	Royal Army Medical Corps.	
	Major R. H. Clement.	
	,, E C. Freeman (b).	
	Lieutenant H. B. G. Walton, Quartermaster and Honorary Lieutenant (c)	
	Militia Medical Staff Corps.	
	Surgeon Captain W. K. Steele.	
	Volunteer Regimental Medical Officers.	
	Surgeon-Captain C. A. MacMunn, 3rd V.B. South Staffordshire Regiment.	
	Surgeon-Captain A. A. Watson, 2nd V.B. East Lancashire Regiment.	
	Surgeon-Captain J. K. Butter, 2nd V.B. South Staffordshire Regiment.	
	Civil Surgeons.	
	Mr. D. V. M. Adams.	
	,, L B Betts.	
	,, A. Copland	
	,, R. Corfe.	
	,, G. Grace.	
	,, H. H. G. Knapp.	
	,, W. H. May.	
	,, J. G. Parker.	
	,, M. W. Renton.	
	,, J. H. Sheldon.	
	Army Nursing Service Reserve (a).	
	Nursing Sister Miss L. Ainsworth.	
	,, ,, ,, N. V. Blythe.	
	,, ,, ,, F. L. Carey.	
	,, ,, ,, I. E Church.	
	,, ,, ,, S. Clark.	
	,, ,, ,, L. M. Green.	
	,, ,, ,, R. A. Humphrey.	
	,, ,, ,, A. M. Joscelyne.	
	,, ,, ,, M. W. B. Kendall.	
	,, ,, ,, M. Lippiatt.	
	,, ,, ,, M. L MacAdam.	
	,, ,, ,, M. McLeod.	
	,, ,, ,, M. Pedlar.	
	,, ,, ,, A. I. Richardson.	
	,, ,, ,, L Shepherd.	
	,, ,, ,, E. C. Stuart-Jones.	
	,, ,, ,, B. Turner.	
	,, ,, ,, L. Warriner.	
	,, ,, ,, F. M. Wilkinson.	
	,, ,, ,, A B. Wohlmann.	
	(Three female servants.)	

(a) Officer in charge (b) Secretary and registrar. (c) Will join the unit on its arrival in South Africa (d) Superintendent or acting superintendent to be selected from Army Nursing Service in South Africa and extra nursing sister being included in this detail to allow of the adjustment.

Medical Division, War Office, March 7th, 1900.

STATISTICAL METHODS AND THE INDIAN PLAGUE COMMISSION.

AT the close of our notice in THE LANCET of Feb. 24th of the report of the Indian Plague Commission upon Haffkine's Plague Prophylactic we expressed our intention of returning again to a brief discussion of the statistical methods adopted by the Commissioners and by Mr. Haffkine respectively. The method hitherto followed by the latter to express in percentages the reduction in mortality brought about by the use of the prophylactic has been as follows. The number of deaths from plague occurring in the uninoculated portion of a community is ascertained, and from this by a simple arithmetical process is calculated the number of deaths which might have been expected to occur in the inoculated portion of the community if they had died at the same rate as the uninoculated. The difference between this figure and the actual number of plague deaths in the inoculated population is then found and expressed as a percentage of the anticipated number of deaths. An example will make quite clear the process involved and it will be most convenient to use round figures. We may suppose a mixed population of 3000 persons, of whom 2000 are uninoculated and 1000 inoculated. We may further suppose that 500 of the former die from plague and 50 of the latter. It is clear that if the inoculated had died at the same rate as those not inoculated 250 of them would have died; but only 50 did so. The reduction in mortality was therefore 200 in actual figures, or 80 per cent. upon the anticipated number of deaths.

The Commissioners have, however, through the greater part of their recently issued report followed a totally different method. They have ascertained the percentage ratio borne by the number of plague deaths in the inoculated to the total numbers of inoculated, and the corresponding figure for the uninoculated. Subtracting the former from the latter the difference is taken to represent the "diminution in mortality in favour of the inoculated." In the hypothetical instance just discussed this method would work out as follows: the percentage mortality in the uninoculated in the case supposed was 25 per cent., that among the inoculated was only 5 per cent. According to the method followed by the Commissioners the "diminution in mortality in favour of the inoculated" would be expressed at 20 per cent.

As to which of these methods is the fairer and more correctly represents the results obtained there can, we believe, be but one reply. The method adopted by Mr. Haffkine is, it may be confidently asserted, not only the fairer but the only correct way of expressing the results. The fallacy involved in the method selected by the Commissioners may be at once shown by a concrete example taken from the pages of their report. On page 55 is a table showing the effect of the inoculations upon the Punjabi Khojas, and on page 58 is another analogous table referring to certain houses occupied by Khojas in Karachi. In the former the uninoculated lost by plague 2 4 per cent. of their number, the inoculated 0 75 per cent., and the difference was 1·6 per cent. In the latter the uninoculated lost 15·7 per cent. of their number, the inoculated 5·1 per cent., and the difference was 10 6 per cent. In each case the Commissioners regard the difference as the "diminution of mortality due to inoculation," and to the ordinary reader it would be open to infer that the inoculations in the latter instance were more efficacious than in the former in the proportion of 10 6 to 1 6, or very nearly as 7 to 1. Yet it will be seen that this was not the case and that *in each* instance the reduction in mortality was almost identical, the inoculated in each group having a percentage mortality something less than one-third of that in the uninoculated. When worked out upon Mr. Haffkine's method this practical identity in results would be at once clearly seen.

The Commissioners take exception to Mr. Haffkine's statement that "one can say in a general manner that the reduction in the mortality produced by inoculation is between 80 and 90 per cent." "Such a statement," they write, "taken apart from the actual figures, might be taken to imply either that inoculation had averted death from 80 to 90 persons (*a*) in every 100 of the total population, or (*b*) in every 100 of the inoculated population, or (*c*) in every 100 inoculated persons attacked, whereas the statement really means that death was averted from 80 to 90 in every 100 of those who, without inoculation, would, judging by the mortality among the uninoculated, have died of plague." This criticism appears to us to be of the nature of hypercriticism. We believe it to be very unlikely that any intelligent person would fall into either of the suggested errors of interpretation, and if Mr. Haffkine's method correctly represents the percentage mortality "of those who, without inoculation, would, judging by the mortality among the uninoculated, have died of plague" it would appear to give a very accurate and fair means of estimating the reduction in mortality brought about by the prophylactic. This end is not attained by the method adopted by the Commissioners, and it would be very unfortunate if the figures dotting the pages of the report, which they call "diminution of mortality in favour of the inoculated," and which vary from 0 1 to 36 4 per cent., were regarded as truly representing the beneficial results of the inoculations.

It is only in the synoptical tables that the Commissioners resort to a more correct method of representing results. In column 10, for example, of the table on page 71 of the report are a series of figures expressing the "ratio of plague deaths among the uninoculated to plague deaths among an equal number of inoculated." This ratio was in Undhera 10 to 1, in Bulsar 3 7 to 1, in Hubli 9 6 to 1, and so on. No possible exception can be taken to this method. It merely expresses the mortality in the uninoculated in terms of that in the inoculated, while Mr. Haffkine's method expresses the reduction of mortality in the inoculated in terms of the mortality in the uninoculated. The two sets of figures are published in the Commissioners' synoptical tables in parallel columns and (apart from one or two obvious clerical errors) they present identical results They are, in fact, the same results expressed in two different ways. This being so, it is not easy to see why the Commissioners should adversely criticise Mr. Haffkine's statistical method of presenting his results when in the end they actually adopt that method, merely expressing the same results in another way. (For example, in Gadag 2 3 per cent. of the uninoculated and 0 6 per cent. of the inoculated died; the ratio of plague deaths among the uninoculated to those among an equal number of inoculated was 3 8 to 1, and Mr. Haffkine's figure for the diminution of mortality in favour of the inoculated is .74. A simple arithmetical exercise will show that these figures, and the same is true for the other places mentioned in the table, are convertible) This being so, too, it is almost incredible that immediately after the synoptical table containing these figures should appear the following remarks from the Commissioners: "This [Mr. Haffkine's] method, though it affords information which is of value to those who desire to ascertain how far the effects of the vaccine have approximated to the ideal standard which would have been attained if all cases of plague had been averted from the inoculated, gives results which are likely to convey a wrong impression to the administrator. It will be seen that whereas the diminution of mortality which was achieved by the introduction of inoculations among the troops at Bangalore amounted actually to 0 8 per cent, it figures, when calculated out according to Mr. Haffkine's method, as 53 3 per cent." Surely the Commissioners cannot seriously regard the former as a fairer statement of facts than the latter? or, indeed, as in any sense a fair statement of facts? "Taken apart from the actual figures"—the criterion of criticism they have themselves applied in judging of the other method—such a statement as the above, that "the diminution of mortality achieved by the introduction of inoculations among the troops at Bangalore amounted actually to 0 8 per cent," *could only mean* that the mortality among the inoculated was to that in the uninoculated as 99 2 to 100. This is obviously an extremely inaccurate statement and one which gives a totally wrong conception of the beneficial results achieved by the inoculations in Bangalore.

We have dwelt at some length upon the adoption by the Commissioners of this erroneous statistical method, in preference to Mr. Haffkine's correct method, as its tendency is to minimise the value of prophylactic inoculation in plague, though the Commissioners have themselves admitted its value and the desirability of encouraging it in every way. It is a blemish of some magnitude on an otherwise careful and valuable piece of criticism.

THE ANNUAL REPORT (1898) OF THE MEDICAL OFFICER OF HEALTH OF LONDON.

III

HAVING dealt in recent numbers[1] of THE LANCET with Parts I. and III. of Mr Shirley Murphy's report, we now come to notice, of necessity very briefly, Part II. of that report, which treats of sundry matters that could not conveniently be included in any of its other sections

Availing himself of certain tables in the last census report which show the proportion of the population occupying tenements of not more than five rooms and living more than two in a room, Mr Shirley Murphy has set himself to investigate the relation of overcrowding to mortality, and especially to phthisis mortality, in each of the sanitary districts of the metropolis. An instructive table is given which shows unmistakeably that there is a close relation between the degree of overcrowding and the proportion of mortality from phthisis, especially where overcrowding is represented by a proportion exceeding a fourth of the population living more than two in a room. The figures, however, do not determine whether the overcrowding is the actual cause of the phthisis or whether the disease by adding to family expenditure or by diminishing wage-earning power leaves less money available for rent and thus brings about overcrowding. Another table shows that the phthisis mortality at each age increases with overcrowding, though not in the same proportion. With unimportant exceptions it appears that the death-rates at the later ages follow the order of overcrowding, the differences between the mortality in the several districts being most marked at those ages at which the mortality from phthisis is the heaviest. This point having been settled Mr. Shirley Murphy proceeds to inquire whether it is in respect of phthisis only that excessive fatality is specially related to overcrowding, or whether, on the other hand, the same connexion exists between non-tuberculous mortality and insufficient air-space in the dwelling.

---

[1] THE LANCET, Jan 27th, p 250, and Feb 17th, p [illegible].

In a previous report[2] Mr. Shirley Murphy submitted evidence proving that although the aggregate mortality from "all causes other than phthisis" follows overcrowding in the same manner as does that from phthisis, nevertheless the several forms of disease differ widely in this respect. The experience of 1898 teaches the same lesson: an interesting chart is appended which shows that in that year the decrease of mortality from phthisis is well marked as the line travels from the most to the least overcrowded districts, but that the mortality from tuberculous meningitis manifests this fall in a much less degree and that from tabes mesenterica even less still. The relation of overcrowding to mortality from the ordinary zymotic diseases is not particularly apparent, while cancer fatality does not seem to be affected in any way by overcrowding. The statistics for 1898 therefore indicate that whilst overcrowding tends to produce excessive mortality from all causes this tendency is especially manifested in the case of phthisis, whilst no such relation can be traced in the case of many other prevalent causes of death. Probably this difference in behaviour may eventually be found to depend on differences in the causation and age-distribution of particular diseases.

In several earlier reports Mr. Shirley Murphy has considered with befitting care the influence which is exerted by school attendance on the spread of infectious diseases. In the present report he reiterates the opinion, often previously expressed, that while the usual exodus from London consequent on school closure in August may be held to explain much of the reduced prevalence of diphtheria and scarlet fever which undoubtedly takes place every year during that month, nevertheless this hypothesis does not account for the whole of the reduction which actually occurs, the residue being attributable, in his judgment, to diminished opportunity for infection at school. With a view of ascertaining the extent to which absence of school children from London may have affected the general prevalence of infectious disease in August he falls back on the statistics of enteric fever as the notifiable disease which may be regarded as less communicable than any other disease of its class from one person to another. As there are now available the statistics of seven years he has taken pains to compare the prevalence of this disease with that of diphtheria and scarlet fever, for although the numbers notified at the separate ages are not large enough to warrant conclusions of a precise character, nevertheless they are sufficient for purposes of comparison. By the help of tables it is shown that whilst there is an actual decrease in the number of cases both of diphtheria and scarlet fever notified in August as compared with the number notified in July, which decrease especially affects children of school age, there is no evidence whatever of similar decrease in the number of notified cases of enteric fever.

Mr. Shirley Murphy next takes into consideration the seasonal variation in age incidence as well as in fatality of infectious diseases notified under the Act. A series of tables are given showing the age-distribution of cases of scarlet fever and diphtheria in each month since 1892. The table relating to scarlet fever shows that the proportion of children attacked under five years of age is greatest at the early part of the year, and that the proportion falls to a minimum in September, subsequently rising again towards the end of the year. There is arrest of the fall in August, due to the fact that children of school age are not contracting disease at school, and children under five years of age therefore constitute a larger proportion of the total cases. The table relating to diphtheria shows that the largest proportion of attacks under five years occurs in March and April and the least in September. As in the case of scarlet fever the proportion of diphtheria attacks under five years of age is unduly high in August—a fact doubtless attributable to the closure of the schools in that month. So much with regard to the incidence of *attacks*. With respect to *mortality* it appears that in the case of scarlet fever this is greatest at the beginning of the year, that it falls gradually until the end of September, and subsequently increases towards the end of the year. The fatality from diphtheria follows much the same course, except that the minimum occurs some two or three months earlier than in the case of scarlet fever. Fatality is necessarily affected by the ages of the patients, but correction for this does not suffice to account for the variations in severity at different seasons which is found to attend attacks by this disease.

In view of the great importance which attaches to the treatment of diphtheria by antitoxic serum Mr. Shirley Murphy's remarks on this subject are full of interest. It appears that, as in previous years, the incidence of diphtheria *attack* at "all ages" was greater in 1898 on females than on males, while the incidence of *death* at "all ages" was greater on males than on females. The *incidence of attack* was greatest on both males and females aged four years, while the *incidence of death* was greatest on both males and females at two years of age. As in previous years, the fatality was greatest among infants under one year old. A table is inserted in the report which shows the variations in the case mortality at the several ages. The marked fall in the fatality at "all ages" and especially at the younger ages in recent as compared with earlier years, is very marked. He therefore suggests the important question, "How far is this fall due to the use of antitoxic serum?"

In the statistical report for 1898 of the Metropolitan Asylums Board there appears a table showing a very remarkable decrease in the case mortality of diphtheria treated in hospital with the help of antitoxic serum during 1895-98, as compared with the years 1888-94, before antitoxic serum was in general use. Mr. Shirley Murphy, however, does not feel justified in attributing the whole of this decrease to the use of the serum, for he shows that a similar decrease has taken place in respect of the hospital cases of scarlet fever within the same period. Apart from the question of treatment there is no doubt that the following circumstances have affected the mortality: (*a*) notification of infectious cases has certainly been more general in the later than in the earlier period; and (*b*) the proportion of diphtheria attacks admitted to hospital has been greater recently than in former years. The first of these changes would tend to reduce the fatality in London as a whole, the second to have reduced the fatality of the hospital cases. He summarises the case thus. 1. There has been a lower fatality both in the case of diphtheria and of scarlet fever in the period 1895-98 compared with 1892-94. 2. Whereas both in 1892-94 and 1895-98 the fatality among scarlet fever cases in the Metropolitan Asylums Hospitals has been greater than among notified cases treated elsewhere, the fatality among diphtheria cases in the Board's hospitals, which in 1892-94 was greater than among home cases, was in the period 1895-98 practically the same at "all ages," and much lower at the younger ages than among cases not admitted to the hospitals of the Board.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 33 of the largest English towns 6741 births and 4729 deaths were registered during the week ending March 3rd. The annual rate of mortality in these towns, which had been 25·8 and 24·2 per 1000 in the two preceding weeks, further declined last week to 21·2. In London the rate was 19·0 per 1000, while it averaged 22·7 in the 32 provincial towns. The lowest death-rates in these towns were 14·8 in Gateshead, 15·9 in West Ham and in Croydon, 16·8 in Nottingham, and 17·2 in Brighton; the highest rates were 29·8 in Preston, 30·1 in Plymouth, 30·7 in Salford, and 31·2 in Liverpool and in Blackburn. The 4729 deaths in these towns included 416 which were referred to the principal zymotic diseases, against 469 and 444 in the two preceding weeks; of these 121 resulted from whooping-cough, 115 from measles, 75 from diphtheria, 40 from "fever" (principally enteric), 32 from scarlet fever, 32 from diarrhœa, and 1 from small-pox. No fatal case of any of these diseases occurred last week in Croydon, Swansea, Birkenhead, or Gateshead; in the other towns they caused the lowest death-rates in Plymouth, Nottingham, Derby, and Hull, and the highest rates in Wolverhampton, Salford, Oldham, Blackburn, and Preston. The greatest mortality from measles occurred in Bristol, Wolverhampton, Blackburn, Preston, and Sunderland; from scarlet fever in Burnley; and from whooping-cough in Birmingham, Norwich, Salford, and Blackburn. The mortality from "fever" showed no marked excess in any of the large towns. The 75 deaths from diphtheria included 26 in London, nine in Sheffield, six in Leicester, six in Leeds, five in Portsmouth, four in West Ham, and four in Liverpool. One fatal case of small-pox was registered last week in London, but not one in any other of the 33 large towns. There were seven cases of small-pox under treatment in the Metropolitan Asylums Hospitals on Saturday last, March 3rd, against 17, eight, and 11 in the three preceding weeks; two new cases were admitted during the week, against one, none, and three in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1872, against numbers decreasing from 3578 to 2009 on the 15 preceding Saturdays; 154 new cases were admitted during the week, against 157, 159, and 160 in the three preceding weeks. Influenza was certified as the primary cause of 42 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had been 527 and 485 in the two preceding weeks, further declined last week to 380, and were 188 below the corrected average. The causes of 74, or 1·6 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bolton, Oldham, and in eight other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Leicester, Liverpool, Manchester, and Sheffield.

---

[2] See Report of the Medical Officer of Health of the County of London for 1894, p. 43.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased from 23·0 to 31·7 per 1000 in the seven preceding weeks, declined again to 29·0 during the week ending March 3rd, but exceeded by 7·8 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 16·6 in Leith and 21·2 in Aberdeen to 30·4 in Perth and 34·2 in Glasgow. The 897 deaths in these towns included 20 which were referred to measles, 18 to diarrhœa, 15 to whooping-cough, 10 to scarlet fever, six to "fever," and five to diphtheria. In all 74 deaths resulted from these principal zymotic diseases, against 82 and 69 in the two preceding weeks. These 74 deaths were equal to an annual rate of 2·4 per 1000, which was 0·5 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of measles, which had been 24 and 17 in the two preceding weeks, rose again to 20 last week, and included 10 in Glasgow, four in Dundee, and four in Paisley. The deaths from diarrhœa, which had been 20 and 19 in the two preceding weeks, further declined last week to 18, of which eight occurred in Glasgow, three in Edinburgh, and three in Dundee. The fatal cases of whooping-cough, which had been 18 and 17 in the two preceding weeks, further decreased to 16 last week, and included six in Glasgow, three in Aberdeen, two in Edinburgh, and two in Paisley. The deaths from scarlet fever, which had been 11 and nine in the two preceding weeks, rose again last week to 10, of which nine were registered in Glasgow. The fatal cases of "fever," which had been two in each of the two preceding weeks, increased to six last week, and included four in Glasgow. The five deaths from diphtheria, of which four were recorded in Glasgow, corresponded with the number in the preceding week. The deaths referred to diseases of the respiratory organs in these towns, which had increased from 172 to 362 in the five preceding weeks, declined again to 324 last week, but were 111 above the number in the corresponding period of last year. The causes of 50, or nearly 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 29·7, 42·4, and 51·0 per 1000 in the three preceding weeks, declined again to 34·3 during the week ending March 3rd. During the past four weeks the death-rate in the city has averaged 39·4 per 1000, the rate during the same period being 21·0 in London and 25·5 in Edinburgh. The 230 deaths registered in Dublin during the week under notice were 112 less than the number in the preceding week, and included 12 which were referred to the principal zymotic diseases, against 17, 15, and 11 in the three preceding weeks; of these five resulted from diarrhœa, four from "fever," one from measles, one from scarlet fever, and one from diphtheria. These 12 deaths were equal to an annual rate of 1·8 per 1000, the zymotic death-rate during the same period being 1·6 in London and 1·2 in Edinburgh. The fatal cases of diarrhœa, which had been two and four in the two preceding weeks, further rose to five last week. The deaths referred to different forms of "fever," which had been three and one in the two preceding weeks, increased again last week to four. The mortality from measles showed a marked decline from that recorded in the preceding week. The 230 deaths registered in Dublin last week included 35 of infants under one year of age and 69 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a considerable decrease from the numbers in the preceding week. Four inquest cases and two deaths from violence were registered, and 84, or more than a third, of the deaths occurred in public institutions. The causes of 10, or more than 4 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following qualified candidates for the Royal Navy Medical Service have been appointed to be Surgeons in Her Majesty's Fleet:—Herawald Evelyn Croker Fox, James Garfit Wallis, William Percival Walker, Robert William Glennan Stewart, John O'Hea, Robert Robertson Fasson, John Reid Muir, Leonard Sykes Whitwam, Arthur Forbes Fraser, Arthur Stanley Frank, Herbert Reginald Harry Denny, Ralph Bignell Ainsworth, John St. John Murphy, Alfred James Hewitt, Gerald Meade Eastment, Henry Ivers Rogers, Alexander Cameron Renwick, Walter Percy Dyer, Thomas Hedley Vickers, and Richard Rothwell Horley.

Surgeon Ernest Albert Shaw has been allowed to withdraw from Her Majesty's Naval Service with a gratuity.

The following appointments are notified:—Staff Surgeons: R. W. Anderson to the *Caledonia*; J. H. Stenhouse for medical charge of the *Edgar* on voyage home. Surgeons; J. W. W. Stanton, for medical charge of the *Edgar* on voyage to China; F. T. Sutcliffe to the *Boscawen* for the *Seaflower*; R. Hughes to the *St. Vincent* for the *Martin*; E. O. B. Carbery to the *Boscawen* for the *Dolphin*; G. E. Glynn to the *Boscawen* for the *Wanderer*; J. K. Raymond to the *Impregnable* for the *Nautilus*; G. M. O. Richards to the *Impregnable* for the *Pilot*, A. J. Laurie to the *Lion* for the *Liberty*; J. H. Jones to the *Sharpshooter*; F. Bradshaw to the *Bellona*; J. C. Ferguson to the *Wallaroo*; F. Bolster to the *Rosario*; T. E. Honey to the *Basilisk*; and E. Haines to the *Humber*.

THE IMPERIAL YEOMANRY.

Surgeon-Captain J. Wreford, 1st Northumberland Volunteer Artillery, is granted the temporary rank of Captain whilst serving with the Volunteer Battery in South Africa. To be Medical Officers, with the temporary rank of Captain: Emelias Hopkinson and Hay Reynolds.

COLONEL LUMSDEN'S CORPS.

Surgeon-Captain Samuel A. Powell, Surma Valley Light Horse Volunteers, to be Medical Officer, with the temporary rank of Captain; William Stevenson to be Veterinary Officer, with the temporary rank of Lieutenant.

Lord Strathcona's Corps.

Campbell B. Keenan to be Medical Officer, with the temporary rank of Captain.

Royal Army Medical Corps.

The undermentioned Surgeon-Lieutenants of the Volunteer Medical Staff Corps are granted the temporary rank of Lieutenant whilst serving in South Africa:—John William Smith, and Edmund William Herrington.

The following officers are detailed for duty with No. 9 General Hospital:—Majors A. Hosie and M. T. Yarr, and Captain F. Smith, R.A.M C., and Surgeon-Lieutenants J. W. Smith and E. W Herrington, Volunteer Medical Staff Corps.

Colonel C. A. Maunsell, Administrative Medical Officer in Bombay, is appointed Principal Medical Officer of the South-Eastern District in place of Colonel H. Comerford who relieves Colonel Maunsell at Bombay.

India and the Indian Medical Services.

The Queen has approved of the following appointments to Her Majesty's Indian Medical Service:—To be Surgeon-Lieutenants (dated Jan. 27th, 1900): Archibald Currie MacGilchrist, John Wallace Dick Megaw, Edward Owen Thurston, George Browse, Cecil Maurice Goodbody, Robert Steen, Frederick Fenn Elwes, Ian Lamont MacInnes, Ernest Albert Churchward Matthews, Lessel Philip Stephen, Leonard Gilbert, Thomas George Nesbitt Stokes, Harry Malcolm Mackenzie, Michael Harris Thornely, Francis Victor Owen Beit, William O'Sullivan Murphy, Matthew Corry, Cecil Charles Murison, Herbert Armstrong Williams, William Christopher Long, and George Crofts Beamish.—*London Gazette.*

Army Medical Reserve of Officers.

Surgeon-Captain John Arnallt Jones, 2nd Volunteer Battalion the Welsh Regiment, to be Surgeon-Major.

Militia.

Infantry: 4th Battalion the Lincolnshire Regiment: Surgeon-Lieutenant-Colonel G. W. Shipman, Militia Medical Staff, resigns his commission, with permission to retain his rank and to wear the prescribed uniform on his retirement.

Yeomanry Cavalry.

Suffolk (the Duke of York's Own Loyal Suffolk Hussars): Surgeon-Major A. Cooper to be Surgeon-Lieutenant-Colonel.

Volunteer Corps.

Royal Engineers (Volunteers): 1st Devonshire and Somersetshire: Arthur Stanley Wohlman to be Surgeon-Lieutenant. *Rifle:* 1st Roxburgh and Selkirk (the Border): William Hall Calvert to be Surgeon-Lieutenant. 4th Volunteer Battalion the Cameronians (Scottish Rifles): Surgeon-Captain G. McIntyre resigns his commission. 2nd Volunteer Battalion the Royal Sussex Regiment: George Reuben Robins Paine to be Surgeon-Lieutenant. 5th (Perthshire) Volunteer Battalion the Black Watch (Royal Highlanders): Lieutenant E. L Paton to be Surgeon-Captain. 1st Tower Hamlets: Surgeon-Captain W. D. Waterhouse, to be Surgeon-Major.

Transvaal War Notes.

The Government has sent a communication to each of the Universities of Glasgow, Edinburgh, St. Andrews, and Aberdeen asking for medical student volunteers.

The fund for the Welsh Field Hospital has been augmented by the sum of £150, the proceeds of a banquet and special appeal by Mr. Lloyd George, M P.

Lieutenant-Colonel W. A. May, R.A.M.C., of the Eighth Division, will leave Southampton for South Africa to day (Saturday).

We have received the plans of the Building Trades' magnificent gift to the nation, which takes the form of homes of rest and convalescent homes for discharged soldiers. These will be erected at Bisley at a cost to the Building Trades of £25,000.

The staffs of the Imperial Yeomanry Field Hospital and Bearer Company will be composed as follows.—*Field Hospital.*—Chief Surgeon and Military Commandant: Major C. Stonham, Senior Surgeon to Westminster Hospital. Surgeon: Mr. T. H. Openshaw, Surgeon to the London Hospital. Assistant Surgeons: Mr. A. W. Sheen, Assistant Surgeon to the Cardiff Infirmary, and Mr. A. H. Evans, Surgeon to the East Dispensary, Liverpool. Physician and Anæsthetist: Dr. J Purves Stewart, Assistant Physician to Westminster Hospital. Dressers: Dr. C. H. Jefferys, St. George's Hospital; and Mr. E. O. Carlin, Mr. S. W. Crowther, Mr. C. H. M. Hughes, Mr. C. A. Gill, Mr. G. J. Marett, and Mr. W. C. Nimmo, all of Westminster Hospital. *Bearer Company.*—Major G. E. Hale, R.A.M.C., D S O. Assistant Surgeons: Mr. A. A. Scot Skirving, Surgeon to Leith Infirmary, and Dr. Frederick Green. An inspection will take place on Monday at Devonshire House by the Prince of Wales and the hospital staff will probably sail about Tuesday in the steamship *Winkfield*.

Surgeon Captain Steele, Militia Medical Staff, has been ordered from Netley to Aldershot preparatory to his proceeding to South Africa.

The *Nile* transport arrived at Southampton on Monday, March 5th, with two officers and 40 men from the scene of war in South Africa. One of the men, O'Leary by name, of the West Surrey Regiment, was wounded by a Mauser bullet at Colenso. The ball was removed from the brain under the supervision of Sir William Mac Cormac at Maritzburg Hospital. All the men had served under Sir Redvers Buller in the attempt to cross the Tugela on Dec. 15th, 1899. The invalids were admitted to the Royal Victoria Hospital, Netley, during the morning. On the same day the Cunard steamer *Aurania* arrived at Southampton from South Africa. She carried 174 wounded invalids, but arrived so late in the day that the men were not admitted to Netley Hospital until 9.30 in the evening.

The s.s. *Dunera* arrived in port on March 4th. She carried 28 invalids who were sent on to Netley. The transport *Britannic* from the Cape also arrived at Southampton on March 4th, having on board three officers and 40 men invalided from the seat of war. Most of the wounded had been engaged with Lord Methuen's column at Magersfontein and Modder river and had passed through the Wynberg Hospital. Many of the wounded had lost limbs. They were sent on to Netley by special train.

We hear that 32 additional Dœcker huts are being erected in the rear of the Royal Victoria Hospital, Netley, also 40 iron huts and the necessary cook-houses and offices. The 102 huts are to be used for convalescents and will accommodate over 1000 men.

Messrs. Offord and Sons of Gloucester-road and Fulham-road, S.W., have presented the Imperial Yeomanry Loyal Suffolk Hussars with a two-wheeled ambulance vehicle, light in construction, but strong and well suited for rapid transit. Two removeable stretchers are placed on the floor of the vehicle, and at a short distance above them there is a frame carrying two other similar stretchers. These four stretchers with sick or wounded men can be lifted in or out at the back with the utmost readiness, the vehicle being steadied, if necessary, during the process by temporary iron props fixed to the back and front of the body and resting on the ground. There is an ingenious arrangement by which the frame for holding the upper two stretchers can, when not required for that purpose, be at once converted into seats. Particular attention has been paid to the springs supporting the body. The vehicle is covered with canvas stretched over an iron frame which can be taken to pieces. It is provided both with shafts for one horse and with a pole for two. A basket to hold medical and surgical requisites is slung underneath with straps. The wheels are about four feet in height.

The authorities of the German Hospital at Dalston have placed 10 beds at the disposal of the War Office for the use of soldiers invalided from South Africa.

Five railway ambulance carriages are being built for the medical department of the War Office by the London and South-Western Railway Company and are expected to be completed within a week or two. Each carriage will be 48 ft. long and 8 ft. wide and will be carried on steel bogies of the latest improved pattern. The interior arrangements will consist of a central compartment 31 ft. 3 in. long in which there will be 12 spring beds and seating accommodation for the less serious cases. At each side of the carriage there will be double doorways to allow of the spring beds being carried in and out. The end compartments will be one for the medical or invalid officers and the other for patients, each having a lavatory adjoining. Each carriage will be provided with a gas-stove for warming food, together with other necessary accessories, and there will be gangways connecting the carriages to enable the medical staff to pass from one vehicle to another.

The Gamle Carlsberg Breweries Alliance, Copenhagen, has given to the hospital ship *Princess of Wales* 200 dozen of their specially brewed imperial stout.

The secretary of the Central British Red Cross Committee writes to say that the statement which has appeared in several papers to the effect that the Dœcker huts recently erected at Netley were lent by the German Red Cross Society is not true. Through the kindness of the Central Committee of the German Red Cross Societies the Central British Committee was able to obtain within a very short time a large number of huts which the manufacturers had been making to the order of the German Central Committee, but the huts have been purchased, not obtained on loan."

THE ARMY ESTIMATES.

According to the army estimates for the financial year which commences on April 1st and ends on March 31st, 1901, the total number of men for which provision is made is 430,000, as compared with 184,853 in the estimates of 1899-1900, a net increase of 245,147. The expenditure for the coming year is put down at £61,499,400, as against £20,617,200 in the estimates for the 12 months now drawing to a close, an increase of £40,882,200. In addition, there was this year a supplementary estimate of £10,000,000 and 35,000 men passed by the House of Commons in October, and the supplementary estimate for £13,000,000 and 120,000 men agreed to last month. Among the separate items in the estimates is one for £555,000 for pay, &c., of the medical establishment. In Lord Lansdowne's remarks dealing with the increases in the various votes the War Minister says: "The medical vote has been nearly doubled owing to the war. All the available officers of the Royal Army Medical Corps ordinarily on the home establishment have been sent to South Africa, and their places at home have been filled by the employment of retired officers and civil medical practitioners. In addition a large number (223) of civil surgeons have been sent to the seat of war. The services of seven surgeons of eminence have been accepted as 'consulting surgeons' to the army in the field. The Army Nursing Reserve, which was constituted in 1897, has been largely drawn upon to supplement the Army Nursing Service in the field and at home, and the services of members of the St. John Ambulance Brigade have been largely utilised. Provision has been made for a large increase of officers of the Royal Army Medical Corps, and a further addition has been made to the establishment of non-commissioned officers and men." As at present arranged the Army Estimates will not be taken later, at all events, than Monday next. But for the indisposition of Mr. Wyndham it would have been definitely arranged to take them on Thursday or Friday.

ARMY MEDICAL SCHOOL, EIGHTIETH SESSION, 1900.

The following is a list of nominated surgeons on probation, Royal Army Medical Corps:—

Names.	Qualifications.	Studied at
A. F. Weston ..	L.S A. Lond.	St. George's Hosp., Lond.
P. G. Stock	M.R.C S Eng L.R.C P. Lond	Bristol.
J. M. Cuthbert ...	M.B, Ch B Edin	Edinburgh.
F. MacLennan ...	M B, Ch B Aberd.	Aberdeen.
J. Dorgan	M.B, B Ch. R U.I.	Queen's College, Cork.
G. Carroll	L.R.C S. & L R C.P. Irel.	Catholic University School of Medicine, Dublin
G. J. Houghton	L.R.C P. & S Irel	Trinity College, Dublin.
C. H. Furnivall...	M.R C.S Eng, L.R C P Lond	St. Mary's Hospital, London.
H. B. Fawcus ...	M.B, B S. Durh	Newcastle-on Tyne.
R. T. Brown ..	M B, B S Durh, M R C S Eng, L.R.C.P. Lond.	Guy's Hospital, London.
B. S Bartlett ..	M.R.C S, L R.C P	University Hospital, London.
E. Bennett	L.R.C S & L.R C P Irel	Royal College of Surgeons, Dublin.
F. G Fitzgerald .	L.R.C S & L.R C P Irel	Ditto.
D. O. Hyde... ..	B A, M.B, B.Ch, B A O. Dub.	Trinity College, Dublin.

DEFECTIVE SANITATION IN THE ITALIAN NAVY.

In the *Rivista Marittima* for October, 1899, Dr. Belli of the Italian navy draws attention in a very outspoken article to the defective sanitation of the fleet. On board the Italian men-of-war, he says, ordinary comfort is sacrificed to ridiculous ornamentation, while æsthetic adornment takes the place of wholesome cleanliness. Descending to particulars the writer continues his attack *seriatim*: 1. The ventilation is almost inoperative, not having been thought of until after the hulls had been partitioned off. The ventilators are distributed in a haphazard fashion; and apparently a large cabin is considered to be thoroughly provided for when a single minute inlet has been inserted. 2. The water-supply, derived from distillation, is barely sufficient for drinking purposes and is totally inadequate for ablution. 3. The kitchens, storerooms, &c., are all dark, stuffy, and impossible to keep clean. 4. The latrines, which are on the Turkish system, are indescribable; there are no lavatories except in a few ships where they exist for the stokers alone, and the officers' baths are so ill-fitted that they are never used. 5. There are no "cold rooms" for preserving meat and putrescible food. 6. The appliances for washing clothes are most inadequate, boiling being for the most part the only detergent method possible. 7. The sick bays and dispensaries are all insufficient and old fashioned; few ships are provided with disinfecting apparatus. In conclusion Dr. Belli gives a highly laudatory account of the United States Museum of Naval Hygiene, having had the opportunity of inspecting that institution when he visited New York in 1897 in the *Colombo*, of which vessel he was surgeon-major.

MARCHES AND SOLDIERS' EQUIPMENT IN SOUTH AFRICA.

It has been found as a matter of experience in South Africa, as well as upon many other occasions in previous expeditions, that marching troops for long distances in the heat of the day is attended with a good deal of falling out from heat exhaustion and sunstroke, especially where an abundant supply of water is not available, as sometimes must be the case. A special correspondent of the *Standard* calls attention to the experience of the troops in these respects on the occasion of the march on Feb. 3rd of General Macdonald's Highland Brigade, and dwells upon the unsuitability of the equipment of the men for a campaign in South Africa, with the addition of a weight of 150 rounds of ammunition. He alludes also to the unsuitability of the kilt for the marches and exceptional kind of field service in South Africa, with its difficult rocky ground and stretches of country covered with a kind of sharp thorn scrub. It would, no doubt, be better to have all the troops clad in khaki and to reserve the kilt for other occasions. During the future operations attempts will probably be made, as far as practicable, to hug rivers and streams in the marches and to take every advantage of lines of rail—on the route to Pretoria, for example. But it is scarcely necessary to point out that troops must go where they are required and that however desirable it is to carry their kits for them it frequently cannot be done.

DEATHS IN THE SERVICES.

Surgeon Benjamin Grant Heather, R N, at the Royal Navy Hospital, Stonehouse, on March 2nd, in his thirty-first year. Mr. Heather received his medical education at St. Thomas's Hospital, London, and qualified L.R C P. Lond. and M.R.C.S. Eng., in 1893. The deceased officer had held the rank of surgeon in the Royal Navy since May 16th, 1894. His last appointment was on the battleship *Magnificent*.

Inspector-General of Army Hospitals Thomas Guy, M.D. Heidelb., F.R C.P. Lond., at his residence, Dover, in his eighty-first year, on March 3rd.

Captain Alan Jasper Heath, I.M S., recently, at Exminster, aged 34 years. Captain Heath was the son of Mr. Christopher Heath, F.R C S. Eng.

ROYAL NAVY MEDICAL SERVICE EXAMINATION.

The under-mentioned gentlemen who competed on Feb. 19th, 1900, and following days at Examination Hall, Victoria-embankment, for appointments as surgeons in the Royal Navy have been granted commissions:—

Name.	*Marks*	*Name.*	*Marks.*
H E C Fox, M B	2436	H. R. H. Denny	2028
J. G. Wallis, M B	2334	R. B Ainsworth ...	2020
W. P. Walker, M.B Lond.	2320	J. H. J Murphy	2005
R W G Stewart, M B R.U I .	2270	A. J Hewitt	1950
J. O'Hea	2258	G M. Eastment . ..	1901
R R Passon, M B. ...	2234	H. J. Rogers, B.A, M.B	1883
J R Muir M B Edin. ...	2211	A. C. Renwick, M B. ... Edin	1873
L S Whitwam, M B ...	2173	W. P. Dyer	1849
A. F Fraser, M B Edin	2093	T H Vickers	1808
A. S. Frank, M B	2041	R. R. Horley	1717

Lieutenant-Colonel J. Lewtas, M.D. Lond, I.M.S, second surgeon to the Calcutta Hospital, who is at present at home on furlough, has been asked to serve at the Royal Victoria Hospital owing to the emergency created by the war in South Africa. Colonel Lewtas joined at Netley on March 2nd and is posted to the medical division for duty.

The services of Sir Thomas Fitz-Gerald, F.R.C.S. Irel., senior surgeon to the Melbourne Hospital, have been accepted by the British Government for South Africa.

Correspondence.

"Audi alteram partem."

"BORIC ACID IN FOOD."

To the Editors of THE LANCET.

SIRS,—Dr. M. K. Robinson in his letter to THE LANCET of Jan. 13th, 1900, p. 131, quotes against me a reference, made by me to Dr. Annett's investigations, that "all that these experiments really prove is already known—viz., that animals finally succumb under the repetition of large doses." He says: "This admission utterly destroys the value of Dr. Liebreich's experiment for the purpose of argumentative disproof of the toxic effect of boric acid in the case I narrated." But what I said referred only to Dr. Annett's experiments on kittens, which were given extraordinarily large doses of boric acid during a long period of time, whereas in the cases cited by Dr. Robinson the fowls were only given one large dose. And this dose cannot have been large enough to produce any ill-effects, because in that case the blancmange would have been uneatable on account of its strong taste. It is thus inadmissible to quote my reference to Dr. Annett's experiments as applicable to those of Dr. Robinson. Dr. Robinson further seeks to defend his contention that the case was one of boric acid poisoning by pointing out that the fowls died which ate the most blancmange and that those which took least recovered; and, further, says that the symptoms were very typical of poisoning by large doses of boric acid and that large quantities of boric acid were found, on the one hand, in the milk from which the blancmange was made and, on the other hand, in the crop and stomach of the dead fowls.

It cannot be regarded as in any way typical of boric acid poisoning that the fowls died which ate most of a poisonous blancmange while those which took least recovered. As regards the symptoms exhibited by his patients, which Dr. Robinson regards as characteristic of acute poisoning by boric acid, we have no knowledge of any typical symptoms of such poisoning. Nor can we form a judgment merely from symptoms, for many poisonous substances produce the same symptoms, including *suppressio urinæ*. It is natural enough that boric acid should be found in the crop and stomach of fowls which have eaten large quantities of a substance containing boric acid, and does not prove that the boric acid was the cause of their death. Such a conclusion would only be justified if the poisonous properties of boric acid in the quantities under consideration had been proved by experience of its effects upon human beings and experiments on animals. But as regards our experience of the effects upon human beings there exists no evidence for its poisonous nature. On the contrary, it has been proved, as already stated by me, "that excessive doses administered by the mouth cause only passing harm in man." Dr. Robinson would have acted more correctly if he had quoted this sentence instead of the one he did. Further, it would have been well if he had made careful experiments on animals. His experiments on the fowls only prove the poisonous nature of the blancmange and have no bearing on the question of the poisonous nature of boric acid. My own experiments on fowls conclusively show that boric acid does not poison them even when administered in doses as large as could possibly have been contained in the blancmange. The only conclusion warranted by them is that, in the case cited by Dr. Robinson, the poisonous effects were not produced by the boric acid, but by some other substance which must have been contained in the blancmange. Dr. Robinson has himself taken this hypothesis into consideration, but believes himself justified in rejecting it because a chemical analysis did not prove the presence of *tyrotoxicon*. But it is a principle universally accepted in toxicology that the negative result of a chemical analysis is not always conclusive of the absence of a poisonous substance, and this is especially true for the easily decomposable substances ptomaine and toxalbumin. Dr. Robinson also rejects the hypothesis of vanilla poisoning. Many toxicologists are now inclined to regard cases of vanilla poisoning as really due to tyrotoxin. But there are no conclusive proofs for this theory. Dr. Robinson says that he is unaware of any poisonous effects which have been traced to vanilla in a pure state. But what grounds has he for assuming that the vanilla employed by the cook in preparing the blancmange was "in a pure state"?

I do not for a moment attribute to Dr. Robinson any desire for sensational publicity; at the same time it cannot but create a sensation when poisonous properties are suddenly ascribed to a non-poisonous substance.

I am, Sirs, yours faithfully,

Berlin, March 5th, 1900. OSCAR LIEBREICH.

THE LUNACY ACT, 1900.

To the Editors of THE LANCET.

SIRS,—All interested in the public asylum service will much appreciate the sympathetic tone of the leading article in THE LANCET of March 3rd (p. 631) having reference to this year's Lunacy Bill. The omission from that Bill of any pension clause is to be deprecated not merely from the point of view of the asylum official but also from that of the public. In the interest of the amelioration and recovery of the insane the importance of securing and retaining the best class of officers, attendants, and nurses for public asylums is obvious, and to do this the prospect of an assured and sufficient retiring allowance for those who have spent their best days in this arduous and trying service is essential. The improvement of the status of attendants and nurses in asylums by encouraging them to avail themselves of opportunities of training and by enlisting a share of public interest on their behalf, together with the formation of a fund for mutual benevolent aid, was the main object of the formation in 1896 of the Association of Asylum Workers, which now comprises over 3000 members and is presided over by Sir James Crichton Browne. The preparation and presentation in 1898 of a petition to the Lord Chancellor on the subject of pensions was the work of this body and not of the Medico-Psychological Association of Great Britain and Ireland (as stated in the article above mentioned). The latter is the representative organisation of asylum medical officers throughout the country and of medical men interested in psychological medicine, whilst the Association of Asylum Workers is largely (but not exclusively) composed of the "rank and file" in asylum service. Both associations are, however, interested in the question of satisfactory superannuation and have worked from their respective standpoints in similar directions in trying to secure this object, so important on public as well as on private grounds.

I am, Sirs, yours faithfully,

G. E. SHUTTLEWORTH,
Honorary Secretary, Association of Asylum Workers.

Richmond, Surrey, March 6th, 1900.

"THE ANATOMY AND PATHOLOGY OF THE RARER FORMS OF HERNIA."

To the Editors of THE LANCET.

SIRS,—In connexion with the valuable lectures by Mr. Moynihan published in THE LANCET of Feb. 24th and March 3rd I may, perhaps with advantage, briefly record a case of reduction in mass of the third variety mentioned by him in the first lecture (Fig. 7 C., p. 518).

A woman, aged 65 years, was admitted into the Hampstead Workhouse infirmary on May 19th, 1899, suffering from abdominal pains and vomiting. This condition had been going on for four days and had been labeled gastritis, but when she was admitted the vomit was fæcal and there was a small irreducible swelling over the right femoral canal. After considerable difficulty she was persuaded to undergo an operation. Under A.C.E., taxis proving useless, the sac was opened and a knuckle of small intestine and some omentum were found strangulated but in a recoverable condition. I think by the slight diminution in size of the tumour during taxis that some fluid had been driven into the abdomen; there was practically none found on opening the sac. "The stricture at the neck of the sac" was very carefully divided, and while notching the sharp edge of Gimbernat's ligament of course the peritoneum was slightly cut. On applying pressure to the bowel it presently slipped back, but without the usual pleasant gurgle. On introducing the little finger the bowel seemed to lie in a free cavity, though there was a "string" felt that was curious; this really must have been the torn edge of the peritoneum. The operation was concluded without special feature. After the operation and through the night the patient seemed a little better, but the next afternoon she began vomiting fæcal matter again; the abdomen was swollen though soft and the pulse was not good. Unfortunately she absolutely refused any further operation. She died on the 24th, nearly five days after the operation.

At the post-mortem examination I found on opening the abdomen that the accident described by Mr. Moynihan had occurred. About four inches of small intestine were lying empty and flaccid between the peritoneum and the pubes. This was very easily drawn out and was in very fair condition, so that by an abdominal section I think it would have been quite easy to have completed the operation satisfactorily. Beyond some slight hyperæmia in the neighbourhood there was not any peritonitis.—I am, Sirs, yours faithfully,

E. CLAUDE TAYLOR, M.S. Lond., F.R.C.S. Eng.,
Medical Officer to the Hampstead Workhouse Infirmary.
March 5th, 1900.

To the Editors of THE LANCET.

SIRS,—In the last of Mr. Moynihan's Arris and Gale Lectures, published in THE LANCET of March 3rd, p. 597, he mentions that "four cases of inguinal cystocele have been recorded in children." To these allow me to add another case which came under the care of my friend, the late Mr. E. S. O'Grady, while he was surgeon to Mercer's Hospital in this city. The case was admitted to hospital in 1883, and in the session 1883–84 Mr. O'Grady read a paper on the subject before the surgical section of the Academy of Medicine in Ireland, the late Mr. Edward Hamilton being in the chair. As the case is an interesting one and as it does not appear in the Transactions of the Academy of Medicine I think the principal facts are worthy of being placed on record.

A boy, apparently six years old, was admitted to Mercer's Hospital under Mr. E. S. O'Grady's care suffering from a painful swelling in his left inguinal region. He stated that the swelling was there for more than a year and that he had never experienced any inconvenience from it, though latterly it had greatly increased in size. A few days before admission to hospital, when the swelling was at its largest, he had bruised it in a fall and from that time it was painful. The lump was of about the size of a small orange, rather painful to handle, and the boy drew attention to the fact that when he pressed the lump with his hands he made water. After a few days' rest in bed the pain disappeared and then Mr. O'Grady operated. On cutting on the lump he came upon a cystic tumour, uncovered by peritoneum, from which the fluid was readily expressed, with the result that urine flowed from the penis. The sac was now opened and the healthy mucous coat of the bladder came to view. A catheter was now passed through the urethra and its point was brought out through the incision. The bladder was sewn up and a radical operation performed and the boy left the hospital in a few weeks. The case resembles that of Mr. P. Pott as reported in Sir James Earle's edition of his monograph on Ruptures. It is a pity that our old classical medical writers are not more read. Neglect of them has caused us to overlook Pott's case of Mr. Nourse's patient from whom he successfully removed both ovaries before M'Dowell was out of his long clothes.

I am, Sirs, yours faithfully,
Dublin, March 5th, 1900. GEORGE FOY.

THE OBSTETRICAL SOCIETY OF LONDON AND THE MIDWIVES QUESTION: AN APPEAL.

To the Editors of THE LANCET.

SIRS,—I beg, through the columns of THE LANCET, to make an earnest appeal to each fellow of the above society. There is little doubt but that this society has been the prime mover in the agitation *re* midwives' registration. Although the society was established in 1858 it was not until 1872 that it entered upon the down-grade act of examining and granting documents to intending midwives. Since that time over £3966 worth of diplomas have been sold, while over £1957 have been handed to the few fellows who conduct the said questionable examinations. I think it was one of the saddest and most humiliating episodes in connexion with any body of practitioners when they formed themselves into a voluntary society and established a "back door entrance," so that certain persons could practise that branch of medicine known as midwifery and without undergoing the usual medical education and examination.

What will be done if other medical societies degrade themselves and their profession by following so evil an example? And can any practitioner—any honest practitioner—state that if one society takes it upon itself to grant certificates which profess to empower the holder to practise *midwifery* it is not equally open for any other society to grant a certificate empowering the holder to practise minor *medicine* or *surgery?* It is most regrettable that it has alone fallen to the lot of medical men to establish so debasing and dangerous a line of conduct. Do we hear of barristers or solicitors, or dentists, veterinary surgeons, or chemists, or any of their societies, beginning to sell diplomas to persons which profess to entitle the holders to practise minor law, dentistry, pharmacy, &c.? Thank God, they have not fallen so low. But unfortunately the degrading action of the above society has been imitated by a number of persons who took it on themselves to grant an "M.D. Bc." I refer to the "General Council of Safe Medicine, Limited," also the "National Association of Medical Herbalists"; its examining council is now competing on similar lines with the Obstetrical Society and is granting diplomas in medicine and midwifery. Now, Sirs, we all know that our legislature has appointed certain universities and colleges to examine and grant degrees and diplomas to those who wish lawfully to practise medicine, surgery, and midwifery. Unfortunately, the legislature thought that we were a body of honourable men and that every one of us would do our best to carry out the Medical Acts. Present actions show that our legislators did not know that there were a few traitors who would go behind these Acts. Had they known of this intrigue practically to repeal the Acts they would have inserted a section making it an offence if *any* persons other than those appointed by Act of Parliament granted any documents professing a power to practise.

In 1894 I petitioned the General Medical Council to make a rule to the effect that the Council will consider it "infamous conduct in a professional respect" if any practitioners other than those appointed by Parliament grant any document which professes to empower the holder to practise any branch or part of medicine, surgery, or midwifery. Mr. C. G. Wheelhouse gave the petition his powerful support (see Minutes, May, 1894). In 1895 I had a petition signed by over 40 members of the Obstetrical Society of London to the same effect as the above presented to the General Medical Council (see Minutes of the General Medical Council, May, 1895).

What I wish to propose now is that every fellow of the Obstetrical Society of London who feels that the society should cease forthwith to examine and grant documents to intending midwives shall write at once to the secretary of the society (20, Hanover-square, London, W.) stating that if the society does not cease to grant documents to intending midwives he will resign his connexion with the society. There are about 711 fellows of the society. If the majority of these resign, and, if they wish, become fellows of the British Gynæcological Society instead, they will for the same annual subscription (20*s.*) not lose anything. I shall be glad to hear from any of the society's fellows and, if they wish, to publish a list of protesters in the medical papers.

I am, Sirs, yours faithfully,
Liverpool, March 2nd, 1900. R. R. RENTOUL.

DEATHS UNDER CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—I am constrained to ask space to comment on a case of death under chloroform reported in THE LANCET of Dec. 30th, 1899, p. 1811, with remarks by Dr. Mowat, the chief point to which I wish to call attention being his initial remark that "the patient undoubtedly died from syncope." It is true that when respiration begins to fail the heart's beat rapidly weakens, but this is not primary heart failure, nor does such a patient die from syncope. It will be admitted that the criterion as to whether a man dies from syncope or paralysis of the respiratory centre is the determining whether heart or respiration fails first. Unfortunately, in the case under consideration this essential piece of information is omitted, so that it is impossible to draw any definite conclusion as to the cause of death. The information actually given on this point is that "the patient continued to breathe for a short time after his head was lowered," which was done immediately on the onset of dangerous symptoms, and that "auscultation failed to detect any heart-beat ten minutes after the appearance of dangerous symptoms." If these expressions warrant any guess (it cannot even be an opinion) as to whether heart or breathing failed first they point to primary respiratory failure. If a published case is to be of *any use it must be fully reported so that all who read* may form their own conclusions. In no other way can the vexed question of the mode of death under chloroform be finally settled, for no man can be expected to accept unhesitatingly another man's dictum on a questionable point. In this case I think I may claim to have shown that there is no proof that the death occurred from heart failure, but that the presumption on the imperfect facts published is that death resulted from respiratory failure. As already hinted, however, the principle at stake here is, if such is possible, even more important than the determination of the mode of death in any particular case—namely, the absolute necessity for the full and candid report of all cases of death under chloroform as an essential preliminary to the accurate determination of the mode of death in such cases. In nearly every such case reported in THE LANCET the writer expresses his opinion that death occurred from syncope, and yet a perusal of his report, lacking in detail though this almost invariably is, shows that death almost certainly occurred from respiratory failure. Unless a report is full and accurate it may just as well not be written, so far as it provides a decisive addition to our knowledge in this direction, while an accumulation of accurate clinical detail will go far towards settling this disputed point, and this determination cannot but be followed by far-reaching beneficial results. I am, Sirs, yours faithfully,

CLAYTON LANE, M.D. Lond., Lieutenant, I.M.S.

Camp Grimbum, Bebejiya, Mishmi Field Force,
Jan 28th, 1900.

"THE PHYSIQUE OF THE BOERS."

To the Editors of THE LANCET.

SIRS,—As inquiries prompted by my letter in THE LANCET of Feb. 24th, p. 574, continue to reach me please allow me to state in your columns that the title of Mr. E. Howard's book is "*To-morrow*," that it is published by Swan Sonnenschein at 2*s*. 6*d*., and that the honorary secretary of the Garden City Association is Mr. C. M. Bailhache, 3, Elm-court, Temple, E.C., from whom all information may be obtained. I am, Sirs, yours faithfully,

Belsize-road, N.W., March 5th, 1900. W. WINSLOW HALL.

THE POSITION OF THE RETIRED ARMY MEDICAL OFFICER.

To the Editors of THE LANCET.

SIRS,—I would most respectfully request to publish through your influential journal the following question:—Are officers who retired from the Royal Army Medical Corps, but who are now once more doing *duty on full pay* with troops, to count their *present service towards pension?* For if not a great hardship—not to say an act of injustice—is being done to them. To quote a true case in point:—A major retired on a gratuity after 18 years' service. Six weeks before his name appeared in the *Gazette* he asked to be allowed to withdraw his resignation, but the War Office authorities refused his application, probably thinking that young medical men were about to flock into the Army Medical Service and that therefore this gentleman might easily be spared and his pension saved. A year or so afterwards, however, being very short-handed for medical officers, they were only too pleased to avail themselves of his services and placed him once more on full pay and gave him a full share of army medical work. *Is this duty to count for nothing even towards pension*, for the questions of promotion or of restoration to the active list can be left out of consideration for the present?

I am, Sirs, yours faithfully,

March 5th, 1900. RETIRED ON GRATUITY.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Sewerage Trouble in Bombay: the New Scheme.—The Terrible Mortality in Bombay.—Further Spread of the Plague in India.—Increase of the Disease in Calcutta.—The Impotence of the Government.

THE city of Bombay has been troubled about its sewerage for many years. Part of it is under the Shone system, a part of the city is not sewered at all, but the greater portion has its sewage pumped out to sea on the western side of the island. Here it is that a nuisance is complained of. At certain states of the tide the sewage is seen to travel slowly southwards past the residential districts of Cumballa and Malabar Hills and it gives off most offensive odours. In order to remedy this state of things and to provide for the sewerage of the northern portions of the city the municipality sought the advice of Mr. W. Santo Crimp and he has just issued his report. From this it appears that the greater part of the city is drained into a place called Lovegrove, where four modern and powerful engines pump the sewage out to sea on the western side of the island six feet below the lowest spring-tide. Each engine is capable of pumping 15,000,000 gallons a day, but three engines only are kept working at the same time. The regular working capacity of the two sewers carrying the sewage from the pumps is put at 37 27 million gallons in the 24 hours, but for the year ending March, 1899, the daily average was 30 4 million gallons. This is estimated at 4,500,000 gallons less than the water-supply of the city, the balance of the water supplied going for road-watering, garden-watering, and the unsewered portions of the island. The sewage reaching the pumping station is said to be rather stronger than London sewage, and this is partly explained by the immense quantity of cattle kept in Bombay. The sewage having been pumped out to sea rises to the surface and spreads itself upon the sea water. When the tide turns the sewage is deflected towards the south and forms a distinct stream reaching Malabar Point at about low water. It is where this stream is passing south that the smells are complained of. Mr. Santo Crimp then discusses various remedies. He puts aside diversion of the sewage to Colaba or Malabar Points as too expensive. The use of electrolysed sea water is also put out of further consideration on account of the great cost of the necessary plant. It having been suggested that an additional outfall from the foreshore into deeper water might be made he points out that as the ebb tide sets towards the south more sewage and larger works would only increase the evil. Moreover, if further areas of the city were drained into this direction the outfall sewers would have to be enlarged. With reference to this outfall he suggests, therefore, that crude manganate of potash and sulphuric acid should be added to the sewage. It would not be necessary to employ it at all hours of the day but only to that volume of sewage which flows south at the turn of the tide. For the new scheme of drainage for the northern and north central portions of the city he suggests that the sewage should be discharged at Worlee Point. This is to be carried well out to sea and to be discharged only upon the first four hours of the ebb tide. The sewage would then not prove obnoxious. For the disposal of the sewage for the whole of Bombay when the works are all completed he suggests that for certain hours—viz., from the turn of the tide at high water to four hours after—all the sewage of the city should be discharged from Worlee Point. After this time it should be diverted to the present outfall at Lovegrove. It could then continue to be discharged until high water again when it might once more be diverted to Worlee. Thus one-third of the sewage of the city would be discharged at Worlee and the remainder at Lovegrove.

The Bombay Presidency is a most unfortunate one. Constantly afflicted with the plague during the past three and a half years it is now the seat of the greatest distress from famine. The two cities of Bombay and Poona have become famous for the most intense forms of plague Poona surpassed all previous records by its terrible mortality last August and now Bombay returns the highest death rate it has ever known For a city the average weekly mortality of which is 500 it will be seen that the 2637 deaths which occurred last week are a terrible record This is a rate of over 167 per 1000 per annum Of this great mortality probably 250 deaths occurred from small pox Ordinary diseases, especially those of the respiratory system, are said to be unusually prevalent, colds and coughs troubling nearly everyone It will not probably be far wrong to estimate the past week's mortality from plague at 1600, although the official returns only give 569. It is said that numerous cases occur in which both plague and small pox have attacked the same person, the condition of the patient being then pitiable in the extreme

For the whole of India the deaths from plague rose from 1869 to 2137 In Bengal the disease is fast spreading, and a fresh outbreak is developing in Calcutta Patna recorded no less than 675 deaths and for the city of Calcutta there were 106 deaths Since the returns were published the disease has still further increased in Calcutta and there are now from 25 to 30 deaths occurring daily An increase of plague is also reported from the Punjab, within the Jullunder district

In view of this increase of plague in several parts of India it is interesting to recall the great powers possessed by local governments through the Epidemic Diseases Act of 1897, but which, admittedly of the greatest value if properly enforced, cannot be carried out in India The attempt to do so has miserably failed everywhere and has led to a most lamentable spirit of antagonism Dissatisfaction sedition, and panic have invariably followed By slow degrees the enforcement of the harsher regulations has been dropped and even the milder measures are only imperfectly carried out At the present moment the only machinery really existing is that which the Venice Convention insists upon The consequence is that it is impossible to say how many deaths from the epidemic are now taking place The Government apparently can do nothing All depends upon the action of the people and their native leaders

Feb 15th

MANCHESTER

(FROM OUR OWN CORRESPONDENT)

Women Students and the Manchester Royal Infirmary.

AT the meeting of the Board of Management of the Manchester Royal Infirmary held on Feb 26th, a letter was received from Dr Hopkinson Principal of Owens College, acknowledging the receipt of a communication from the House Committee as to the admission of women students from the College to the hospital practice at the infirmary on the same terms as men except to the surgical out-patient department In it he said the Council of the College were glad to know "that such students will now by the joint action of the College and of the Royal Infirmary be able to obtain satisfactory qualifications for the medical profession in Manchester' 50 years ago such a step as this would have been considered absolutely shocking, now it comes as a matter of course Sir J W Maclure, Bart, M P, said he had the greatest confidence that the new arrangement would be beneficial to society and to the infirmary itself, but he thought it a very prudent course that the exception had been made as to the out patients

Inspection of Food in Manchester

The enormous waste of food constantly going on is not very often brought to mind, but the report of the Markets Committee to be presented to the City Council gives some impressive figures In 1899 under the head of "meat and fish" 177 822 lb were condemned and destroyed and of "fish' 147,996 lb 11 307 head of game rabbits, poultry, &c, were confiscated besides a large quantity of small fruits The same thing is no doubt going on in every town, large and small from London downwards throughout the whole country The money loss must be very great and the utilisation of all this food would cheapen existence There is evidently plenty of scope for the discovery and use of innocuous methods of food preservation

Ladies Sanitary Work

Among the more interesting examples of work in aid of the prevention of disease in Manchester is that of the Ladies' Health Society and the Ladies' Society for Visiting the Jewish Poor, which is carried out under the sanction and direction of the medical officer of health It is a good illustration of the coöperation of voluntary philanthropic effort with that of the constituted authorities The former of the two societies deals with a larger population and a wider area than the latter, for though the number of poor Jews in Manchester is considerable they chiefly live, as is their custom, in what is truly the Jewish quarter of Red Bank and Strangeways The health visitors have made 8631 inspections of houses in the course of a systematic house to house visitation during the last quarter. When met with dilapidation of the houses, dirt, overcrowding, and sickness are reported to the health office It is remarkable how much variation there is in adjoining districts Four per cent of the houses were dilapidated, but in one district, that of West Hulme, the proportion rose to 24 per cent 12 per cent of the houses were dirty, but in East Hulme the proportion was 38 per cent, while in Central Hulme only 0 1 per cent was reported as being dirty Birds of a feather still bear out the adage and continue to flock together It is curious that while in the Jewish quarter of Red Bank 9 per cent only of the houses had sick inmates, in the Gentile district of West Ancoats the percentage of houses with cases of sickness was no less than 44 It can scarcely be assumed that the cleanliness of the Jews in Red Bank greatly outshone that of the dwellers in Ancoats—though both might be improved—and the explanation must be sought probably in their religious ceremonial customs and possibly in their racial peculiarities Temperance in the use of alcohol will no doubt be found more frequently in Red Bank than in Ancoats The health visitors distributed no fewer than 8471 leaflets on (1) the prevention of diarrhœa; (2) the prevention of consumption, (3) precautions against measles, (4) precautions against whooping cough, (5) suggestions to householders, and (6) how infants should be fed A supply of disinfecting powder was left at 8028 houses, several hundredweight of soap were sold—no doubt at a cheap rate—dry lime and brushes were given, and during the quarter the tenants were induced to cleanse and whitewash 2029 rooms, closets, yards, and the like 102 neglected children were found and looked after, while 993 families were helped in various ways, such as in regard to the care and treatment of children and as to food and clothing This work is so good that the only regret is that it merely touches the surface of the mass of ignorance, idleness vice and poverty that lies festering in our midst More help is needed both in workers and in means before this mass can be inter penetrated and leavened into wholesome life

March 6th

SCOTLAND

(FROM OUR OWN CORRESPONDENTS)

Royal Edinburgh Asylum

THE statutory annual meeting of the corporation of the Royal Edinburgh Asylum for the Insane was held on Feb 27th, the Lord Provost of Edinburgh presiding The managers report for the year 1899 stated that the ordinary revenue amounted to £54 993 2*s* 6*d* and the ordinary expenditure including interest to £50,133 15*s* 9*d*, leaving a surplus of £4859 6*s* 9*d* From this surplus the sum of £1703 13*s* had to be paid as the annual instalment toward the liquidation of the debt on the West House Of the free surplus £3252 13*s* 8*d* was derived from Craig House and Myreside, and from intermediate patients £8 13*s* 4*d*, amounting together to £3261 7*s* There was a deficit of £417 13*s* 3*d* on the receipts on behalf of patients at the lowest rate of board and patients maintained at the expense of the parochial authorities In the managers' report for 1898 it had been intimated that the pauper rate of board was to be raised from £31 to £32 The managers greatly regretted to have to report that the increase of 20*s* had not been sufficient to meet the expenditure and that therefore they had no alternative but to recommend that the rate of board for pauper patients should be raised to £33 per annum from April 1st. During the year there had been a decrease in the cost of provisions, but a large increase on the cost of fuel, an increase under the head of attendants' wages, and a decrease in the value of labour performed by pauper patients. There would be no change in the rate of board for intermediate patients, which was now £42 per annum. During the year 1899 the sum of £2968 4*s.* 6*d* had been expended on New Craig House, and on the West House the sum of £1479 0*s.* 10*d*, principally in connexion with a new sewerage system. The indebtedness of the corporation on Craig House and the West House together at the end of the year 1899 was £111,655 9*s.* 11*d.* The managers recorded their sense of obligation to Dr. T. S. Clouston for his untiring labours to promote the interests of the institution. In moving the adoption of the report the Lord Provost, after referring to the honourable work carried on by the institution and the satisfactory nature of the report for the year, went on to make some remarks on charities in Edinburgh. He thought that there were too many of these and he was of opinion that the number should be much decreased by uniting some of them. He regretted to say that a number of these charities published no accounts, and he thought that citizens could do much by refusing to subscribe to such charities as were conducted on these methods. The report of the Charity Committee showed that through the agencies of the Charity and Bevan Funds the sum of £675 9*s* 11*d.* had been expended during the past year in supplementing the boards of 60 patients, most of whom would otherwise have been classed among the pauper patients. The report of Dr. T. S. Clouston, physician superintendent, stated that the total number of patients in the asylum on Dec. 31st was 912, including nine on probation The admissions during the year had been 428, of whom 212 were men and 216 women. The total number of patients under treatment during the year was 1373. The admission of private patients who paid the lower rates of board had to be restricted as there was not sufficient accommodation in the West House for that class. There had been no special peculiarity in the causes or characters of the new cases of the year. Alcoholic excess had been the cause of insanity in 25½ per cent. of the cases, this being almost exactly the same proportion as in the preceding five years. He wished that he could report even the beginning of an improvement among the population in this matter. It was precisely those men and women to whose brains alcohol was most dangerous who took it to excess. The persons most apt to acquire the craving for alcoholic liquors were the nervous, the weak, those predisposed to insanity, and persons living sedentary lives or lives of dulness and monotony. If sturdy and vigorous out-door workers only took alcohol in excess it might do them much harm, but there would not be such a large proportion of them thereby rendered insane. There were few persons who had had an opportunity of studying the effect of alcohol on the brain who would not heartily approve of most of the recommendations of Lord Peel's Commission which had recently been published. The Inebriates Act (1898), touching as it did the pressing question only in its criminal aspect, had done very little good and excited very little interest If there was to be legislation on that subject let it be effective. He thought some of their legislators had become victims of the monomania of fear and suspicion in connexion with this matter. From the arguments put forward against such legislation one might suppose that no remedy could be devised for this crying evil without endangering the liberty of the subject and the British constitution itself. With regard to the causation of mental disease it was a fact little realised that purely moral and mental causes played a comparatively small part as compared to bodily and physical causes. In only 11½ per cent. of cases in which the cause was known had trouble and anxiety, worry, or mental shock produced the disease. The remainder of the cases were due to such causes as drink, faulty development, gross brain diseases, strong hereditary disposition, child-bearing, and similar bodily causes. The recent epidemic of influenza had caused more cases of insanity than all the public and private anxiety in connexion with the war. With regard to the question as to whether insanity was increasing, he agreed with the verdict of "not proven" which had been given by the most competent recent investigators. There were, he believed, only two great methods to lessen the great nervous disturbances in civilised societies—viz: (1) to live according to physiological and moral law, and (2) to arrange suitable marriages, and even with these methods in operation it would take many generations to effect any great change. Dr. Clouston then referred to the question of phthisis in asylums. Formerly the phthisis-rate in the Royal Edinburgh Asylum had been a very high one, now it was well below the average. In the last report of the Scottish Commissioners in Lunacy special attention was directed to the question of isolation wards for phthisical patients and he thoroughly agreed with all that had been said in that report. An isolation block would by-and-by have to be provided in the West House. In Craig House they had, so far as he knew, no phthisical patients. Votes of thanks to Dr. Clouston and to the Lord Provost terminated the proceedings.

Faculty of Physicians and Surgeons of Glasgow.

On the evening of March 3rd the Faculty of Physicians and Surgeons of Glasgow gave a professional conversazione to the members of the profession in Glasgow and the west of Scotland in celebration of the tercentenary of their incorporation. There was a large response to the Faculty's invitation, the various rooms being crowded in the course of the evening. The company were received in the large hall by Dr. Hector C. Cameron, President, and the members of the Council. At 7.45 the President in a brief address explained the occasion of the gathering and gave a cordial welcome to the members of the profession present, who included a number of medical ladies. Sir William Gairdner followed with a few sentences of congratulation to the President, in which he made pointed reference to the distinction he had acquired as a surgeon, more especially with reference to the history of antiseptic surgery. In the various rooms demonstrations were arranged with the projection microscope, lantern, &c. Dr John Macintyre and Professor Magnus Maclean gave a number of physico electrical demonstrations illustrative of skiagraphy, phonography, and wireless telegraphy. In other rooms were displayed specimens of new drugs, pharmaceutical preparations, and surgical dressings by Mr. John Macmillan; Messrs. Weiss and Sons and Messrs. C. Ash and Son, Limited, of London, gave exhibitions of surgical and dental instruments; while in various corridors there was a large collection of medical portraits and prints and articles of archæological and artistic interest.

Academic Honours to Medical Men.

Among the six gentlemen to whom the Senatus of Aberdeen University offer the honorary degree of LL.D. at the next graduation are Dr. John Mitchell Bruce, M.A., of London, and Surgeon-Major David Prain, I.M.S, M A., of Calcutta. The career of Dr. Bruce, who graduated M.A. at Aberdeen in 1866 and subsequently proceeded to the degree of M.D. of London University, is too well known to need mention. Surgeon-Major Prain graduated as M.A. at Aberdeen in 1878 with honours in natural science, and as M.B. in 1883 with highest honours, subsequently becoming M.D. He afterwards gained the highest place in the competition for the Indian Army Medical Service, and was appointed curator of the Calcutta Herbarium. On the retirement of Sir George King two years ago he was elected director of the Botanic Gardens, Calcutta. Surgeon-Major Prain has made numerous valuable contributions to the literature of botany.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish Hospital in South Africa.

LORD IVEAGH has received a telegram informing him that his hospital had arrived at Cape Town all well and had been ordered to Naauwpoort. Sir William Thomson telegraphed that the whole staff arrived well and in good spirits.

The late Mr. Wheeler.

A portrait of the late Mr. W. I. Wheeler has just been presented to the Lady Superintendent of the City of Dublin Nursing Institution by the past and present nurses of the staff.

The Legal Position of the Medical Officers to County Infirmaries in Ireland.

A legal decision of great interest to medical men has just been pronounced by the Court of Queen's Bench in Dublin. The argument occupied some days and were sustained on each side by lawyers of the foremost position. The facts of the case as stated were briefly as follows. About 18 months ago, just as the new county councils were being installed, Mr. William G. Jacob was unanimously appointed surgeon to the Queen's County Infirmary at Maryborough, in succession to his father, who had been for years a well-known physician in that district. After about a year the legality of his appointment was questioned and the new electing body—consisting under the Local Government Act (1898) of a joint committee, 15 being members of the county council and nine being nominated by the old governors—decided by a small majority that Mr. Jacob had never been formally or legally given the appointment, and they in fact by vote dismissed him, declaring the post of surgeon to the County Infirmary vacant. Dr. John Blaney of Dublin became one of the candidates for the position and was elected by a majority of one. At this stage the legal question became prominent and Dr. Blaney, who was then and is now acting as surgeon to the infirmary, was soon requested by a mandate from the Queen's Bench to show cause why Mr. Jacob should have been dismissed and why he himself should have acted as surgeon to the infirmary. After hearing the arguments the judgment of the court was reserved. It has just now been pronounced and it is of importance, the Lord Chief Justice, Mr. Justice Gibson, Mr. Justice Madden, and Mr. Justice Kenny presiding. Judgment was delivered by the Lord Chief Justice, who said that it was the contention of the plaintiff, Mr. Jacob, that the committee had no power arbitrarily to dismiss him without cause or unless they could show neglect of duty on his part. He contended that the tenure of his office was during good behaviour and that accordingly he could only be dismissed for cause, and that as he was dismissed without cause he was entitled to be reinstated. Looking to the language of the Act, however, he (the Lord Chief Justice) was clear that the meaning and intention of the Legislature was that the appointment should be during pleasure only and not during good behaviour. His lordship referred to the judgment of Chief Justice May in which he used the following words: "The surgeon of an infirmary is merely the paid servant of the governors who receive a salary for his services. The governors may dismiss him at any time arbitrarily." His lordship concluded an elaborate judgment by expressing his high opinion of Mr. Jacob and stating that the legal question prevented their giving him "the redress he sought." The other judges concurring, the application was refused with costs. The decision will have the effect of putting a great deal of power into the hands of the new and almost untried county councils of Ireland. In the above case there does not seem to have been any objection to Mr. Jacob, except that a prominent local Nationalist medical man was preferred by some of the electors, but it is interesting to note that he failed to be the successful candidate.

The Ulster Medical Society.

A meeting of this society (which was very largely attended) was held in the physiological department of Queen's College on March 1st.—Dr. Lorrain Smith gave a demonstration of Haldane's Method of estimating the Oxygen-carrying Power of Blood by Ferro-cyanide of Potassium and an account of observations on anæmia with demonstration of the method employed. The latter paper was of great interest and of original research. It was based on a series of cases observed at the Royal Hospital as well as on three private cases placed at Dr. Lorrain Smith's disposal by members of the medical profession.—Dr. C. Kevin, Professor J. W. Byers, Professor J. A Lindsay, and Dr. A. Dempsey took part in the discussion which followed.—Dr. Lorrain Smith showed a series of Pathological Specimens of very varied nature.—Professor W. H. Thompson read a paper on Degenerations resulting from Lesions of the Temporal Lobe, which was discussed by Dr. P. Redfern and Professor J. Symington.—Professor J. Symington and Dr. J. Tennant displayed and demonstrated a series of specimens (sectional) illustrating the Anatomy of the Female Pelvic Viscera, and Professor Symington and Dr. J Craig showed a series of specimens of pathological interest obtained from the dissecting-room and specimens showing the Topographical Anatomy of the Mammary Gland in Nulliparæ.

The Proposed New Infectious Diseases Hospital.

The Public Health Committee of Belfast, seeing that it is impossible to carry out the Notification of Infectious Diseases Act without the establishment of a special hospital for the treatment of zymotic cases, have decided to recommend the erection of one, a course of action approved of by the medical inspectors of the Local Government Board. They are of opinion that such an hospital should be erected on the Purdysburn estate, authority for the construction of which has already been given by the City of Belfast (Hospitals) Act, 1898 They recommend that this hospital should be constructed in pavilions of about 20 beds each, with a total of about 150 beds, with administrative, washing, disinfecting, and ambulance arrangements, and a special pavilion and separate accommodation for the isolation and treatment of small pox cases, and they estimate the cost of constructing and maintaining this hospital as follows: cost of building and furnishing complete 150 beds at £300 per bed, £45,000; annual outlay for 40 years on a 3 per cent. basis sinking fund and interest, £1950; cost of maintaining 150 beds at £40 per bed per annum, £6400. That such an hospital is needed, and, indeed, most urgently required, in a large city like Belfast, where accommodation for infectious diseases is very meagre, is admitted by everyone, but apparently, judging by what occurred at the meeting of the city council on March 1st, there is a difference of opinion as to the proper site. A large deputation of medical men appeared before the council appointed at a specially-called meeting of the medical profession on the previous day, and stated that they now again endorsed a memorial passed by a number of medical men in 1897, and presented at that time to the Lord Mayor and council protesting against the Purdysburn site. In this memorial it is stated that the transference of fever patients for a distance which would vary from two or three to seven or eight miles would be dangerous to the more serious cases, would in all probability aggravate the severity of the attack, and prejudice the patients' prospects of recovery. A hospital should be near enough to permit of daily inquiries being made and to render possible the prompt summoning of friends in case of urgent danger suddenly arising, as frequently occurs in fever cases. It was also urged that the medical service would be more costly at such a distant place and that the distance from Belfast would interpose much difficulty and delay in obtaining additional medical advice in cases of urgent danger. Further, such an hospital would be unsuitably placed for the purposes of the training of medical students. Believing, then, that a hospital at Purdysburn would involve needless risk of life, would entail serious hardships upon the working classes in their relations to their sick relatives, would create much discontent and friction in the administration of the Notification of Infectious Diseases Act, would subject the ratepayers to unnecessary expense, and would prejudice the cause of medical education in Belfast, the memorialists prayed that the proposal should be reconsidered and some convenient and more accessible site be selected. The deputation, who suggested as a suitable site the grounds of the old asylums in Grosvenor-street, having been heard the matter afterwards was discussed in the council. The chairman of the Public Health Committee (Dr. Alderman Graham) said he regretted that one greatly favourable site for the Infectious Diseases Hospital could not be obtained near the city, but he regarded the Purdysburn situation as the most suitable one for such an institution. He stated that, as regarded the question of distance, the most recently constructed hospitals in the kingdom occupied sites no nearer the cities than Purdysburn was to Belfast. He gave as examples, Glasgow, Manchester, Newcastle, Nottingham, Bristol, and Leeds. The corporation seemed to be much divided and the chairman of the committee of the new asylum, which is situated at Purdysburn, protested against putting at Purdysburn an infectious diseases hospital as nothing should be done to deteriorate or destroy the effect of the future asylum. An amendment to refer matters was defeated (14 voting for and 24 against) and the motion to adopt the report of the Public Health Committee and to go on with the erection of the infectious hospital at Purdysburn was carried. One of the medical members of the corporation voted against the site at Purdysburn, while six voted in favour of it It is expected that the erection of the new fever hospital at Purdysburn will be begun at once.

Health of Belfast.

Between Jan. 21st, and Feb. 17th, 1900, 200 cases of zymotic disease have been notified, and of these 57 were scarlet fever, 48 typhoid fever, 34 erysipelas, and 22 diphtheria. The death-rate was 26 1. There is no doubt that there is a widespread epidemic of mild scarlet fever, but the type of the disease is not severe and no deaths have been reported Nearly one-half of the deaths from zymotic diseases was due to whooping-cough. While influenza has been prevalent the mortality has been low. Indeed, the general death-rate of the city has been below the average of the large towns of Ireland.

March 6th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Disinfection after Measles.

AT the meeting of the Academy of Medicine held on Feb. 20th M. Vallin laid great stress upon extending the regulations as to disinfection so as to include measles. In 1895 disinfecting operations were undertaken in 38,000 cases and during 1898 in 63,000, being mainly cases of notifiable disease. In the case of measles disinfection is hardly ever asked for or carried out and thereby exists a very real danger. Measles is far more infectious than is generally believed; instances are even known of persons who have contracted the disease from brushing the clothes worn by a patient suffering from measles. In any case if it is important to destroy the actual measles germ it is equally important to destroy those of the diseases which so often complicate measles—as, for instance, those of broncho-pneumonia. In M. Vallin's opinion measles should at once be added to the list of those diseases in which disinfection is absolutely necessary.

The Fraudulent Supply of Diseased Meat.

The police of Paris have just laid hands on a vast fraudulent organisation for evading the precautionary measures drawn up by the authorities for inspecting the meat distributed for consumption in the suburbs of Paris. Both for Paris and the suburbs all animals destined for food have to be killed in public slaughter-houses, where the strictest watch is kept by the municipal veterinary surgeons, who forbid the delivery to the butchers of any meat which exhibits the slightest suspicious signs. Elaborate regulations have been laid down as to the various diseases which render meat unfit for the food of man, and naturally enough tuberculosis is the complaint most rigorously watched for. The swindlers who have been arrested made up a vast organisation which used to buy up from the farms of the eastern provinces and even in Germany such animals as, owing to disease, would have been refused for slaughter at the abattoirs and, moreover, they bought them dirt cheap. These animals were then conveyed in regular herds to a small place near Paris and killed in sheds built at the bottom of an old quarry. Under cover of night the meat was taken away by the accomplice butchers and re-sold in the various suburban shops. In connexion with this clandestine slaughter-house the firm had a kind of cemetery where those animals were buried the meat of which was too bad for even the swindlers to risk its sale in the market. Ivry was the place where the fraud was discovered and the official inquiry shows that the organisation was singularly complete. It is extraordinary that the slaughter-house, which was in full work, should never have attracted the attention of the villagers, but it must be remembered that all killing was done by night and that the slaughtermen were all Germans who did not understand a word of French and were therefore unable to engage in imprudent conversation with the neighbours.

Tuberculosis and the National Convalescent Homes.

The Minister of the Interior decided that from Jan. 1st, 1900, no tuberculous patient shall be received at the convalescent homes of Vincennes or Vesinet to which patients from the Paris hospitals are sent. The authorities of these homes are forbidden to receive any patient who does not bring a certificate bearing the words, "No sign of tuberculosis of the respiratory tract." This is a perfectly legitimate measure to take and had its inception in the fact that the population of a convalescent home is an admirable breeding ground for the tubercle bacillus, owing to the low powers of resistance and general feebleness of health shown by convalescents. The measure, however, carries with it as a corollary the erection of buildings for tuberculous patients who are gradually being more and more excluded from general hospitals. A proposal has been submitted to the Committee of the Chamber (*Bureau de la Chambre*) by M. Fleury-Ravarin, the deputy for the Rhône, with the object of creating a national Anti-tuberculosis Institute. It is intended to be a scientific establishment for the study of the treatment of tuberculosis and for experimental research into the various ways of curing this malady, which is responsible for 750,000 deaths annually in France alone and those mainly among the working classes. A large sanatorium which will receive patients free will shortly be opened in the Lyons district on the mountains of Bugéy. In the department of the Nord a subscription opened to found a sanatorium brought in on the first day 35,000 francs in donations, after a meeting called by Professor Ausset. Finally, it is hoped that the large sanatorium which has been so many years building will be opened before long at Angerville under the auspices of the city of Paris.

The Therapeutics of Cacodyle.

Treatment by cacodyle, on which subject information has already appeared in THE LANCET,[1] was introduced by Professor Armand Gautier. A large number of physicians have made trial of it and it is now possible to arrive at a fairly exact estimate of the value of the treatment. A discussion took place at a meeting of the Society of Hospital Physicians, held on March 2nd, which was preceded by a paper communicated by M. Widal and M. P. Merklen, which followed a paper read by M. Dalché at the preceding meeting. M. Dalché was most optimistic; even when given as a pill the drug had produced no ill effects in patients except that their breath acquired a slight odour of garlic, neither had he ever noticed the occurrence of diarrhœa nor any uneasy feelings in the stomach. In two cases where the drug was given by injection one patient complained of pain. M. Dalché's patients were almost all tuberculous. Three were undeniably cured, in four their condition improved to a marked extent, especially as regards the way in which they put on weight, acquired more muscular force, and manifested greater renal activity. Two cases showed no particular results and two got worse, but they were patients far advanced in tuberculosis. Two patients who showed no signs of pulmonary tuberculosis but were suffering respectively from Addison's disease and cancer of the stomach derived no benefit from the treatment. M. Hayem preferred to give the drug by hypodermic injection rather than by the mouth, which was apt to produce gastric intolerance, or by the rectum, which method often gave rise to severe lumbar pains. M. Danlos also preferred the hypodermic method, not only because the drug thus administered was better borne but because by this means it was possible to give much larger doses, as much as 40 or even 80 centigrammes. As for cacodylate of sodium being transferred into the toxic oxide of cacodyle, he had *never known* such a thing to be absolutely demonstrated. M. Galliard had never seen any untoward results even with doses of 20 or 40 centigrammes given by the mouth. He was well satisfied with the drug in tuberculosis; the strength returned and the patient put on weight; there was, however, but little alteration in the pulmonary conditions. M. Widal and M. Merklen had used daily hypodermic injections in doses of from five to 10 centigrammes. In advanced cases of tuberculosis where there was much ulceration this treatment had not much effect, but in early cases the appetite rapidly improved and they considered that this method of treatment was an admirable adjuvant to other methods either therapeutical or hygienic. In leucocythæmia cacodylate improved the appetite and increased the strength but had not much effect on the general course of the disease. With regard to its effect on the blood careful daily observations showed but little difference in the white corpuscles, but the number of the red was largely increased. Professor Armand Gautier closed the discussion, in which M. Hirtz, M. Rendu, and M. Barth also took part, by insisting on the necessity of administering the drug solely by the hypodermic method unless it was desired to obtain poisonous effects from the breaking-up of the compound in the digestive tract.

March 6th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Post Nubila Phœbus.

"A BUCKET or two of water whipped up into a cloud," says Tyndall, "will obscure the noblest mountain; but let the sun come out, and the cloud vanishes, leaving the mountain all the more prominent for its temporary eclipse." Continental critics—and their name was Legion—who saw in the initial reverses of the British arms the definitive triumph of the Boers have been giving point to Tyndall's illustration; and to do them justice, they spared no effort to drive it home. Never was the mythopœic tendency of journalism more characteristically in evidence than in the "news" hailing from Paris, from Brussels, from Munich, from Berlin—"news" as to British disasters of every kind and corresponding Boer successes. The Arkansas editor who would have dismissed Shakespeare from his reporting staff as wanting in imagination would have had no difficulty in "suiting himself" from the publishing offices of French, Belgian, or German newspapers; while the "pictures" in the illustrated press of these countries were equally remarkable for what (to put it mildly) I may call "creative power." Now, with a turn of the wheel, not of fortune, but of "manifest destiny," news and pictures alike have vanished like Tyndall's cloud or Shakespeare's "baseless fabric of a vision," leaving not a "wrack" behind but that of the Boer cause. Italy, as I have already shown,[1] from nearly the outbreak of hostilities kept her head, like Tiresias in the Shades—

---

[1] THE LANCET, Nov. 18th, 1899, p. 1408.

οἴῃ πέπνυται, τοὶ δὲ σκιαὶ ἀΐσσουσιν
(She only wise, the rest like shadows flit)—

and in her steady pro-British attitude placed herself on a coign of vantage from which she can now enjoy the discomfiture of those "economists of truth" (to use King George III.'s phrase), her pro-Boer continental sisters. Except for her insignificant Socialist and Jesuit press (the "Red Devil" and the "Black Devil," according to Bismarck, always make common cause against real civilisation), except for the *Secolo* and the *Voce della Verità* (for instance), her printed comments on the campaign leave her nothing to apologise for or to retract, but, on the contrary, entitle her to the British gratitude conveyed through Lord Rosebery to her Foreign Minister, the Marchese Visconti Venosta. Her Red Cross organisation, moreover, distinguished itself honourably from that of other nations in its strict impartiality towards the belligerents—at least, the world heard of no agents of hers in that capacity giving active help or supplying information or war material to the Boer army. I refer to all this, little germane as it may seem to medical correspondence, because I have had frequent occasion to be very plain-spoken as to Italy's backwardness in public hygiene and in medical education and as to the policy of some of her professional men towards the British-American practitioner in her winter cities. But where I can honestly give praise to her I never withhold it—certainly not at present when her demeanour towards the British cause has been loyal even to cordiality and when she is reaping the fruit of it by attracting, at the expense of her Anglophobic neighbours, the ever-welcome *English-speaking sojourner*.

Public Health on the River Plate.

Italy is in close touch with the Rio de la Plata, thanks to her very numerous compatriots in Uruguay and the Argentina, and among the advices that reach her not only by every mail but almost daily by telegraph from those regions the public health fills a large and interesting place. Their summer corresponds to the Italian winter and both, in either latitude, have been exceptionally severe. From Montevideo, it is announced, the heat has been as much as 38° C. in the shade every afternoon and there has been quite extraordinary drought, even to menacing the ruin of the crops and the destruction of cattle. While the public health in Uruguay has been excellent, especially at Montevideo, where the bathing season has attracted many visitors from the neighbouring communities, it has in the Argentina been very much the reverse, pestis bubonica having appeared in force at Rosario di Santa Fè, the second city of the Republic, and having seemingly effected a foothold in Buenos Ayres itself. On Jan. 27th Rosario was isolated by a sanitary cordon, railway traffic was suspended, and communication by river was subjected to a ten days' quarantine The bubonic infection is considered to have come from Asuncion in Paraguay where the pestis has been epidemic for several months. At present the number of patients isolated amount to 11, and although the population keeps tranquil the almost total arrest of business causes grave commercial and economic difficulties. In Rosario itself it is stated that a whaler having a cargo of grain in which a multitude of plague-stricken rats were burrowing imported the disease, the first case having declared itself in a mill to which the grain was sent and the first victim being a porter of the establishment who helped to unload the cargo. Subsequent reports announce the cases at Rosario as reaching from eight to ten per day, while in Buenos Ayres they vary from four to five. In both cities Government and municipality alike have at their disposal every resource for circumscribing and overcoming the invader and are utilising it so energetically that they soon hope to register a clean bill of health. Uruguay immediately on the facts becoming known established a ten days' quarantine for all arrivals from Rosario and a five days' quarantine for those from Buenos Ayres and is reaping the reward of its vigilance in its excellent sanitary conditions, though from the west and from the east it was exposed to the unwelcome visits of a steamship with cases of beri-beri and yellow fever on board and of a liner hailing from Rio and Santos, also carrying patients suffering from the latter disease.

March 4th.

Obituary.

THOMAS SCATTERGOOD, M.R.C.S. ENG., L.S.A.

MR. THOMAS SCATTERGOOD of Park-square, Leeds, who died somewhat suddenly on Feb. 22nd, had for many years been one of the foremost representatives of the medical profession in that city. At the time of his death he had just completed his 74th year, having been born on Feb. 14th, 1826, in Huddersfield, where his father, the Rev. Thomas Scattergood, of the Methodist New Connexion, was stationed. His professional education was commenced at the medical school of Newcastle-on-Tyne and continued at the Leeds Medical School until he became qualified in 1850 as M.R.C.S. Eng. and L.S.A. He soon established himself in practice in Leeds, and having at a comparatively early period of his career acquired a reputation as a toxicologist and medical jurist he was called upon to give evidence in several cases of criminal poisoning, one of the most celebrated being that of Mary Ann Cotton, who was suspected of having poisoned 16 persons and was executed at Durham in 1873 for the poisoning of her own child. Mr. Scattergood's most important work was done in connexion with the Leeds Medical School and Yorkshire College, and is well epitomised in the following paragraphs of a resolution of the Board of Medicine passed on the day after his death:—

"The members of the Board of Medicine of the Yorkshire College desire to place on record their sense of the irreparable loss which the School of Medicine has sustained by the death of Mr. Thomas Scattergood, who for 55 years had been intimately connected with the school, first as a student, then as lecturer in chemistry, and afterwards as lecturer in forensic medicine, and who had also held the office of dean from the time of the union of the school with the college in 1884 until his death. . . . His discretion, tact, and clearness of vision were invaluable in the negotiations which led to the union of the school with the college. His activity and success in raising funds for the endowment of the chair of Physiology enabled the department of medicine to enter upon its new career with an important improvement of the staff. And a few years later his enthusiasm, his faith in the future, and his firm determination to better the conditions of medical education mainly led to the rebuilding of the school."

One of his medical colleagues, writing in the *Leeds Mercury* of Feb. 27th, says:—

"He had been actively connected with the Leeds School of Medicine for nearly 50 years, being almost the last survivor of those who formed the lecturing staff of the old Medical School in East Parade, and was present at the opening of the newer building in Park-street in 1865 by Sir James Paget. . ... It was in the long and tedious negotiations preparatory to the amalgamation of the Medical School with the Yorkshire College that the splendid qualities of Mr. Scattergood were seen to the greatest advantage. He acted as chairman of the building committee of the present handsome school in Thoresby-place, and without exaggeration it may quite fairly be said that it is a permanent memorial of him."

To mark their sense of the great [illegible]]ered by Mr. Scattergood his colleagues and some [illegible] had decided a few months ago to have his portrait painted by Sir George Reid, ex-President of the Scottish Academy. At the time of his death the portrait was, fortunately, nearing completion, so it is hoped that the medical department of the Yorkshire College will have a permanent memorial of one who in his own unostentatious way never wearied of advancing its interests. The funeral took place at the Lawnswood Cemetery on Feb. 28th in presence of a large and sympathetic assemblage. The service was conducted by the Rev. Charles Lemoine, pastor of the East Parade Congregational Church, of which Mr. Scattergood had been a member since 1853 and had also for a long time been one of the deacons.

---

[1] THE LANCET, Dec. 23rd, 1899, pp 1750-1.

THOMAS GUY, M.D. HEIDELB., F.R C.P. LOND., M.R.C.S. ENG.,

INSPECTOR GENERAL OF ARMY HOSPITALS (RETIRED).

INSPECTOR-GENERAL GUY, who died at his residence in Pencester-road, Dover, on March 2nd, may be said to have belonged to a medical family, for his father and grandfather were medical men, and the late Dr. William A. Guy, F R.S., was his brother. Thomas Guy was born at Chichester in 1819, studied medicine at Guy's Hospital, and was admitted M.R C.S. Eng. in 1840. In 1841 he graduated as M.D. of Heidelberg University and in 1842 he entered the army as assistant surgeon. His subsequent steps were surgeon in 1853 and surgeon-major in 1862. He served throughout the Abyssinian campaign of 1867–68 as superintendent of hospital ships, was principal medical officer of the European troops at Zoulla, the British base on the Red Sea, was mentioned in despatches and promoted to be deputy-inspector-general of hospitals in 1868, and received a medal. He retired from the service in 1872 with the honorary rank of inspector-general. In 1859 he was admitted M.R C.P. Lond., and in 1878 became a Fellow of the College. In 1870 he translated from the German Professor Esmarch's treatise on "The First Dressing of Wounds on the Battlefield," and during the Franco-German War he acted as director of the English ambulance.

WILLIAM McNEILL WHISTLER, M.D. PENNS., M.R.C.P. LOND., M.R C.S. ENG.

DR. W. McNEILL WHISTLER, physician to the London Throat Hospital, and brother of the well-known painter, died at Bickenhall-mansions, Gloucester-place, on Feb. 27th, aged 63 years. His medical education was received at the University of Pennsylvania where he graduated as M.D. in 1860. During the American Civil War he served as an assistant surgeon in the Confederate Army and on the conclusion of hostilities came to Europe where he resumed medical study in Paris and at St. George's Hospital, London. Intending to practise in England he took the diplomas of M.R.C.S. Eng. in 1871 and M.R.C P. Lond. in 1876. Dr. Whistler was formerly physician to the Hospital for Diseases of the Throat and Chest, and Honorary Physician to the National Training School for Music. He was a member of a number of medical societies in England, France, and America, and had been President of the British Laryngological, Rhinological, and Otological Association. Dr. Whistler published "Lectures on Syphilis of the Larynx: Lesions of the Secondary and Intermediate Stages." In addition to being author of articles in the "New York Archives of Laryngology" and in Quain's "Dictionary of Medicine," he contributed several papers to THE LANCET and other medical journals.

ROBERT GOLDSWORTHY TUCKER, M.R.C.S. ENG., L R C.P. EDIN.

MR. TUCKER, who died at his residence in Southend, Essex, on Feb. 23rd, was formerly in practice in Farningham and Swanley where he was for nearly 20 years one of the best-known and most esteemed members of the community. He was the son of a well-known surgeon who was himself the first to pass the then new examination for the Fellowship of the Royal College of Surgeons of England. At St. Bartholomew's Hospital, where he received his medical training, he excelled greatly, not only in his professional studies, but also in physical exercises. In 1873 he became qualified as M.R C S. Eng. and L.R.C.P. Edin., and in the following year he took a share in the practice of Messrs. Ashurst, Tucker, and Smith, at Farningham, Kent. About 1887 he removed to Swanley Junction, a new and rapidly increasing place, where he made for himself a separate and extensive practice. He became surgeon to the St. Bartholomew's (Kettlewell) Convalescent Home, to the Swanley Little Boys' Home, to the Swanley Horticultural College, as well as to the railway staff, and he also filled several other local offices. In May, 1897, however, he decided, for family reasons, to dispose of his Swanley practice, and he removed to Southend-on-Sea, where he again quickly made his mark and where he died, at the early age of 47 years. The fatal result was due to pneumonia following an attack of influenza. As a medical man he was kind and attentive. His memory is widely and deeply cherished by his former patients whose confidence he possessed to a rare degree and whose sympathy followed him to the end. His funeral took place on Feb. 27th at Prittlewell, near Southend.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. J. Cargill Shaw, Professor of Neurology in Long Island College, Brooklyn.—Dr. Emile Blanchard, Professor of Zoology in Paris.

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—The following gentlemen passed the First Examination of the Board in the subjects indicated:—

Chemistry and Physics.—Bertram Raleigh Bickford, Charing Cross Hospital; Robert Daniel Bridger, Guy's Hospital and Birkbeck Institute; John Braybrooke Binns and Edward James Cooper Smith, St. Bartholomew's Hospital; Patrick D. McIvor Campbell, St. Mary's Hospital; Francis William Cooper, Guy's Hospital; Owen Cunningham P. Cooke, Malcolm Ogden Cruickshank, Harry W. Beresford Danaher, and John Burnaford Dunstan, London Hospital; John Rees Davies, University College of South Wales, Cardiff; Robert Deane, University College, London; George Fanning Denning, Charing Cross Hospital; Kenneth A. Crawford Doig, Westminster Hospital; Arthur Melville Dowdall, University College, Liverpool; George Bennicke Edwards, London Hospital; Harry Arthur Fenton, Stephen Field, and Walter Taylor Finlayson, St. Mary's Hospital; Charles Breame Fowler, Charing Cross Hospital; John Alan Campbell Greene, Guy's Hospital; Kenneth George Haig, Oxford University; George Wykeham Heron, Westminster Hospital; Mark Oliver Hunter, St. George's Hospital; William Hayward Hamilton and James Reginald Kemp, St. Bartholomew's Hospital; Charles Frederic Kernot, Cambridge University and London Hospital; John Lascelles, St. Mary's Hospital; Idris Naunton Morgan, University College of South Wales, Cardiff; Charles Sculthorpe Morris and Maurice John Mottram, Guy's Hospital; Farndon Groom Mountain, St. Bartholomew's Hospital; Hamish Nicol, Westminster Hospital, Robert Woodall O'Dowd, Mason College, Birmingham; William Stewart Orton, Guy's Hospital; Christopher Parker, Westminster Hospital; Edward Campbell Pope, St. Paul's School, West Kensington; Ronald Holt Preston, St. Mary's Hospital; Ralph Raby and Leslie Rawes, St. Thomas's Hospital; George Hooper Rains, Clifton Laboratory; Alfred Ernest Rowlett, Guy's Hospital and Wyggeston School, Leicester; Herbert Bodley Scott, St. Bartholomew's Hospital; Francis George Snoad, Mason College, Birmingham; John Edmund Spiller, Guy's Hospital; John Douglas Staley, Owens College, Manchester; George Morley Arundel Thomas, University College of South Wales, Cardiff, Edinburgh University, and St. Mary's Hospital; Guy Tyrrell Verry, St. Bartholomew's Hospital; Bertram Joseph Wakley and James Marsden Wall, St. Thomas's Hospital; William Arthur Weatherell and Solomon James Weinberg, Owens College, Manchester; Arthur Sydney Webley and Ralph Kuper White, St. Mary's Hospital; Stanley Martin Wells, Forest School, Walthamstow; Vernon Northwood Whitamore, Charing Cross Hospital; and Ernest Douglas Wolff, King's College, London.

Practical Pharmacy.—James W. Woodhams Adamson, St. George's Hospital; Robert Grenville Anderson, Guy's Hospital; Samuel Ernest Atkinson, Yorkshire College, Leeds; Harry Cecil Baker, St. Mary's Hospital, Charles John Battle, St. Thomas's Hospital; William Nichols Blachford and Richard Osmond Bodman, University College, Bristol; Isidore McWilliam Bourke, St. George's Hospital; George Brocklesby Davis, Cambridge University and London Hospital; Clarence Hamul Denyer, Guy's Hospital; Louis Cornelius Driscoll, Charing Cross Hospital; Harry Denny Duke and Herbert Wortley Fisher, London Hospital; Leonard Erasmus Ellis, St. George's Hospital; Edwin Wallace Goble, Guy's Hospital; John Leopold Goldstein, Arthur Hildebrand Jacob, Norman Bremer Vickers Jacob, George J. Williams Keigwin, and Andrew Macrae, London Hospital; Archibald Malcolm Mackintosh, St. Mary's Hospital; Paulin John Martin, Oxford University and St. Bartholomew's Hospital; William Charles Mence, St. Thomas's Hospital, Frank Morgan, Westminster Hospital; Stanley Parkes Mummery, St. George's Hospital; William L'Estrange Matthews and Robert Woodall O'Dowd, Mason College, Birmingham; John H. Le Bouverie Page, St. Mary's Hospital; Harold Thornbury

Palmer and Allen Fledger Piggot, Guy's Hospital; Percy George Pavitt, Middlesex Hospital, James Farquharson Powell, St. George's Hospital; George Russell Rew, King's College, London; Russell John Reynolds, private study; Herbert George Rickman, St. Mary's Hospital; Cyril Stephen Stokes Rigby, Mason College, Birmingham; Godfrey Faussett Rugg and Robert Spears, University College, London; Leonard Douglas Saunders, St George's Hospital, Charles Newham Slaney, private study; John Salmon Smith, Middlesex Hospital, Eugene Dunbar Townroe and Frederick George Walker, St. George's Hospital; Walter Frederick Hamilton Vaughan and Hardy Vesey Wells, St Mary's Hospital; Frank Edward Wavte, Owens College, Manchester; and Reginald Cameron Wilmot, St. Bartholomew's Hospital

Elementary Biology.—Arthur Reginald Beaumont and Osborne Black, Guy's Hospital, Charles Murchison Bernays, St Thomas's Hospital; Edward John Blewitt, London Hospital; John Taylor Bowker, Owens College, Manchester, Harold Clapham, St. Mary's Hospital; Francis William Cooper and Hugh Palliser Costobadie, Guy's Hospital; Harold G Shackleford Courtney, St George's Hospital; Harold Ernest Cribb, Charing-cross Hospital; Thomas Henry John Crookes, St. Bartholomew's Hospital; Arthur Humphry Curtis, University College, London; William Leonard Dickson, Middlesex Hospital; Harold Denny Duke, London Hospital; Hyacinth Lloyd Field, St. George's Hospital; Arthur George Finch and Charles Breame Fowler, Charing Cross Hospital; William Henry France, South-West Polytechnic Institute, Chelsea; John Stanley France, and John Alan Campbell Greene, Guy's Hospital; Percy Gully, Charing Cross Hospital; Charles Norman Hampson, Owens College, Manchester; Arthur Lewis Heiser, Middlesex Hospital, Albert William Hill, Yorkshire College, Leeds; Walter de Marchot Hill, St. Bartholomew's Hospital; Samuel William Iles, Guy's Hospital; Walter Greig Jack, St. George's Hospital; Charles Frederic Kernot, Cambridge University and London Hospital, Cameron Lamb, Oxford University and Guy's Hospital, William A. Thomas Lloyd, George William Mason, and Echlin Storry Molyneux, London Hospital; Herbert Cecil Malleson, Birkbeck Institute; Eric Stewart Marshall, St. Bartholomew's Hospital, Charles Sculthorpe Morris, Louis Joseph Patterson Clavier and Edward Crosby Peers, Guy's Hospital; John J. Papanicoly, James Wesley Peatt, and Geoffrey Ratcliffe Plaister, London Hospital, Vining Gedney Joseph Paul, St. Mary's Hospital; William Baly Peacock, King's College, London, Gordon Christopher Pounds and Charles Puxley, Charing Cross Hospital, Gerald Charles Frederick Robinson, Richard Pugh Rowlands, and John Edmund Spiller, Guy's Hospital; Harold H. Liborough Scatliff, Oxford University and St. George's Hospital; Timothy William Sexton, Middlesex *Hospital; Harold* Sigismund Sington and George Theodore Stephens, *St Thomas's* Hospital, Charles Newham Stanley, The Science, Art, and Technical School, Plymouth, Nicholas Tarr and Harold Rosser S. Walford, St. *George's Hospital; Gerald Maberly Taylor,* London Hospital; Ingram Thomas Walker, St. Thomas's Hospital; and *Theophilus* Ralph Wallenburgh, Owens College, Manchester.

Materia Medica—Alexander Farrington, Cambridge University and *St Bartholomew's Hospital, Kenneth Weldon* Goadby, Guy's Hospital; and John May Herbert Munro, University College, Bristol.

UNIVERSITY OF CAMBRIDGE.—On March 1st the following degrees were conferred:—

Doctor of Medicine—J. A. K Renshaw, M A, Trinity College.

Bachelor of Medicine and Bachelor of Surgery—*C. H. Barnes*, B A, and W. T. Mullings, B A, Christ's College

M A (honoris causâ)—F. G. Hopkins, M B, B Sc. Lond., University Lecturer in Chemical Physiology

Dr. Langley, F.R S., has been appointed deputy for Sir Michael *Foster*, M.P., and will have charge of the Physiological Department till the end of the next academical year.—It *is proposed to assign about* £12,000 from recent benefactions for the erection of new buildings *for* pathology, pharmacology, and medicine. An additional sum of at least £20,000 will have *to* be *found to provide* adequately for the requirements of these *departments* and the University is still in need of further gifts to this end.

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—The annual meeting of this institution was held on Feb. 19th under the presidency of Major Whitting. The medical report stated that 232 in-patients had been *admitted*, against 269 in 1898. The out-patients and casualties numbered 1353. The provident dispensary had 2332 members, an increase on the preceding year. The financial statement showed that the receipts amounted to £2250 and that a favourable balance of £233 remained.

THE LATE DR. J. BROOM.—Dr. John Broom died at his residence in Clifton on Feb. 26th in his fifty-eighth year after a short illness. The deceased gentleman received his medical education at the medical schools of Liverpool, Sheffield, and the London Hospital and qualified as L R C P. Irel, and L R.C S Edin. in 1870, three years later graduating as M.D. of Brussels University with distinction. Dr. Broom shortly afterwards commenced practice in Sheffield and in 1877 went to Clifton as partner with the late Dr. T. E Clark, the partnership terminating in 1879. Dr. Broom had a large practice and was extremely popular amongst his patients. He allowed himself so little relaxation and holiday that his work told seriously upon his health during the last few years.

UNIVERSITY OF DURHAM FACULTY OF MEDICINE.—The Secretary of State for War having been pleased to avail himself of the powers conferred upon him by Royal warrant recently offered to the University of Durham three nominations to the Royal Army Medical Corps which have been filled by the appointment of the following gentlemen:—Mr. James Andrew Hartigan, Mr. Charles S. Smith, and Mr. Harold Ben Fawcus, all of whom are graduates in medicine and surgery of the university. Surgeon-Captain Wresford who accompanies the South African battery of the 1st Northumberland Volunteer Artillery, and Surgeon W L W. Walker, who has been attached to one of the South African companies of the Northumberland Yeomanry, are also graduates of Durham. Of the present and former students of the University of Durham College of Medicine eight have volunteered for service in South Africa and are either at the front or on their way there.

ROYAL FREE HOSPITAL.—The seventy-second annual court of the governors was held at the hospital in Gray's Inn-road, W C, on Feb. 28th, the Earl of Stamford presiding. In moving the adoption of the report Lord Stamford remarked that the work of the hospital had been carried on in the most efficient manner during the past year. 2117 patients had been treated in the wards, while over 35,000 out-patients and casualties had received advice and medicine. His lordship referred to the special claims which the hospital had upon public sympathy and support in that admission to its benefits was absolutely free, also that it had been the first general hospital to appoint a trained almoner to see the applicants for relief, and that it afforded opportunities for clinical instruction to women medical students. Mr. Charles Burt, the chairman of the weekly board, stated that in order to provide better accommodation for the nursing staff it was proposed to build a fourth storey over the side portions of the rear central block, the cost of which is estimated to be not less than £5000. In view of the pressing claims now being made upon the public in connexion with the war in South Africa the committee must rely upon the generous assistance of the friends of the charity to provide the necessary funds, not only for these much-needed improvements but also for the maintenance of the work of the hospital. Mrs Scharlieb, M.D Lond, moved a resolution expressing the thanks of the governors to Mrs Webb and other friends for their generous gift of a new museum and bacteriological laboratories which had been erected as a memorial of the late Miss Mabel Webb, M B. Lond., formerly curator of the museum. At the close of the proceedings Lady Reay, C.I., formally opened the new museum.

SCOTTISH NATIONAL RED CROSS HOSPITAL.—A public meeting was held on March 2nd in the Merchants' Hall, Glasgow, for the purpose of promoting the Red Cross scheme of the St. Andrew's Ambulance Association for establishing a Red Cross Base Hospital in South Africa. The Lord Provost presided, and there was a large and influential attendance. Lord Overtoun, after moving "that this meeting approve of the formation of the Red Cross Branch of the St. Andrew's Ambulance Association for Aid to the Sick and Wounded in War," said that the association, which was founded in 1882 and received a Royal Charter in 1889, had two objects, one to help the suffering in time of peace and the other to aid the wounded in time of war. There was now a great field for a Red Cross department in connexion with the association. The Rev. Dr. McAdam Muir seconded the motion, which was carried unanimously. The Lord Provost moved "that this meeting cordially recommends to the sympathy and liberality of the people of Scotland the scheme for establishing at Cape Town or elsewhere in South Africa, as the military authorities may direct, a base hospital to be called the Scottish National Red Cross Hospital." The Corporation of Glasgow had offered the Ruchill Hospital for the reception of wounded men who might be sent home, but the superiority of a base hospital in South Africa over a hospital at home was evident, for it would be not only in a most exhilarating climate—to which, indeed, patients were sent from this country in order that they might recover—but the men would be saved from the discomforts of the voyage home and of being conveyed to the nearest hospital after they landed. As the result of an appeal made during the last few days £10 857 had been received. Sir Thomas G. Glen-Coats, Bart., seconded the motion, which, supported by General

Chapman and Professor Ramsay, was adopted. Sir William Laird moved, and it was resolved, that a committee be appointed to coöperate with the council of the association. On the motion of Dr. G. C. Beatson, chairman of the council of the association, a vote of thanks was awarded to the Lord Provost for presiding.

Medical High Sheriff.—Dr. A. Garrod Thomas, J.P., of Clytha Park, Newport, Mon., has been appointed High Sheriff of Cardiganshire.

Royal College of Physicians of Ireland.—At the request of the Secretary of State for War the President of the Royal College of Physicians of Ireland has nominated Mr. F. G. Fitzgerald, L.R.C.P. & S. Irel., to a commission in the Royal Army Medical Corps.

Anti-vaccinationists as Vaccination Officers.—At the meeting of the Liskeard Board of Guardians held on Feb. 24th Mr. Preston Thomas, of the Local Government Board, who attended the meeting, said that he did so at the express wish of Mr. Henry Chaplin, M.P., in reference to the refusal of the Local Government Board to sanction the appointment of an anti-vaccinationist as vaccination officer for the Collington district. After some discussion it was decided to agree to the wishes of the Local Government Board and to advertise for a vaccination officer for the district and that the words "no anti-vaccinationist need apply" should be added to the advertisement.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Lunacy Bill.

Several amendments were made in the Lunacy Bill during its passage through Committee in the House of Lords and several subsections and new clauses were added. Among the additions are a provision that the judicial authority shall in his report to the Commissioners state definitely whether in his opinion the detention is or is not proper, and another to the effect that the power of two or more local authorities to agree to unite in providing and maintaining a district asylum shall be construed as including a power to unite in providing and maintaining a laboratory for pathological research in connexion with lunacy.

The Cost of the Medical Establishment of the Army.

The effects of the war are visible in almost every item of the estimates for the medical establishment of the army. The total vote for 1899–1900 was £305 800, whereas for 1900–1901 it is no less than £555,000. Under the head of pay, &c., of the Army Medical Service there is an increase of £41,800; of pay of civilian medical practitioners, &c., an increase of £120,600, the figures being £134,500 as against £13,900; of corps pay and extra duty pay of the Royal Army Medical Corps, nurses, clerks, and other subordinates, an increase of £36,300; and of cost of medicines, &c., an increase of £50,000. In his explanatory statement the Secretary of State said that all the available officers of the Royal Army Medical Corps ordinarily on the home establishment had been sent to South Africa and their places at home had been filled by the employment of retired officers and civil medical practitioners. In addition 223 civil surgeons had been sent to the seat of war. Provision, it was further said, had been made for a large increase of officers of the Royal Army Medical Corps, and a further addition had been made to the establishment of non-commissioned officers and men.

HOUSE OF COMMONS.

Thursday, March 1st.

Small-pox Precautions.

Mr. Tatton Egerton asked the President of the Local Government Board whether his attention had been called to two cases of small-pox in London which had been distinctly traced to neglect of due precautions by the authorities at Hull, and what steps he intended to take in the matter to prevent similar cases of outbreak of small-pox.—Mr. Chaplin: I have made inquiries with regard to this matter. It appears that the two men from whom the cases referred to are thought to have derived the infection were employed by a contractor in erecting additional buildings at the small pox hospital at Hull. I am informed that it was desired by the Hull authorities that the men employed should be revaccinated before entering on this work. It was also arranged that the men should not be required to work within 60 feet of any building in which there were small-pox patients, but there is some conflict of testimony as to whether this arrangement was strictly observed. The only effective precaution that can be taken in cases of this kind is revaccination, and in the present instance gratuitous revaccination was offered to the men but unfortunately they declined to accept the offer.

The Meat on Board the Transports.

Mr. Baird asked the Financial Secretary to the Admiralty (1) whether any reports had been received from officers commanding troops on board transports for South Africa on the quality of meat supplied to the troops; (2) whether on several occasions the meat had been condemned by the medical officer and thrown overboard in bulk, while that actually cooked had been found to be uneatable and had been treated in the same way; (3) whether any reports had been received from South Africa on the condition of some of the troops when landed to the effect that they had evidently been underfed on the voyage; and (4) whether steps had been taken to secure that the meat issued to the troops on board transports shall be of good quality and the provisions on sale cheap and plentiful.—Mr. Macartney: Reports have been received from officers commanding troops on board 60 transports victualled by the Admiralty. On seven transports the salt-meat ration was condemned on different occasions and other rations were issued. Five commanding officers have reported that the troops disliked the salt beef rations because they were either too salt, or hard, or unpalatable. The answer to the third paragraph is in the negative. Every care has been taken to secure that the rations issued to the troops should be of the best quality, and in a few cases where complaints had been made that the prices of the canteen were high and the stock of articles sold there insufficient the attention of the owners has been called to these matters and they have been rectified. I may add that in the case of every ship where complaints were made the salt beef has been landed at the Cape and that the report of the board which has surveyed it is to the effect that it is quite satisfactory.—Sir James Fergusson: Is it not the fact that in some of the transports the cases of salt beef were marked "1893"?—Mr. Macartney: No, sir, I have not had any report to that effect and I do not believe there is any foundation for the statement.—Sir James Fergusson: I will give you proof.

Friday, March 2nd.

Proposed Special Night Staff for Netley Hospital.

Captain Norton asked the Under-Secretary of State for War whether, seeing that non-commissioned officers and men of the Royal Army Medical Corps are on duty for long hours in attendance upon sick and wounded at the Royal Victoria Hospital, Netley, he would consider the advisability of organising a special staff of night orderlies, who would be excused day duty as in all large civil hospitals, in order that the sick or wounded might be at least as well attended to as the civilian patient.—Mr. Powell Williams: The question has been very carefully considered and in view of the number of experienced men of the Medical Staff Corps who have applied to re-enlist and by whose help the pressure will be greatly diminished it is not thought expedient to form the special staff suggested.

The Meat on Board the Transports.

Sir James Fergusson asked the Financial Secretary to the Admiralty whether he had inquired into his statement that cases of salt beef marked "1893" were shipped for the rations of troops going to South Africa.—Mr. Macartney: 1842 pounds of beef of the date "1893" have been returned from the *Kildonan Castle*. I must therefore apologise to my right hon. friend for making a statement on the subject which was not correct. No beef of that date was supplied to any other transport from which complaints have been received. I made inquiries on that point by telegraph yesterday. The complaint that the beef was hard as regards the *Kildonan Castle* did not come from the commanding officer of the *Kildonan Castle*.

Monday, March 5th.

Proposed Food Standards.

Mr. Hedderwick asked the President of the Board of Agriculture whether any and what steps had been taken by the Board of Agriculture in exercise of the power conferred by Section 4 of the Sale of Food and Drugs Act, 1899, upon the Board, to set up presumptive standards of quality in respect of milk, cream, butter, and cheese.—Mr. Walter Long: No regulations under the section referred to have as yet been made, but I have appointed a Departmental Committee, of which Lord Wenlock is chairman, to consider whether any such regulation can with advantage be made in respect of milk and cream, and upon the report of the committee the further action to be taken will to a great extent depend.

Tuesday, March 6th.

The Nursing Staff of the new Bethnal-green Infirmary.

Sir Mancherjee Bhownaggree asked the President of the Local Government Board whether the Board of Guardians of St. Matthew's, Bethnal-green, applied some months ago for sanction for the appointment and salaries of the nursing staff for the new Bethnal-green Infirmary, and that, although that institution was completed and ready to receive patients, and was formally opened yesterday, the sanction has not been accorded; and, if so, would he take immediate steps to comply with the request of the guardians.—Mr. Chaplin. The Local Government Board have received the application referred to and there has been considerable correspondence on the subject. The Board's decision in the matter has been communicated to the guardians. They have sanctioned the number of nurses required, and I hope that the matter may now be regarded as settled.

Workhouse Dietary Scales.

Mr. Chaplin, replying to a question by Mr. Hazell, said he was sorry there had been delay in the issue of the regulations with regard to workhouse dietaries. The delay had been mainly caused by the great care which had been requisite in framing the model dietary scales which the Committee on the subject recommended should be issued. He was unable to name a date when the regulations would be ready, but they were being pressed forward and there would be no avoidable delay in their issue.

The Inspection of Cows and Dairies.

In their Bill now before the House of Commons the Corporation of Taunton seek power to inspect cows and dairies outside the limits of the borough, a power already enjoyed by other urban local authorities. After the Bill had been read a second time Mr. Strachey moved an instruction to the committee by whom the measure will have to be considered to provide that this power shall not be exercised without the previous order of two justices sitting in petty sessions who shall not grant the order unless they are satisfied that the local authority of the district in which the premises are situated has not a ready dealt with the case.—Sir Walter Foster and other members opposed this instruction on the ground that its effect would be to hamper the corporation in its public health work and on a division it was rejected by 63 votes.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

Beale, H R, L.R C P, M R C S, has been appointed House Physician to St. Thomas's Hospital

Belfrage, S H, M B Lond, has been re appointed Clinical Assistant in the Special Department for *Diseases* of the Throat at St Thomas's Hospital

Bevan, A, L R C P, M R C S, has been appointed Junior Obstetric House Physician at St. Thomas's Hospital

Bourdas, E C, L.R.C P, M R.C S, has been appointed House Surgeon to St Thomas's Hospital

Brown, W. L, M A M B., B C Camb, has been appointed Casualty Physician to St. Bartholomew's Hospital, London

Carter Horace H A., L.R.C S & L.R.C P Irel, has been appointed Assistant Medical Officer in the Colonial Service

Clarke, H H R, L.R C P, M R C S, has been appointed Senior Obstetric House Physician to St Thomas's Hospital

Clements, John Edmund, M B, B Ch, B.A.O, R U I, has been appointed Medical Officer to the Chinese Customs Service

Coupland Sydney, M D Lond, F R C P, M R.C S, has been appointed Consulting Physician to the Middlesex Hospital

Cunningham, J F, L R C P, M R C S, has been appointed Assistant House Surgeon to St. Thomas's Hospital

Dawson, Frank Adams, M D & C M Aberd, M R.C S, J P, has been appointed *Honorary Medical Officer to the Dartmouth Cottage* Hospital

Dudgeon, L S, L.R.C P, M R C S, has been appointed House Physician to St. Thomas's Hospital

Ellis, F H, B A., M B., B C Cantab L.R C P, M.R.C S, has been re-appointed House Physician to St. Thomas's Hospital

Fyfe F C., B A., M B, B C Cantab, has been appointed Assistant House Physician to St Thomas's Hospital

Fagge, C H, M S, F R.C.S, has been appointed Surgeon to the Out-patients of the Evelina Hospital for Sick Children, Southwark Bridge-road, London

Gates E A, L R C P M R C S, has been appointed House *Surgeon* to St Thomas's Hospital

Graham, J C W, B A Cantab., L.R.C P, M R.C.S, has been appointed *Clinical Assistant in the Special Department for Diseases* of the Skin at St Thomas's Hospital

Hawkins, C L, B A, M B, B C Cantab, L.R C P, M R C S, has been appointed Assistant House Surgeon to St. Thomas's Hospital

Hedley, E W, M A, M.B, B C Cantab has been appointed Assistant House Physician to St Thomas's Hospital

Howlett, B I, L.R.C P, M R C S, has been re appointed House Physician to St Thomas's Hospital

Jardine, Robert, M.D Edin, M R C S, L F P S Glasg has been appointed Examiner in Midwifery to the University of Glasgow

Jones A Webb, L R C P, M R C S, has been appointed House *Surgeon to St Thomas's Hospital*

Kendall, Walter Bendall, M R C S, L.R.C P Edin, has been appointed Honorary Medical Officer to the Dartmouth Cottage *Hospital*

Kilvert, J E, L R C P M R C S has been appointed Ophthalmic House Surgeon to St Thomas's Hospital

Kinloch, R B, L.R.C P, M R C S has been appointed Clinical Assistant in the Special Department for Diseases of the Skin at St Thomas's Hospital

Lucas S A, L R C P, M R C S, has been appointed Clinical Assistant in the Special Department for Diseases of the Throat at St Thomas's Hospital

Martin, A E, B A., M B, B C Cantab, L R C P M R.C S, has been appointed Assistant House Surgeon to St. Thomas's Hospital

Michell, John Charles, M R C S L.S A., has been *re-appointed* Medical Officer of Health by the Lynton (Devon) Urban District Council

Pearson C Y, M D *Irel*, F R C S *Eng*, has been appointed to *fill* the Chair of Surgery in the Queen's College, Cork

Powell, Sir R D, M D Lond, F R C P M R C S, has been appointed Consulting Physician to the *Middlesex* Hospital

Richmond, R T L.R.C P Lond. M.R C S has been appointed House Surgeon to the Salisbury Infirmary

Saunders Everard H, M R C S, L.R.C P Edin Fleet Surgeon having arrived home from the Cape in medical charge of 148 military sick and wounded and had them transferred to the Royal Military Hospital, Netley, has now taken over his appointment as Medical Officer of the training ship *Lion* at Devonport

Sheen, William, M.D, M S Lond F R C S, L.R C P, has been appointed Surgeon on the Staff of the Imperial Yeomanry Field Hospital

Spriggs Edmund Ivens M D Lond, M R C P *Lond*, *has been* appointed Physician to the Surrey Dispensary, vice T B Partridge, resigned

Stewart, G I T, M A., M B, C M Aberd, *has been* appointed Clinical Assistant in the Special Department for Diseases of the Ear at St Thomas's Hospital

Takaki, Y, L R C P, M R C S *has been appointed* Assistant House Surgeon to St Thomas's Hospital

Thomson, J Stitt, M D St And, F P C P, F R C S Edin, has been appointed *Physician* to the Lincoln County *Hospital*, vice George Mitchinson, deceased

Unsworth N, L R C P, M R C S, has been appointed House Surgeon to St. Thomas's Hospital

Williams, W. G, M B Lond, has been appointed Assistant House Surgeon to the Cardiff Infirmary

Worsley, Richard Le Geyt M R.C S L.R C P Lond., L.S A., has been appointed Visiting Medical Officer to the Newcastle upon Tyne Dispensary

Yarrow, G E, M D, L.R.C P Lond M R C S has been re-appointed Surgeon Accoucheur to the City of London Lying in Hospital

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Aston Union—Resident Assistant Medical Officer at the Workhouse, Erdington, near Birmingham Salary £130 per annum, rising annually by £10 to a maximum of £150, with furnished apartments, rations washing &c. Subject to statutory conditions—Apply to the Clerk to the Guardians, Vauxhall road Birmingham

Belgrave *Hospital for Children, 77 Gloucester-street, London*—House Surgeon for six months Board and residence, with £5 allowance

Birkenhead Borough Hospital—Visiting House Surgeon Salary £75 a year, with board, lodging and washing (no wine, spirits, or beer) Additional fees allowed for reporting certain infectious diseases, &c

Birmingham and Midland Eye Hospital, Birmingham.—Assistant House Surgeon Salary £60 per annum, with apartments and board

Bradford Royal Infirmary—House Surgeon, *for twelve months*, unmarried. Salary £110 per annum, with board and residence

Bury Infirmary—Junior House Surgeon Salary £60 per annum, with board, residence, and attendance

Cardiff Infirmary—Assistant House Physician for six months Salary at the rate of £50 per annum, with board, *washing* and apartments Also Resident Medical Officer for three years Salary £100 per annum, with board washing and furnished apartments

Cotswold Sanatorium for the Open air Treatment of Tuberculosis—Assistant Medical Officer Salary commencing at £120 a year and all found—Apply to Dr Pruen, Sherborne Lodge, Cheltenham

Cumberland and Westmorland Asylum, Garlands, Carlisle—*Junior Assistant Medical Officer, unmarried Salary £100* a year, with board and residence

Devon County Asylum, Exminster, Devon—Third Assistant Medical Officer Salary £120, rising to £150 with board, lodgings, &c

Dumfries and Galloway Royal Infirmary—House Surgeon Salary £50 per annum with board and washing *Also Assistant* House Surgeon Board and washing provided

East London Hospital for Children and Dispensary for Women, *Glamis road Shadwell, E—Medical Officer* for the Casualty Department for six months Salary at the rate of £100 per annum Luncheon is provided at the Hospital

Glasgow Eye Infirmary—*Resident Assistant House* Surgeon Salary £50, with apartments and board

Great Northern Central Hospital, Holloway road, N—Junior House Surgeon for six months Salary at the rate of £30 per annum, with board lodging, and washing in the hospital

Hamlet of Mile End Old Town, London—Assistant *Resident* Medical Officer at the Workhouse Infirmary, Bancroft-road, Mile end, E Also as Assistant Medical Officer for the Workhouse and *School, unmarried Salary an inclusive one of £120 with board* lodging and laundry and an allowance in lieu of beer Applications to the Clerk to the Guardians, Bancroft-road Mile-end E

Hants County Asylum Fareham—Third Assistant Medical Officer, unmarried Salary £125 per annum (increasing to £150 after twelve months' service) with furnished apartments, board, washing, and attendance

Harris Parish Council, for the Southern Division of Harris—Medical Officer Salary £30 Apply to Mr Thomas Wilson Solicitor, Lochmaddy, Clerk

Hartlepools Hospital Hartlepool—House Surgeon Salary £80 per annum, with board lodging, and washing in the hospital

Heigham Hall, Norwich—Assistant Medical Officer for the above private asylum

Hereford General Infirmary, *Hereford—Senior House Surgeon*, for six months, unmarried Salary £40, with furnished rooms board, washing gas, coals, and attendance. Also Junior House Surgeon, for six months *unmarried. Salary £17 10s*, with furnished rooms, board, washing gas coals, and attendance

Hospital for Consumption and Diseases of the Chest, Brompton—Assistant Physician

Kent County Ophthalmic Hospital Maidstone—House Surgeon. Salary £100 per annum with board and lodging in the hospital

Kent and Canterbury Hospital, Canterbury—Assistant House Surgeon, unmarried Salary £60 a year with board and lodging

Lincoln County Hospital, Lincoln—Assistant House Surgeon *for six* months. Honorarium £10 for that period, with board, residence, and washing

Liverpool Dispensaries Moorfields Liverpool.—*Assistant Surgeon* unmarried Salary £100 per annum with board and apartments

London Temperance Hospital.—Physician to out-patients Honorarium 50 *guineas per annum*

Loughborough and District General Hospital and Dispensary, Loughborough—Resident House Surgeon Salary £100 per annum, with furnished rooms attendance, and board

Macclesfield General Infirmary—Junior House Surgeon Salary £70 per annum, with board and residence at the institution

Manchester Hospital for Consumption and Diseases of the Throat and Chest—Honorary Surgeon

Metropolitan Hospital, Kingsland road N E—House Physician House Surgeon, Assistant House Physician and Assistant House Surgeon for six months Salary for House Physician and House Surgeon at the rate of £40 a year each Salary of Assistant House Physician and Assistant House Surgeon at the rate of £20 a year each

Monkwearmouth and Southwick Hospital, Sunderland—House Surgeon unmarried Salary £80 per annum, with board residence and washing

Newport and Monmouthshire Hospital, *Newport, Mon—House* Surgeon Salary £100 per annum, with board and residence No stimulants provided

Royal Albert Hospital, Devonport.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum, with board, lodging, and washing.

Royal Free Hospital, Gray's Inn-road, London.—Senior Resident Medical Officer for twelve months. Salary £100 per annum, with board, residence, and washing,

Royal Hospital for Children and Women, Waterloo Bridge-road, London – Resident Medical Officer for twelve months. Salary £70 per annum, rations, and laundry.

Royal Hospital for Diseases of the Chest, City-road, London.—House Physician for six months. Salary at the rate of £40 per annum, with furnished apartments, board, and washing.

Royal National Hospital for Consumption, Ventnor.—Clinical Assistant. Board, residence, and laundry provided. Apply to the Resident Medical Officer. Also Resident Medical Officer, unmarried. Salary £150 per annum, with board and lodging in the hospital. Apply to the Secretary to the Medical Committee, at the Hospital, Ventnor.

Royal Surrey County Hospital, Guildford.—House Surgeon. Salary £80 a year, with board, residence, and laundry. Also Assistant House Surgeon, £30 a year, with board, residence, and laundry.

Salisbury Infirmary.—Assistant House Surgeon, unmarried. Salary £50 per annum, with board, lodging and washing.

Sheffield Royal Hospital.—Junior Assistant House Surgeon, unmarried. Salary £50 per annum, with board (no wine or beer), lodging and washing,

South Lambeth, Stockwell, and North Brixton Dispensary, Wilkinson-street, Albert-square, Clapham-road, S.W.—Vacancy on Visiting Medical Staff.

Stamford, Rutland, and General Infirmary, Stamford.—House Surgeon, for two years, unmarried. Salary £100 per annum, with board, lodging, and washing.

St. Mary's Hospital School, Paddington, W.—Demonstrator of Physiology. Salary £100 to £150.

St. Olave's Union.—Medical Officer for the Workhouse, Parish street, Tooley-street, S.E. Salary £70 per annum, with extra fees. Subject to statutory conditions. Applications to the Clerk to the Guardians, Tooley-street, London.

Stockport Infirmary.—Assistant House and Visiting Surgeon. Salary £70 per annum, with board, washing, and residence.

The Chief Inspector of Factories gives notice that the following appointments as Certifying Surgeons under the Factory Acts are vacant—namely, at Thrapston in the county of Northampton, at Kilworth in the county of Cork, at Fallcarragh in the county of Donegal, at Witley in the county of Surrey, at Bandon in the county of Cork, at Yaxley in the county of Northampton, at Biggar in the county of Lanark, at Eddenderry in King's County, at Aberdare in the county of Glamorgan, and at Snodland in the county of Kent.

The Secretary of State for the Home Department gives notice that the appointment of Medical Referee under "The Workmen's Compensation Act, 1897," for the Worksop and Mansfield County Court Districts in Circuit No 18 is vacant.

University of London.—Examiners.

West Bromwich District Hospital.—Resident Assistant House Surgeon.—Salary £50 per annum, with board, &c.

York Dispensary.—Resident Medical Officer, unmarried. Salary £110 a year, with board, lodging, washing, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

Guest.—On Feb 17th, at Dorrington, Salop, the wife of Herbert M. Guest, L R C P Lond, M.R.C.S., of a son.

Hinds.—On March 1st, at The Steyne, Worthing, the wife of Frank Hinds, M.D, *of a son.*

Hooley.—On March 4th, at Broxmore, Cobham, Surrey, the wife of Arthur Hooley, L.R.C P. Edin., M.R.C.S., of a daughter.

MARRIAGE.

Pakes—Fisher.—On March 1st, at St. Andrew's, Fulham, by the Rev. Charles Pakes, B A., Vicar of Copp, Garstang, father of the bridegroom, assisted by the Rev. J. S. Skinner, B.A., brother-in-law of the bride, Walter Charles Cross Pakes, L R C.P., D.P.H., to Dora Agnes, youngest daughter of the late John Fisher, Esq., of Leckonby, Gt. Eccleston, Lancs.

DEATHS.

Guy.—On March 2nd, at Shoebury Villa, Dover, Thomas Guy, M.D., F R.C P., Inspector-General of Army Hospitals, retired, in his 81st year.

Heron Watson.—On Feb. 27th, at Gotha, Germany, Elizabeth Gordon Miller, wife of Patrick Heron Watson, LL D., M.D., F.R.S., F.R.C S.E. & I., Surgeon-in-Ordinary to the Queen in Scotland, and daughter of the late James Miller, F.R S., F.R.C.S, Professor of Surgery in the University of Edinburgh, and Surgeon-in-Ordinary to the Queen in Scotland.

Simson.—On March 2nd, Francis Taylor Simson, L.R C.P., L.S.A., of Montague place and Craven House, Northumberland-avenue, W., aged 40.

Wearing.—On March 2nd, at Mayfield, Victoria Park, Wavertree, Liverpool, Richard Wearing, M.D., aged 46 years.

Whistler.—On Feb 27th, at his residence, 6B, Bickenhall-mansions, Gloucester-place, London, William McNeill Whistler, M.D. Pennsyl., M R.C P. Lond, M.R.C.S. Eng., late Surgeon to the Confederate States Army, U.S.A., aged 63. (American papers please copy.)

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE BRITISH VIAVI COMPANY.

On Feb. 27th the coroner for East Sussex opened an inquiry into the circumstances attending the death of Elizabeth Mary Lake, aged 42 years, who died on Feb 25th. Mr. Percy Lake, the husband of the deceased, said that his wife had had no medical attendance, but had been to see Miss O'Dowda until within a *few days of her death,* when Miss O'Dowda had come to the house by his request. In reply to the coroner witness said that Miss O'Dowda was the agent to the British Viavi Company. His wife had adopted the Viavi treatment in March last year. Miss O'Dowda, examined by the coroner, is either in reality, or poses as, an ignorant woman. She said that she was a branch house manager for the British Viavi Company. Asked "what is the Viavi Company"? she said that she did not understand the question. Further pressed she said it was a company for health treatment at home Her business was to give instructions with regard to the remedies to people who wished to buy them, to advise them as to their application, and to put them in touch with the hygienic department in London, which was controlled by a medical adviser, where they are treated by correspondence from London. She did not give medical advice but only instructions as to the application of the remedies. Mrs Lake had described her symptoms and witness considered that she was suffering from a "tumorous condition of the bowels," and therefore advised the use of the medicine recommended by the company for that complaint. The medicines were composed of vegetable substances, but she did not know what they were. The price of the ointment, tablets, bottle of liquid, and capsules was 36s.—that is to say, that for each preparation the sum of 36s. was charged. Witness had no medical qualification and had no idea that deceased was going to die. Witness had been trained as a Viavi worker under Miss Glassford. She had offered no objection when Mr. Lake wished to call in a medical man. They worked hand-in-hand with all medical men. They sent for one when necessary. In answer to the coroner, however, Miss O'Dowda confessed that when they had sent for a medical man he would not work with them.—Dr. Alexander Harper, a registered medical practitioner who had been called in at the end and who had found Mrs. Lake dead on his arrival said that he had made a post-mortem examination. The cause o death was perforation of an ulcer high up in the small intestine. He did not think that a diagnosis of its existence could have been made with certainty during life even by a qualified medical man, but its existence would certainly have been suspected. It was probable that the ulcer had existed in March, 1899, when Miss O'Dowda first saw the deceased. Henry Thomas Woodward, describing himself as M D. of the University of Pennsylvania, said that he was connected with the company in the hygiene department in London. His business was to look over the correspondence from patients and to return answers. Asked by the coroner if he had any objection to telling the court the ingredients of the medicines witness replied that he had no objection but that he did not know. The coroner in his summing up pointed out that Dr. Harper had stated that the complaint from which the deceased had suffered would possibly not have been diagnosed by a skilled medical man Therefore he did not think that they could say that death was accelerated by incompetence on the part of Miss O'Dowda. The jury handed in the following verdict: "We wish to return a verdict of 'Death from natural causes.' We also think that the life of the deceased might have been prolonged had she been placed under properly qualified medical treatment, and from the evidence brought before us we consider the Viavi Company a fraud."

There is nothing to quarrel with in this verdict. There is no law and there never can be one which will prevent persons tampering with their own health by drugging themselves with nostrums which they buy on the faith of harrowing tales inserted as advertisements, or by dealing with quacks, as was the case of Mrs Lake. Here is a commercial company employing a "medical" adviser who admits *his* complete ignorance of the composition of the drugs on which he advises, and employing an agent who also confesses her ignorance. We have seen from time to time the literature sent out by the British Viavi Company, and as a matter of course it appeals largely to that unhappy class of persons who are always imagining that something is wrong with their sexual apparatus. The company practises quackery of the worst description, and a coroner's jury have said that they consider the company a fraud. The case is one more argument for some measures to be taken for the suppression of quackery.

Our readers may notice that the "medical" adviser of the company styled himself an M.D. of the University of Pennsylvania. This university, whose seat is in Philadelphia, has a good record for work extending over 135 years and must not be confounded with the fraudulent Philadelphia University. If "Dr." H. T. Woodward really graduated in the University of Pennsylvania we trust that his *alma mater* will take notice of his proceedings.

MEDICAL CERTIFICATES FOR THE USE OF THE SCHOOL BOARDS

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 3rd I read a note on the London School Board and Medical Certificates. I have had some trouble with the School Board here on the same subject and have successfully combated their inspectors. I have always refused to give any kind of certificate unless the board would pay fees for them. This of course, they would not do. I therefore told parents of children not to send them to school but to tell the inspectors that if they summoned them I should go and give evidence. This stopped the trouble for a time but at last, after some preliminary nibbling in the shape of threats and abuse of the parents, they issued a summons. I attended and gave evidence and the case was dismissed. They soon summoned another case, thinking to tire me of attendance at the police-court. On this occasion I refrained from attending, but sent a note explaining the circumstances to the chairman of the bench. The plan answered here where we all know one another, but probably would not be sufficient in London. I have had no further trouble in the matter. If I hear any complaints of abuse of parents I send my compliments to the inspector inviting him to issue a summons as he knows perfectly well what my action will be in that case. I may add that largely in consequence of this action by myself and another member of our infirmary staff the School Board have appointed a medical officer with whom our relations are perfectly satisfactory.

I am, Sirs, yours faithfully,

Friar Gate, Derby, March 5th, 1900. G. H. MILNES, M.D. Cantab.

"A CASE OF INTRACTABLE ULCER."

To the Editors of THE LANCET.

SIRS,—In answer to "Tibia" in THE LANCET of March 3rd, the following case may be of interest. A woman, aged 60 years, of feeble health and addicted to alcohol, suffered for 14 years from a large deep ulcer on the inner side of the tibia. It was surrounded by discoloured skin but no varicose veins were apparent. Strapping, rest, mercury, and iodide of potassium only made matters worse, but on the administration of quinine and digitalis the ulcer rapidly improved and within one month was completely healed. The administration of arterial tonics, such as digitalis, in cases of feeble habit and poor circulation is most important and is often attended by surprising results in ulcers, varicose veins, and dermatitis hæmostatica.

I am, Sirs, yours faithfully,

March 6th, 1900. TONIC.

THE DOOR PLATE OF AN OLD MEMBER OF A FIRM

To the Editors of THE LANCET.

SIRS,—Will you kindly give me advice on the following circumstances? An old practitioner called A died over three years ago; his widow sold the practice, left the town, and has no further interest in it except the rent of the house in which A had lived. The practice was bought by B, who after a short time sold it to C, and C has now taken a partner, D. Three years before A's death, A 2 (same name), who was working with him, commenced to practise independently, and is still in practice in the town. C and D still retain A's name on their door-plate, to the annoyance of A 2, who is the only person of that name in the town. Can A 2 compel C and D to discontinue the use of his name?

I am, Sirs, yours faithfully,

March 5th, 1900. A 2.

*** As A has been dead three years and as A 2 has resided six years in the town we think A's name might be removed from the door belonging to C and D.—ED. L.

A METHOD OF TREATING VESICO-VAGINAL FISTULA.

To the Editors of THE LANCET.

SIRS,—In THE LANCET there was published, I believe, some years ago, the description of an operation for vesico-vaginal fistula, in which operation one or two silk threads are brought out of the urethra. I cannot find a reference to it in Neale's Digest, perhaps because my copy is not the latest edition. Can any of your readers tell me where the article appeared, whether in THE LANCET or elsewhere, and if they have any experience of this operation? It seemed to me that, in the hands of a not very expert or experienced operator, the good result was more certain than by the other methods.

I am, Sirs, yours faithfully,

J. DICKSON HUNTER, M.D. Edin., &c.

Arequipa, Peru, Jan. 26th, 1900.

WHO SHOULD PAY?

To the Editors of THE LANCET.

SIRS,—About 12 months ago I was called to a man who was injured underground. He was working in an old working that had not been used for many years making an air way when a stone fell on his leg, breaking it. The fracture was comminuted. Those who went to his aid had a good deal of difficulty in getting to him and in getting him out. He had to pull himself up by his hands and elbows through some narrow parts, for the place had closed in so that there was barely room to crawl. The colliers who went to get him out say it was a most dangerous place. I sent a bill for medical attendance upon him for £15 15s. to the company he was working for. They refused to pay it, as they said it had nothing to do with them. They have no medical man for their workmen, but they only employ a very few. They paid the injured man compensation, 13s., but of course he could not pay my bill, as he could not work for 12 months. He could never have got out of the mine without having his leg attended to, and medical attention probably saved the company a good many pounds, for without it he would have had to have his leg amputated.

I am, Sirs, yours faithfully,

March 5th, 1900. T. W. B.

*** The company, it seems to us, should recognise the claim of the medical man, but we do not suppose they can be legally compelled to do so. Our correspondent should consult a solicitor.—ED. L.

PUBLIC FREE LIBRARIES AND HYGIENE

A LETTER under the above heading appears in the *Greenock Telegraph* of March 3rd calling attention to the dangers in the way of disseminating infection which may arise from public libraries. The writer points out that special danger exists from the practice indulged in by some readers of spitting on their fingers before turning over the leaves. It is quite possible that a book might be infected with the bacillus of tubercle in this way, but the great danger arises from books being taken home to all sorts of places where they may come in contact with children suffering from measles, if not diphtheria or scarlet fever. We believe the subject has not escaped the notice of sanitary authorities, but books are difficult things to disinfect and the application of stringent rules for disinfection each time that a book was returned would be almost incompatible with the continued existence of the library. But as we said in THE LANCET of May 4th, 1889, p. 902, books that are known to have been exposed to the taint of disease should be disinfected and any further issue to the houses of those infected should be temporarily restricted.

"THE CLERGYMAN AND THE MEDICAL MAN."

WITH reference to the paragraphs under this heading which appeared in THE LANCET of Feb. 17th (p. 509) and March 3rd (p. 667), a correspondent using the pseudonym of "Ajax" writes:—"The idea that two tablespoonfuls go to one ounce is still held by you, but I think that if you try you can easily pour one ounce into an ordinary tablespoon. I have found that most people and some practitioners are not aware of this. Of course, this has no reference to the dose of carbolic acid."

THE TRANSVAAL BOERS: WHO AND WHAT THEY ARE

"TRAVELLER" writes to us a long letter upon the above subject. We have not space for all his remarks, but we print the salient passages. "Having noticed in the papers lately the loose application of the terms Afrikander, Boers, and Dutch to our antagonists at the Cape I venture to surmise that their use has become too indiscriminate all round. The term 'Afrikander' was generally used to signify Dutch, French, or English born, bred, and resident in the Cape Colony proper. The term 'Boer' is generally used to designate people born and resident in the Transvaal or Orange Free State before the former was created from the latter. The two terms and peoples have now become entirely differentiated owing to the Boers beyond the Vaal River consisting of a mixed nationality of Dutch, French, Germans, Hebrews, Austrians, &c. The real Dutch of the Cape Colony proper were pre-eminently careful of family connexion and conservative of family history—attributes not yet belonging to the Boer communities of the present day in the Transvaal. The modern Boer has gradually developed into a new race of people of different pursuits, character, and nature from the old Dutch colonists of the Cape of 200 years ago. This speciality may be readily noticed by looking at the old Dutch figures in the pictures of Rubens, Teniers, or Van Eyck, &c., and the sketches of the Boer of the day in the illustrated papers. The Boer is now taller than the old stock—lanky, bony, and of austere visage, and a good horseman, whereas the old Dutchmen were square in figure, fleshy, rubicund in visage, and were good sailors and seamen."

THE FRIEND OF HUMANITY.

IN a newspaper appears the following modest advertisement:—

> "To the Deaf.—A gentleman who cured himself of deafness and noises in head after 14 years' suffering will gladly send full particulars of remedy on receipt of stamped addressed envelope."—*J. Clifton, 12, Norfolk-street, Strand, London.*"

We can find no one in the Post Office Directory named J. Clifton at 12, Norfolk street (Amberley House), Strand, but there is a person named Herbert Clifton at this address who deals in "Invisible Drum Supports." He also publishes pamphlets written in the most nauseous style of puffery running down his brother quacks. From this we learn that he has been deaf himself and knows the gloom that was in consequence cast over his life; he has been to these so-called specialists and suffered physically and financially from their nostrums and their charges; he has studied the physiology of the seat of his complaint, and, after patient study and experiment, submitted himself to a course of treatment which resulted in restoring to him once more the blessed power of hearing. He has also determined to give to the world the benefit of the extensive studies and experiments which enabled him to succeed where so many others failed. Mr. Clifton evidently had a bad time. As a lad he suffered from noises in the head and his life became a burden (in large capitals). Nearly a dozen different surgeons saw him and "I realised the awful truth that deafness was certainly creeping upon me" (small capitals). Then he tried the various "quack remedies which have allured so many to their bitter cost." Then a wild yet happy thought flashed upon him and after patient research he mastered the intricacies of those important structures situated in the head and known as the "middle-ear" and "inner ear." Mr. Clifton wisely *remarks that there is no need to give the* technicalities of the subject in detail. We say *wisely* because a few lines further on he says that he commenced experimenting to find out the exact combinations of medicines to penetrate the "inner ear" and to restore the little muscles ("ossicles") to their natural state. A man who calls a muscle an ossicle has not profited much by "patient research."

THE TROUBLES OF A PUBLIC VACCINATOR.

AT the annual dinner of the Bolton Poor-law Officers' Association on Feb. 20th a song entitled "The Public Vaccinator" setting forth the trials of those officials under the new Act was sung. The words were written by Dr. John Johnston and give a vivid picture of the troubles of the post. Three of the stanzas run as follows:—

"The announcement that he only vaccinated 'from the calf'
Would sometimes the occasion be of merriment and chaff.
One woman would declare the thought of vaccination shocked her,
While another one would tell him she preferred the 'Sixpenny Doctor.'

"When asked—'Heaw mony marks d'ye make?'—and he confessed to 'four,'
The mother oft with promptitude would show him to the door;
'The vaccination's free,' he'd urge, 'with lymph of the L G.B.,'
'Aw'st ha' *nowt at a' to do,' she'd snap, 'wi' oather it or thee.'*

"Postponement would another urge, ''cos th' chilt's noan raley fit.'
He'd call again to find it done by 'Sixpenny' or 'flit.'
Another would deny herself, and in no dulcet tones,
Declare he'd made a great mistake—*she* wasn't Mrs. Jones."

POPULAR MEDICINE.

WE have received a copy of *Leach's Family Dressmaker* for February. The journal is published monthly and its circulation is, we believe, a large one. The proprietors think it right to insert medical advice, obviously given without the prescriber seeing the patient, as well as objectionable advertisements. Some of the latter, as will be seen, are disgraceful. On p. 12 we find the following answer to a question by a correspondent who gives the eminently appropriate *nom de plume* of "Stupid": "Try equal parts of lemon juice and lime water to the patches and if not eradicated in a few weeks send 2*s*. 6*d*. for the preparation for bleaching moles which leaves no scar." "Editress," who answers "Stupid," warns her against using "acetic acid, which requires great care in applying through a small glass tube." We, for our part, warn "Stupid" against the half crown preparation, and generally against applying to popular papers for advice about her complexion. But certain advertisements in *Leach's Family Dressmaker* require serious comment. We note the advertisement on p. 25 of "Martin's Apiol and Steel Pills (for ladies)—a French remedy for all irregularities." On the same page Mr. Towle says of his pennyroyal and steel pills for females that they quickly correct "all irregularities, remove all obstructions, and relieve the distressing symptoms so prevalent with the sex." Also, on the same page, is an advertisement from a lady dwelling at 10, Bookseller's-row, Strand, W.C., who gives away "words of wisdom for our wives." The advertiser will also send post free illustrated lists of rubber appliances, preventatives, &c. The worst advertisement is that upon p. 23. It is dated from 145, Stockwell-road, London, S.W. Applications are to be addressed to Mrs. F. D. This is the address from which Mrs. B. B. F. Allen, Mrs. M., Owen, or the Irristum Company, were wont to issue their circulars. In THE LANCET of Dec. 24th, 1898, p. 1723, we commented upon the advertisements of this protean person, and as we notice that "Mrs. W." now expresses to Mrs. F. D. her relief that "her anxiety and misery was over" that she formerly expressed to Mrs. Allen and the others, we conclude that Mrs. F. D. is a fourth name for this firm. Mrs. W.'s testimonial implies that she had a miscarriage and the advertisement is, as the jury found in Owen *v*. Greenberg, immoral. There is another advertisement of a very shady type upon p. 3 of the cover. It relates to "not a dangerous drug, but a wonderful secret invention, never fails." This is addressed "To Married Ladies." With reference to the advertisement of Mrs. F. D. we would direct the attention of the proprietor of Leach's publications to Mr. Justice Darling's dictum in the "Madame Frain" trial "that the newspapers who put in advertisements of this kind now had a warning and that if they continued to do so they might find themselves in the same position as the defendants who were here."

INTERROGATOR would like to hear of a home (private) where a mentally deficient girl, aged 19 years, could be received and not only educated but taught an occupation.

Assistant.—1. Unless the matter is dealt with specifically in the agreement it is one that must be mutually arranged between the principal and assistant. There can be no actual right or wrong about it. 2. The work detailed seems to us enormous for one man to do, but if the assistant has agreed to do it and cannot allege that he has been deceived in any way as to the amount to be done, we can only advise him to do his best. 3. To break a signed agreement would be a serious course which we could not take upon ourselves to recommend. Our correspondent should consult his solicitor.

A.M.C. is advised to consult about the book those who superintended her training. No offers would be made for the papers in question which only have value when the issues are old and out of print.

C. T.—We do not print the addresses of medical men. They can be found in the Medical Register and Medical Directory.

W. S.—The spraying of the throat with local disinfectants has been tried. The results are not conclusive.

Dr. J. Dysart McCaw.—We have received over 1000 letters on the subject. All will have consideration.

W. G. is thanked for bringing the amusing passage to our notice.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 8th, 1900.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain-fall.	Solar Radia in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Mar. 2	30·24	N.E.	0·01	60	44	36	38	39	Raining
" 3	30·17	N.	0·03	54	45	39	39	41	Overcast
" 4	30·13	N.E.	...	79	42	36	36	38	Cloudy
" 5	30·14	N.E.	...	67	42	37	37	38	Cloudy
" 6	30·26	N.E.	0·01	49	42	38	38	40	Overcast
" 7	30·25	N.E.	...	54	44	36	36	39	Overcast
" 8	30·23	N.E.	...	47	43	37	37	41	Overcast

During the week marked copies of the following newspapers have been received: *Yarmouth Advertiser, Scarborough Gazette, Dundee Advertiser, Bridgwater Independent, Western Morning News, West Ham Guardian, Southampton Times, Pioneer Mail, Times of India, Westminster Gazette, Scotsman, New York Sun, Pontefract Weekly Herald, Birkenhead News, Burnley Gazette, Surrey Times, Citizen, Architect, Builder, Sussex Advertiser, Wigan Observer, Kent Messenger, Cornish Post, Hastings and St. Leonards Weekly Mail, Hereford Times, Surrey Mirror, Herne Bay Argus, Jersey Express, Morning Herald, South Wales Gazette, Lancashire Daily Post, Kentish Observer, Lincoln Gazette, Western Gazette (Yeovil), Bradford Observer, Birmingham Daily Post, Harrogate Herald, Cornishman, Hackney Express, South London Chronicle, Glasgow Herald, Richmond Times, Sanitary Record, Brighton Gazette, Local Government Chronicle, Mining Journal, Reading Mercury, City Press, Public Health, Hertfordshire Mercury, Local Government Journal, Surrey Advertiser, Guy's Hospital Gazette, North Cheshire Herald, Fish Trades Gazette, South Durham Mercury, Auckland Chronicle, Huddersfield Chronicle, Indian Daily News, Southport Visitor, Bolton Evening News, Derby Daily Telegraph, Le Courrier de la Presse, Greenock Telegraph, South Wales Argus, Sheffield Daily Telegraph, &c., &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (14th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.) Cancer (2 P.M.)

THURSDAY (15th).—St Bartholomew's (1 30 P M), St. Thomas's (3 30 P M) University College (2 P M) Charing-cross (3 P M) St George's (1 P M), London (2 P M), King's College (2 P M) Middlesex (1 30 P M) St. Mary's (2.30 P M), Soho-square (2 P M) North West London (2 P M), Chelsea (2 P M) Gt Northern Central (Gynæcological 2.30 P.M) Metropolitan (2.30 P M), London Throat (2 P M), St Mark's (2 P.M)

FRIDAY (16th).—London (2 P M), St Bartholomew's (1 30 P M) St Thomas's (3.30 P M), Guy's (1 30 P M) Middlesex (1 30 P M), Charing cross (3 P M) St George's (1 P M), King's College (2 P M) St. Mary's (2 P M, Ophthalmic 10 A.M) Cancer (2 P M), Chelsea (2 P M) Gt Northern Central (2 30 P M) West London (2.30 P M), London Throat (2 P M and 6 P.M)

SATURDAY (17th).—Royal Free (9 A M and 2 P.M), Middlesex (1 30 P M) St Thomas's (2 P M), London (2 P M) University College (9 15 A M) Charing-cross (2 P M), St George's (1 P M), St. Mary's (10 P.M) London Throat (2 P M)

At the Royal Eye Hospital (2 P M), the Royal London Ophthalmic (10 A M) the Royal Westminster Ophthalmic (1.30 P M), and the Central London Ophthalmic Hospitals operations are performed daily

SOCIETIES

MONDAY (12th).—MEDICAL SOCIETY OF LONDON.—8 30 P M Mr P J Freyer A New Method of Performing Perineal Prostatectomy.—Mr C B Keetley Coxa Vara (with cases skiagrams, and photographs).—Dr C Pope 23 Years Death Certificates in General Practice

TUESDAY (13th).—CHILDHOOD SOCIETY (Library of the Sanitary Institute, 72, Margaret-street, W)—8 P M Dr G I Shuttleworth The Training of Defective Children under School Boards

CHELSEA CLINICAL SOCIETY (Holy Trinity Parish Hall Pavilion road, Sloane-square, S W)—8 30 P M. Annual Clinical Debate Subject:—The Treatment of Rheumatism with special reference to Prophylaxis and Cardiac Complications (opened by Dr W Ewart) The following speakers have promised to take part in the discussion:—Dr T J Maclagan Dr A F Sansom, Dr D Hood, Dr D B Lees and Dr A Garrod

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury square W C)—8 P M Mr E M Holmes: Notes on the Commerce of Drugs

ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W)—8 30 P M Paper:—Dr H Thursfield: The Skin Affections met with in Bright's Disease

WEDNESDAY (14th).—HUNTERIAN SOCIETY (Theatre of the London Institute Finsbury circus)—8 30 P M Pathological Specimens will be shown

THURSDAY (15th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road).—Clinical Evening The following Cases will be shown:—Dr H Tilley Cholesteatomata of Mastoid.—Mr F Jaffrey: Urticaria Pigmentosa.—Dr W Harris: Progressive Muscular Atrophy.—Dr L Guthrie Cerebellar Tumour.—Dr H J Macevoy Little's Disease And other Cases

FRIDAY (16th).—EPIDEMIOLOGICAL SOCIETY OF LONDON (11 Chandos street, Cavendish-square, W)—8 30 P M Paper: Dr Robinson: Measles, its Distribution and Control

LECTURES, ADDRESSES, DEMONSTRATIONS, &c

MONDAY (12th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P M Prof C Stewart: On the Protection and Nourishment of the Young in Plants and Animals

LONDON THROAT HOSPITAL (204 Gt. Portland street, W)—4 30 P M Mr Waggett: Treatment of Diseases of the Accessory Sinuses of the Nose (Post-Graduate Course)

MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22 Chenies street, W C).—4 P M. Dr C Fox: Consultation (Skin.)

TUESDAY (13th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P M Dr F J Waldo: Summer Diarrhœa with special relation to Causation and Treatment. (Milroy Lecture)

MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C).—4 P M. Dr W M Ord Consultation. (Medical)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen square, W C)—3.30 P M Dr R Russell Cerebellar Localisation

WEDNESDAY (14th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P M Prof C Stewart: On the Protection and Nourishment of the Young in Plants and Animals.

MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C)—5 P M Dr R. Saundby: Clinical Lecture:—Non-diabetic Glycosuria.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton)—4 P M Mr Godlee: On some peculiar Cases of Empyema.

THE SANITARY INSTITUTE, (Parkes Museum, Margaret-street, W).—8 P M Discussion on Experimental Bacterial Treatment of the London Sewage (to be opened by Prof Frank Clowes)

THURSDAY (15th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P M Dr F J Waldo: Summer Diarrhœa with special relation to Causation and Prevention (Milroy Lecture)

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck street, W)—5 P M Clinical Demonstration:—Dr T D Savill: Electricity in the Diagnosis and Treatment of Diseases of the Nervous System

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W C)—4 P M Dr Colman: Demonstration of Selected Cases

CHARING CROSS HOSPITAL.—4 P M. Dr. Hunter: Pathological Demonstration (Post-graduate Course.)

MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C)—3 P M. Dr H Low: Class. Roentgen Rays. Demonstration II 4 P M Mr J Hutchinson: Consultation (Surgical.)

FRIDAY (16th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P M Prof C Stewart: On the Protection and Nourishment of the Young in Plants and Animals.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W C)—4 P M. Dr R. Tilley: Consultation (Eye, Ear, Nose and Throat.)

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff It is urgently necessary that attention be given to this notice

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub Editor"

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager"*

We cannot undertake to return MSS not used

MANAGER'S NOTICES.

THE INDEX TO THE LANCET

THE Index to Vol II of 1899, which was completed with the issue of Dec 30th, and the Title page to the Volume, were given in THE LANCET of Jan 6th

VOLUMES AND CASES

VOLUMES for the second half of the year 1899 are now ready Bound in cloth, gilt lettered, price 18*s*, carriage extra

Cases for binding the half year's numbers are also ready Cloth, gilt lettered, price 2*s* by post 2*s* 3*d*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand W C, are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c, should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM		TO THE COLONIES AND ABROAD	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues, and agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates whatever be the weight of any of the copies so supplied, Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

Communications, Letters, &c., have been received from—

A.—Mons. F. Alcan, Paris; Aston Union, Clerk of; Advertisers' Agency, Lond.; Aberdeen Royal Asylum, Secretary of; Messrs. Armour and Co., Lond.; *Archives Provinciales de Médecine*, Paris, Editor of; *Archiv für Dermatologie und Syphilis*, Prague, Editor of.

B.—Mr. J. R. Benson, Bath; Mr. J. W. Bevan, Nantyglo; Mr. Beaumont, Lond.; British Balneological and Climatological Society, Lond.; Miss F. H. Bridge, North Newington; Mr. R. Baker, Lond.; Bury Dispensary Hospital, Secretary of; Mr. H. Brown, Hollesley Bay; Dr. B.; Bradford Royal Infirmary, Secretary of; Birkenhead Borough Hospital, Secretary of; Mr. D. Belilos, Lond.; Bartitsu Club, Lond.; Dr. P. L. Benson, Winslow; Mr. W. W. Black, Edinburgh; Sir William Banks, Liverpool; Mr. *W. G. Burcombe, Lincoln*; Birdlip Hotel, near Gloucester, Proprietress of; Beacon, Lond.; Messrs. G. Back and Co., Lond.

C.—Dr. J. E. Clements, Lond.; Dr. *W. F. Colclough, Oporto*; Messrs. Samson Clark and Co., Lond.; Messrs. Crossley and Co., Lond.; Messrs. Callard and Co., Lond.; Mr. T. J. Croke, Harrogate; Charing-cross, &c., Electricity Supply Corporation, Lond.; Miss A. M. Challen, Tunbridge Wells; Cortland Wagon Co., Lond.; Cardiff Infirmary, Secretary of; Dr. J. Cropper, Chepstow; Dr. F. J. H. Coutts, Manchester.

D.—Messrs. Dowie and Marshall, Lond.; Paul E. Derrick Advertising Agency, Lond.; *Dermatological Society of Great Britain*, Secretary of; Dumfries and Galloway Royal Infirmary, Treasurer of; Devon County Asylum, Exminster, Medical Superintendent of; Mr. R. Davis, Lond.; Dentist.

E.—Messrs. Ebrall and Courtenay, Bournemouth; Mr. J. R. Evans, Ammanford; Mr. A. Edwards, Lond.; Dr. Eichholz, Creuznach.

F.—Dr. F. D. Fisher, Little Sutton; F. H. D.; F.R.C.S.

G.—Mr. W. Gardner, Nunney; Glasgow Eye Infirmary, Secretary of; *Mr. G. Goodchild, Lond.*

H.—Mr. A. C. Humphreys-Owen, Lond.; Mr. F. W. Howell, Lond.; Heigham Hall, Norwich, Medical Superintendent of, *Hereford* General Infirmary, Secretary of; Hartlepool Hospital, Hon. Secretary of; Dr. J. B. Hellier, Lond.; Mr. Reginald Harrison, *Lond.*

I.—Mr. Alfred Iles, Taunton; Italian Embassy, Secretary of; Italian Hospital, Secretary of.

J.—Mr. E. Jones, Glasgow; Mr. L. Jones, Paris; J. V. U. S.

K.—Dr. Leonard Kidd, Lond.; Dr. W. R. Kingdon, Lond.; Kent County Ophthalmic Hospital, Maidstone, Secretary of; Kent and Canterbury Hospital, Canterbury, *Secretary of*; Messrs. P. S. King and Sons, Lond.; Messrs. Kilner Bros., Lond.; Kensingtonian.

L.—Rev. W. Laycock, Macclesfield; Loughborough and District General Hospital, &c., Secretary of; Dr. T. Glover Lyon, Lond.

M.—Mons Armand Massep, Lond.; Rev. Dr. H. P. Mendes, Lond.; Medical Defence Union, Secretary of; Master in Lunacy, Melbourne, Australia; Milk Preparations Co., Brentwood; Mile End Old Town Union, Clerk of, Messrs. C. Mitchell and Co., Lond.; Maltine Manufacturing Co., Lond.; Medical Graduates' College, Lond., Medical Superintendent of; Mr. A. E. Maylard, Glasgow; Mr. W. Marriott, Lond.; Mr. J. de B. Murray, Lond.; Mr. F. Macrae, Leeds; Dr. F. B. Macdonald, Preston; Dr. A. G. Milne, Rodley; Mr. A. Marrot, Brighton.

N.—Mr. A. Ninon, Lond.; Mr. H. S. Nichols, Lond.; Mr. A. J. Newton, Erith.

O.—Dr. C. Ogle, *Lond.*; Mr. W. Owen, Lond.

P.—Mr. J. G. Payn, Sudbury; Mr. Y. J. Pentland, Edinburgh; P. M. B; Mr. H. O. Paull, Luton; Mr. J. F. Pink, Lond.; Mr. W. P. Phillips, Newtown.

R.—Mr. R. H. Russell, Melbourne; Red Cross Committee, Central British, Lond., Secretary of; Mr. C. Riley, Rotherham; Rochdale Infirmary, Secretary of; Royal Albert Hospital, Devonport, Secretary of; Rebman, Ltd., Lond.; Royal Surrey County Hospital, Guildford, Assistant Secretary of; *Dr. R. R. Rentoul*, Liverpool; Mr. J. H. Ryley, Ipswich; Messrs. Reynolds and Branson, Leeds; Royal Botanic Society, Lond., Council of.

S.—Mr. James Startin, Lond.; Mr. C. G. Stuart-Menteath, Lond.; Messrs. Leonard Smithers and Co., Lond.; Southern District, Portsmouth, Principal Medical Officer of; Mr. Statham, Totteridge; Smith's Advertising Agency, Lond.; Stamford, &c., Infirmary, Secretary of; Salford Royal Hospital, Secretary of; Professor Carl Schlatter, Zurich; Sheffield Royal Hospital, Secretary of; Messrs. G. Street and Co., Lond.; Stockport Infirmary, Secretary of; Mr. K. Scott, Lond.; Dr. G. E. Shuttleworth, Richmond; M. H. Spencer, Lond.

T.—Mr. C. W. Thies, Lond.; Mr. Reginald Tuxford, Bargate; Mr. D. L. Thomas, Lond.; Dr. E. F. Trevelyan, Leeds; Dr. Bezly Thorne, Lond., Mr. Claude Taylor, Lond.; Messrs. J. F. Tims and Co., Lond.; Mr. H. G. Turney, Lond.

U.—Union Assurance Society; Secretary of.

V.—Vi et armis.

W.—Mr. J. G. Widdowson, Crosshills; Miss Mona Wilson, Lond.; Worksop Dispensary, Secretary of; Messrs. J. Wright and Co., Bristol; Mr. L. H. Wilson, Bath; Messrs. Willows, Francis, Butler, and Co., Lond.; Mr. F. V. Worthington, Eastbourne; Dr. Theodore Williams, Lond.; Mr. J. Wright, Greenock; Messrs. Ward, Lock, and Co., Lond.; Messrs. Willings, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. F. C. Angear, Chatham; Apollinaris Co., *Lond.*; Dr. A. Arabyan, Afion, Kara-Lissar, Turkey; Messrs. Allen and Hanburys, Lond.; Dr. F. W. Aitkin, Denton; A. W. M.; A. P. C.; Dr. J. R. Armstrong, Treorchy; A. C.; A. F. M.; A. E. W., Birkenhead.

B.—*Mr. J. T. Brickwell, Watford*; Bristol City Asylum, Clerk of; Mr. H. J. Bromley, Lond.; Dr. H. P. Berry, Grantham; Mr. J. Bourke, Reddish; Mr. F. Barra*clough, Headingley*; Mr. C. E. G. Bateman, Walsingham; Messrs. Baiss Bros. and Co., Lond.; Mr. T. Brayton, Hindley; Messrs. Buchner, Schacht, and Co., Lond.; Mr. J. C. R. Braine-Hartnell, Cranham; Mr. G. A. Brown, Tredegar; *Messrs.* Burroughs Wellcome and Co., Lond.; Mr. C. Birchall, Liverpool; Mr. L. Birch, *Leckonby*.

C.—Mr. J. M. Carvell, Catford; Mr. S. J. Chopping, Chelmsford; Messrs. A. Cohen and Co., Lond.; Mrs. E. N. Champness, Rochdale; *Corngreaves Hall Retreat*, Birmingham, Treasurer of; C. L.; C. D. F.; Cheshire, Lond.; Carmarthenshire Infirmary, Secretary of.

D.—Dr. T. Dewar, *Hetton-le-Hole*; Messrs. W. Dawson and Sons, Lond.; Messrs. Derry and Sons, Nottingham; D. H. A.; Dispenser, Croydon.

E.—Mr. T. F. Edgeworth, Bristol; Mr. H. S. Elworthy, Lond.; E. F. H. H.; East Suffolk and Ipswich Hospital, Ipswich, Secretary of.

F.—Mr. C. A. *François, Durban*; F. J. M.; Folkestone Medical Society, Hon. Treasurer of; Mr. A. L. Franklin, Coventry.

G.—Mr. O. W. Gange, Tuxford; Mr. J. D. Gimlette, Barnham; Grosvenor street (22), Lond.; Mr. J. Godding, Lond.

H.—Mr. H. E. Haycock, *Ironville*; H. C. L.; H. A., Mr. J. Hains, Lond.; Dr. J. T. Harvey, Broken Hill, Australia; Mr. A. Hair, Lond.; Mr. C. C. Hinson, Rowhedge; Mr. R. F. Hiley, Redhill; Messrs. C. J. Hewlett and Son, Lond.; H. L.; H. W.

I.—Messrs. Idris and Co., Lond.; Imperial Accident, &c., Insurance Co., Lond.

J.—Jeyes' Sanitary Compounds Co., *Lond.*; J. G. H.; J. H.; J. S.; J. P. H.; J. K. G.; J. W. D.

K.—Messrs. Keith and Co., Edinburgh; Dr. H. R. Kenwood, Lond.

L.—Mr. T. H. Lewis, Ynishir; Dr. C. Lamplough, Chatteris; Locum, Leicester; Lex, Polegate; Dr. *J. S. Lyttle, Cilfynydd.*

M.—Mr. W. A. Mushé, *Lond.*; Mr. J. Marshall, Pontnewydd; Male Nurses' Temperance Coöperation, Lond., Secretary of; M. D.; Medicus, Lond.; Mysore Government, India, Senior Surgeon of; Mr. J. J. Moynihan, Harpurhey; Dr. M.

N.—Mr. L. Nicholls, Hartest; Northern Medical Association, Glasgow; G. Newnes, Ltd., Lond.

O.—Dr. J. W. Ogle, Lond.

P.—Mr. W. Pomeroy, Queen Camel; Messrs. Parke, Davis, and Co., Lond.; P., Manchester; Physician, Lond.; P. T.

R.—Rev. *Canon* Roberts, Honolulu, Hawaiian Islands; Mr. W. O. Rivers, Gargrave; Royal College of Surgeons in Ireland, Dublin, Registrar of; Messrs. H. and J. Reading, Lond.; Mr. R. W. Roberts, Cwm Avon; Rochford Union, Southend-on-Sea, Clerk of; R. A. B.; R. W. J.; Dr. T. H. Redwood, Rhymney.

S.—Mr. E. O. Scallon, Wincanton; South Australian Government Bonded Depôt, Lond., Manager of; Mr. J. P. Stilwell, Yateley; Surgeon, Bolton; Mr. J. Sampson, York; Mr. F. E. Saunders, *Lond.*; *Mr. J. Stewart*, Leeds.

T.—Mr. J. T. Thornhill, Burton-on-Trent; Surgeon W. H. Thomson, R.N., H.M.S. *Albacore*, Queenstown; Mr. A. S. Taylor, *Surbiton*; Miss E. A. Trindle, Shrewsbury; Mr. W. Thomas, Featherstone.

V.—Surgeon A. H. H. Vizard, R.N., H.M.S. *Northampton*, Chatham.

W.—Dr. J. H. Waterhouse, Maltby; Welsh Calvinistic Methodists' Foreign Missionary Society, Liverpool, Treasurer of; W. P.; Mr. H. B. Wilkinson, Powick; Mr. W. D. Watson, Leigh; Mr. A. P. Walters, Guildford; W. A. J.; W., Sheffield.

EVERY FRIDAY. **THE LANCET.** PRICE SEVENPENCE

SUBSCRIPTION. POST FREE.

FOR THE UNITED KINGDOM.			
One Year	£1	12	6
Six Months	0	16	3
Three Months	0	8	2

TO THE COLONIES AND ABROAD.			
One Year	£1	14	8
Six Months	0	17	4
Three Months	0	8	8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications	Seven Lines and under	£0	5	0
Official and General Announcements	Ditto	0	5	0
Trade and Miscellaneous Advertisements,	Ditto	0	4	6
	Every additional Line,	0	0	6

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.
Terms for Position Pages and Serial Insertions on application.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière, Asnières, Paris.

Three Lectures

ON

THE SURGERY OF THE STOMACH.

Delivered in the Theatre of the Royal College of Surgeons of England on March 5th, 7th, and 9th, 1900,

BY A. MAYO ROBSON, F.R.C.S. ENG.,

MEMBER OF THE COUNCIL AND HUNTERIAN PROFESSOR OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND; EMERITUS PROFESSOR OF SURGERY IN THE YORKSHIRE COLLEGE, AND SENIOR SURGEON TO THE LEEDS GENERAL INFIRMARY.

LECTURE II.[1]

Delivered on March 7th.

PERFORATION.

MR. VICE-PRESIDENT AND GENTLEMEN,—According to Brinton perforation takes place in from 13 to 15 per cent. of all ulcers of the stomach and according to Habershon in 18 per cent. Seeing that ulcer is more common in women than in men in the proportion of four to one perforation is more frequent in women, but, on the other hand, a greater percentage of ulcers perforate in men. Thus out of 234 cases of death from perforation collected by Brinton 160 were females and 74 were males.

According to Dr. Dreschfeld ulcer perforates on the anterior surface in 88 per cent. of cases, on the posterior surface in only 2 per cent., and at the pylorus in 10 per cent. This is readily explained by the posterior surface becoming so readily adherent to the fixed organs at the back of the abdomen. Perforation is a complication that may occur in any form of ulcer of the stomach, though it is much more frequently found in the simple, round, or acute ulcer than in the chronic form.

All cases of perforation naturally range themselves into two classes, the acute and subacute. In acute perforation there are the signs of a peritoneal catastrophe, usually supervening on the symptoms of gastric ulcer, there being immediate severe collapse with acute pain followed by a rapidly spreading lethal peritonitis. In the greater number of cases of perforation the actual rupture occurs when the stomach is full or moderately distended, and as the rupture usually takes place on the anterior surface the contents are poured into the great sac of the peritoneum, flowing along the depression between the colon and stomach into the right or left lumbar pouch; but if the stomach contents be abundant they flow over the omentum and pass into the pelvis at once. I have operated on cases of recent rupture where, although there were no adhesions, the right kidney pouch only had become soiled, where both kidney pouches only were involved, and where the pelvis and all parts of the peritoneal cavity had become invaded. When an ulcer perforates the posterior surface of the stomach the lesser peritoneal cavity is at once invaded, and if the stomach contents be abundant the fluid pours into the right kidney pouch through the foramen of Winslow and so involves the general peritoneal cavity. Under these circumstances, where there are no limiting adhesions the symptoms are very acute and operation to be successful must be undertaken at the earliest possible moment, as every additional hour increases the risk of failure. If perforation occurs with the stomach empty or only containing a small amount, protective adhesions may be formed in immediate contiguity to the ulcer and recovery may occur; for although the perforation of a gastric ulcer is almost universally fatal we must not forget that in a few exceptional cases the rule does not hold. I have seen two cases of this kind; in one all the symptoms of perforating gastric ulcer were followed by improvement and ultimate complete recovery. In the second there was a clear history of perforating gastric ulcer following on stomach symptoms extending over several years and ultimately demanding operation. I found the anterior surface of the stomach adherent to the abdominal wall which was forming the base of the ulcer. It was quite clear that perforation had occurred at this point, but that adhesions had rapidly formed and prevented an extension of the peritonitis. In two other cases on which I have operated perforation had occurred slowly; in one into the liver and in the other into the pancreas, the inflammation having been limited by adhesions. In perforation following on malignant disease there are the usual symptoms and signs of cancer of the stomach, with the sudden supervention of acute symptoms of perforation.

In subacute perforation there is more difficulty in making a diagnosis as the symptoms are less definite. There may be pain, followed by sickness and faintness, perhaps by vomiting, with slowly extending tenderness of the abdomen and distension; but all these conditions are much less marked in the early stage than they are in the acute variety, though they may at the end of two or three days develop rapidly and end the patient's life in a few hours, or the inflammation may very slowly extend, leading to localised abscess, which tends to extend in various directions. In these cases, perhaps because the perforation has occurred on an empty stomach, there is a small leakage, which becomes more or less encysted by adhesions, and the abscess may perforate into the intestine or on to the surface of the abdomen or into the thorax, or some accidental exertion such as that of vomiting may cause a rupture of the abscess into the general peritoneal cavity. Where the symptoms of perforation assume the subacute form there are many varieties in the combination of signs and symptoms, according to the direction in which the localised inflammatory collection travels. Thus we may have subphrenic abscess on the right or left side, pancreatic abscess, hepatic abscess, retro-peritoneal abscess pointing in various directions, and fistula between the stomach and intestines or between the stomach and gall-bladder, or even on to the parietes. The position of the perforation is responsible for these variations, the peritoneal folds conducting the contents in well-defined directions. In this secondary perforation the course of the pus will be either as in primary perforation of the posterior wall into the small sac of the peritoneum and left subphrenic space, or as in anterior perforation into the great peritoneal sac and the right subphrenic space.

But between these acute and chronic perforations there is a third variety, where perforation occurs and a small amount of fluid escapes, which extravasation is limited by adhesions at some distance from the perforation. For instance, if on the anterior surface the omentum may adhere to the anterior abdominal wall quite across the abdomen and so limit the effusion to the upper region of the abdomen and the right subphrenic space, the lateral extension under the diaphragm being prevented by the falciform ligament of the liver, and the lesser cavity of the peritoneum being protected by adhesions at the foramen of Winslow,—if this variety of subacute perforation occur on the posterior surface the lesser sac and left subphrenic space are alone involved because of adhesions at the foramen of Winslow and because of the falciform ligament limiting extension between the diaphragm and liver towards the front and right side. If the perforation occurs into an adjoining hollow viscus—e g., intestine or gall-bladder—a fistula will be found establishing a communication between the two cavities. Rarely a retro-peritoneal abscess forms, but this is usual only in the subacute or chronic cases where the secondary abscess forms in or near the pancreas and then bursts behind the peritoneum, as in a case on which I operated recently; but this is much less common from perforation of a gastric than of a duodenal ulcer. These clinical and anatomical explanations would seem to account for the varieties one may meet with in perforating gastric ulcer. According to Maydl, one-fifth of all subphrenic abscesses have a gastric origin and of these 95 per cent. are the result of ulcers.

Diagnosis of perforation.—Acute perforation is usually heralded by acute pain with collapse and rigid abdomen, soon followed by distension, retching with ineffectual vomiting, rapid pulse, and lowered temperature. If the patient survive signs of acute peritonitis appear. A peritoneal catastrophe with the previous history of symptoms of ulcer of the stomach and the site of the onset of pain in the superior abdominal region will usually leave little doubt as to the fact of perforation, but it must not be forgotten that other peritoneal catastrophes may simulate perforation of a gastric ulcer and *vice versâ*. A case came under my observation where a perforated gastric ulcer was mistaken at first for a ruptured extra-uterine gestation and another where an extra-uterine gestation was mistaken for a perforating gastric ulcer. The diagnosis can usually be made by a careful physical examination, when there will be found absence of liver dulness owing to free gas passing between the liver and the diaphragm, and if the stomach has been full at the time of rupture or fluid has been given after its occurrence there will be dulness in the flanks and a thrill may be present. If the case be not seen until a later stage the tympanitic distension, owing to peritonitis, replaces the early rigidity of the parietes and the distension may itself give rise to absence of liver dulness. Ineffectual vomiting is suggestive of acute perforation, it being accounted for by the contracting stomach forcing its contents into the peritoneal cavity.

---

[1] Lecture I. was published in THE LANCET of March 10th, 1900.

In the second of the three varieties that I have described, where the perforation may be termed subacute or chronic, the diagnosis may be extremely difficult and at times almost impossible until the case develops. The first symptoms may be acute, subsiding in a little while under treatment, and then again, according to later developments, becoming serious or even acute; or from the onset these cases may be slow and insidious, and the first evidence that perforation has occurred may be the formation of a subphrenic or other abscess. The diagnosis in this case rests mainly on the physical signs in the shape of swelling in the upper abdominal region on the right or left side according to the site of the perforation, and as these abscesses frequently contain free gas the percussion note is often misleading, though the hyper-resonance may usually be readily recognised from a pulmonary sound. Sometimes fluctuation may be felt, at other times the presence of fluid can only be elicited by a thrill on flicking the affected part of the abdomen with the fingers. When the collection of fluid is between the diaphragm and liver the liver may be pushed downwards and the thoracic contents pressed upwards. Here the exploring syringe will afford valuable indications.

The late Mr. Greig Smith drew attention to an important symptom in this class of cases, a line of induration underlying and adherent to, and moving with, the parietes, this being the site at which the omentum is adherent to the abdominal wall, limiting the downward extension of the pus and occurring in subacute perforation on the anterior wall of the stomach. The varieties in symptoms of these subacute and chronic perforations are so numerous that were they entered into minutely the whole of our time would be taken up with the subject. I must therefore leave much that I should like to mention unsaid.

Treatment.—Whatever opinions there may be concerning the treatment of some of the other complications of gastric ulcer, such as hæmorrhage, concerning the treatment of perforation there cannot be two opinions. Surgery, and surgery alone, holds out practically the only hope of cure, and though in the first 100 cases the rate of mortality was something like from 70 to 80 per cent. even in those reported, and must have been still higher if all the failures as well as successes had been chronicled, yet later results show a steadily decreasing mortality. The greater success of recent cases distinctly proves that time is the chief feature. This is well shown in a series of cases, 78 in number, collected by Messrs Keen and Tinker; in cases operated on within 12 hours after perforation the mortality was 28 57 per cent. before 1896, but only 16·66 per cent. after that date, the mean of which is 22 6 per cent In cases operated on from 12 to 24 hours after perforation, the mortality was 50 per cent., and from 24 to 48 hours after 55 55 per cent. An important paper on this subject has been written by Mr. Leonard A. Bidwell.[2] He collected 55 cases of perforated gastric ulcer operated on within the last two years. Of these 33 recovered. An analysis of his table brings out the supreme importance of early operation. Thus all the cases operated on within 12 hours—13 in number—recovered; of the 14 cases operated on between 12 and 24 hours one half recovered, and of the 15 cases operated on after 24 hours only five recovered, which shows the great advantage of early diagnosis and of operating as soon as possible At a meeting of the Clinical Society of London on Dec. 8th, 1899, Mr. Arthur Barker read a paper on 12 cases of perforated gastric ulcer on which he had operated, with the result that five of the patients were saved —equal to 58·3 per cent. mortality. He spoke strongly in favour of sponging in place of flushing the peritoneum. My own experience of acute perforation from the point of view of time is very striking. Of three cases operated on on the second and third day after perforation all died; of three cases operated on at six hours, 13 hours, and 18 hours after rupture all recovered. The following table of 429 cases shows a rate of mortality of 55 per cent.

TABLE VII.—*Statistics of Operations for Perforated Gastric Ulcer (Acute).*

Name of surgeon operating or compiling cases.	No of cases.	Recovered	Died.	Percentage of mortality.
1. Weir and Foote ... ... 78 2. Keen and Tinker... ... 78 3. Terrier and Hartmann 13	169	80	89	52 5
4. Barling...	31	11	20	64·5
5. Comte	65	19	46	70·7
6. Bidwell	55	33	22	40·0
7. A. E. Barker	12	5	7	58 3
8. Willmott Evans	44	24	20	45 4
9 Mayo Robson.				
Own private	3	2	1	33·3
Leeds Infirmary, all members of staff, ...	8	5	3	
H. Littlewood	7	5	2	
10. Reports of London hospitals	35	9	26	74 2
	429	193	236	55%

References.—1. Medical News of Philadelphia, April 25th and May 2nd, 1896. 2. Philadelphia Medical Journal, June 11th, 1898, p. 1104. 3 Chirurgie de l'Estomac, Paris, 1899, p 365. 4. Birmingham Medical Review, 1895, vol xxxviii, p. 204. 5 Semaine Médicale, 1895, iii., No. 39. 6. American Journal of the Medical Sciences, September, 1899 7. Brit. Med. Jour., December, 1899. 8 These cases are here recorded for the first time 9. These cases are here recorded for the first time. 10 Hospital reports. (The cases numbered 9 and 10 are single cases not included in the above statistics.)

The following tables not only serve to show the all-round mortality occurring in operations for acute perforation but also the effect of delay in increasing the death-rate:—

TABLE VIII.—*Weir and Foote's*[3] *Table added to Keen's Table and modified in order to show the Mortality between 24 and 36 Hours (Willmott Evans).*

—	Total cases.	Recovered.	Died.	Percentage of deaths.
Under 12 hours	49	35	14	28 57
From 12 to 24 hours	33	12	21	63 63
" 24 to 36 "	16	2	14	87 5
" 36 to 48 "	2	—	2	100·0
Over 48 hours	33	16	17	51·5
Time not stated	14	4	10	71·3

TABLE IX.—*Analysis of Cases Collected by Mr. Willmott Evans.*

—	Total cases.	Recovered	Died	Percentage of deaths.
Under 12 hours	13	7	6	46·1
From 12 to 24 hours	6	4	2	33 3
" 24 to 36 "	7	4	3	42 8
" 36 to 48 "	3	1	2	66 6
Over 48 hours	3	1	2	66 6

The details of operation in cases of perforation are of great importance. Everything should be done to save shock, for the collapse may, and probably will, be severe. To this end an injection of strychnine should be given, the limbs should be covered with cotton-wool, and the patient placed on a table heated by hot-water bottles or otherwise. While the abdomen is being asepticised plenty of boiling water should be got ready and if possible some cold water that has been boiled. A free incision should be made in the mid-line above the umbilicus; odourless gas will probably escape on opening the peritoneum and possibly some fluid or particles of food. The stomach should then be rapidly and carefully examined, it being borne in mind that the site of perforation is on the anterior wall in 52 per cent., near the lesser curvature in 31 per cent, near the cardiac end in 27 per cent., near the pylorus in 13 per cent., and on the posterior wall in only 8 per cent., so that in all probability the ulcer will be readily found. In my last three cases it was near the lesser curvature on the anterior aspect, and, curiously, in all three it was in exactly the same situation. In the first operation that I performed for perforating gastric ulcer, 16 years ago, the ulcer was most favourably situated about the middle of the anterior wall, but, unfortunately, operation was not performed until the third day after perforation, when there was general peritonitis.

---

[2] American Journal of the Medical Sciences, September, 1899.

[3] Medical News, April 25th, 1896, p. 449.

If the ulcer be not discovered on the anterior wall or near the lesser curvature the lesser cavity of the peritoneum should be explored by tearing a slit in the gastro-colic omentum. Should the lesser cavity be free from fluid or the lining walls be free from injection it is not necessary to proceed further in that direction and the pylorus must then be carefully examined. As soon as the perforation is discovered it must be sutured by apposition of the margins or by turning the edges inward and by inserting a row of Lembert's sutures through the peritoneal coat over the site of perforation and if practicable super-imposing a second row of stitches; but owing to the unhealthy and sometimes indurated condition of the margins of the ulcer this is more easily described than done. If the line of suturing be thought to be insecure, a flap of omentum may easily be brought up and stitched over the opening. This I have successfully done in several cases and as it involves very little time and gives a decided sense of security I think it is not a bad rule to follow in most cases.

Excision of the ulcer is, as a rule, unnecessary and involves a waste of time, but in some cases it may make suturing easier. Having closed the ulcer, the cleansing of the peritoneal cavity must be thoroughly and methodically carried out and if the extravasation of fluids be limited, as in a case that I saw within six hours of rupture and where only the right side of the abdomen was soiled, general irrigation is undesirable and *may do more* harm than good, but the parts should be very carefully wiped by soft sponges, great care being taken to cleanse the various folds and the space between the liver and diaphragm. When the effusion is more extensive and the peritoneal cavity has been generally soiled, irrigation is undoubtedly the best means for cleansing it. I have found a coil of india-rubber tubing with an ordinary abdominal glass drainage-tube fixed to one end of it and a funnel at the other to be more convenient than any more complicated apparatus, and I prefer a normal saline solution at a temperature of 105° F. before any other, though a solution of boro-glyceride or boric acid can be equally well employed. It must be remembered that irrigation should be a means of removing and not diffusing foreign material. It is very desirable, therefore, when gross particles of food are found in the region of the stomach to wipe these away before irrigating. Having done that the glass tube can be pushed down into the various recesses and the fluid allowed to well out. When there is much effusion I usually prefer to make a suprapubic opening and put a drainage-tube into the lowest pelvic peritoneal pouch. As soon as the fluid is returned perfectly clear and when the douche has been applied between the liver and the diaphragm and into every other accessible recess the abdomen may be closed, leaving the pelvic tube for drainage. It does not matter if some of the fluid remains in the cavity so long as it is pure, for it becomes absorbed and acts in the same way as an infusion of saline fluid would do. I am quite aware that some surgeons disagree *in toto* with flushing the peritoneum, preferring always to wipe rather than to flush, but my own feeling is that we should select our cases and where the soiling is limited wipe, but where it is general flush. The most difficult region to purify is that between the liver and diaphragm. When the perforation is on the anterior wall of the stomach the right side of the suspensory ligament is almost certain to be soiled; when it is on the posterior surface the space between the liver and the diaphragm on the left will be soiled. In either cases these regions should be flushed or wiped as the case may be. Lennander has suggested that sterilised gauze should be spread over the upper surface of the liver and that both loins should be drained; his results, however, under this treatment do not seem any better or even so satisfactory as where the ordinary means are employed. Saline infusions, rectal injections, and subcutaneous injections of strychnine may be required to combat shock.

Operation in chronic perforation practically resolves itself into the treatment of peritoneal abscess wherever it may be found; but in case of chronic or subacute perforation from gastric ulcer in by far the greater number of cases the abscess is under the diaphragm. It is curious that an abscess of this kind seldom bursts into the general peritoneal cavity. Maydl, who collected 35 cases, only records two such. Nevertheless, unless surgically treated, these cases nearly always terminate fatally either by extension towards the thorax or from septicæmia or exhaustion.

With regard to the site of operation that will depend entirely on the position of the pus. In case of right subphrenic abscess an incision may usually be made in the superior abdominal region to the right of the middle line. In left subphrenic abscess the pus is behind the liver on the left side of the abdomen and it may be necessary to resect a portion of the eighth or the ninth rib and to incise the diaphragm, care being taken to shut off by sutures the pleura if opened. Or an abscess of this kind, if showing a tendency to come forward, may frequently be drained by an incision from the front through the gastro-colic omentum. Having reached the abscess simple drainage will in most cases be sufficient, especially if a dependent point for drainage can be obtained by pushing a probe from the front and cutting down on it from the loin. If, however, the adhesions surrounding the abscess seem firm, and dependent drainage cannot be conveniently obtained, gentle irrigation of the cavity with boric lotion may be employed by inserting two tubes side by side in the cavity, injecting through one and letting the fluid return through the other, so as to avoid tension which might tend to break down adhesions. As the perforation in the stomach may be still patent, care must be taken not to use any poisonous antiseptic, and for the same reason feeding by the mouth is undesirable, and for some days all food should be administered per rectum so as to give the ulcer time to heal. If the pus be retroperitoneal the abscess may be incised and drained in the loin or it may be possible to reach the pus by an incision to the inner side of the anterior superior iliac spine and then by lifting the peritoneum to open and drain the abscess sac, making a counter-opening in the loin if thought desirable. The tube must be gradually shortened as the pus lessens, and left out as early as is safe, lest a fistula should form.

There are very few published statistics of operations for chronic or subacute perforation of gastric ulcers. Barling[4] collected six cases, in which two patients recovered and four died. Comte[5] brought together 23 cases, in which 11 patients recovered and 12 died; and Van Valgal and Nisbit report 10 operations with three recoveries. The total mortality of these cases was 58 9 per cent.

GASTRIC FISTULA.

Gastric fistula, a sequel of perforation, may be found occasionally on the surface of the abdomen, very rarely in the loin, but not infrequently between the stomach and adjoining organs. It may be pathological or traumatic. The following is an etiological classification:—

Pathological.—Extrinsic.—Cancer of the gall-bladder or bowel; gall-stones; empyema of the gall-bladder; abscess of the liver; abscess of the pancreas; ulcer of the bowel, simple, malignant, or tuberculous; and subphrenic abscess bursting into the stomach. Intrinsic.—Ulcer of the stomach or pylorus; cancer of the stomach or pylorus; foreign bodies ulcerating into neighbouring organs; and subphrenic abscess of gastric origin.

Traumatic.—(*a*) From injury, and (*b*) from operation (gastrostomy and gastro-enterostomy).

The symptoms vary according to the cause and the site of the fistula. If it be between the stomach and upper bowel the symptoms may be slight or absent, but if it be between the stomach and the large bowel the food will pass too rapidly through the alimentary canal and be parted with before absorption is adequate for nutrition, and, on the other hand, gases from the colon entering the stomach will give rise to fœtid eructations, at times to feculent vomiting, and always to chronic dyspepsia. In a case of fistula between the gall-bladder and stomach dependent on gall-stones in a woman of 50 years of age who came under my observation there was great loss of flesh, with frequent vomiting of bile; for though it is known that healthy bile may pass through the stomach without serious harm to nutrition the pathological products from an inflamed gall-bladder, together with the infected bile associated with cholelithiasis, seemed in this case to have a very deleterious effect. After opening the abdomen the fundus of the gall-bladder was found to be firmly fixed to the stomach near the pylorus, and on separating the adhesions both openings into the gall-bladder and stomach were found well within reach. The stomach fistula was closed by two layers of sutures and then the gall-bladder was brought to the surface and a tube inserted for drainage. The patient made a very satisfactory recovery and is now quite well, having gained considerably in weight. In another case of fistula between the liver and pylorus the stenosis caused by the ulcer produced such serious symptoms of itself that it was difficult to estimate the part played by the fistula. In this case also I operated, excising the ulcer and stitching up the wound transversely to the pyloric axis, and then scraping out the cavity in the liver. The patient is now in excellent health. In another case of fistula between the stomach and pancreas there was dyspepsia with pain after food and great loss of flesh, but in this case the stenosis of the pylorus seemed to account for the greater part of the trouble.

---

[4] *Birmingham Medical Review*, 1895.

[5] Semaine Médicale, 1895.

Fistulæ on the surface of the abdomen, if small, may cause little loss of health, but if extensive the leakage from the stomach of food and gastric juice leads to great distress from the soreness of the skin around the fistula, and to loss of flesh from the waste of food.

The following specimens are from the Hunterian Museum:—No. 2531 is a specimen of a cancerous ulcer between the stomach and the colon. The disease probably commenced in the colon. The specimen is from a woman of 55 years of age. Death occurred from exhaustion. There was no vomiting. No. 2426C is a specimen of cancer of the pylorus involving the transverse colon. It is from a woman 39 years of age.

Diagnosis.—As a rule, except in surface fistulæ, diagnosis can only be made after opening the abdomen, but if unaltered or slightly altered food be seen in the fæces after a history pointing to simple or malignant ulceration of the stomach, a fistula between the stomach and the colon would be suspected, especially if fœtid eructations or feculent vomiting occurred from time to time. The inability to distend the stomach with air pumped through an œsophageal tube would help in the diagnosis.

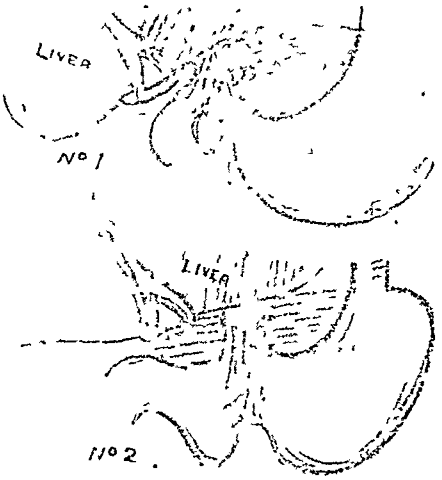
Treatment—In simple internal fistulæ exploration by abdominal section and closure of the two openings may be done, as in the cases previously referred to. In malignant disease partial gastrectomy and enterectomy might possibly be performed if the disease could be discovered in time, but such a communication would probably mean advanced disease and secondary infection, and would, therefore, as a rule, be beyond operative treatment. Surface fistulæ can be closed readily by plastic procedures if they do not close spontaneously under careful dressing and rest. Such a fistula may be closed by carefully dissecting the adherent peritoneum away from the parietes without opening the peritoneal cavity and then invaginating the margins of the opening in the stomach and suturing them accurately together with two layers of superimposed sutures, afterwards closing the muscular and aponeurotic layers of the abdominal wall by separate sutures, and lastly the skin. This operation is sometimes necessary in closing a gastrostomy opening that has been made for temporary use.

PERIGASTRITIS AND ADHESIONS.

Adhesions of the stomach and pylorus to neighbouring organs are a common result of perigastritis, the causes of which may be extrinsic or intrinsic. Among the extrinsic causes are gall stones, tuberculous peritonitis, local peritonitis from intestinal ulceration or from malignant growths in adjoining organs, typhoid fever, and possibly other fevers Among the intrinsic causes ulceration is by far the most frequent, though cancer and syphilis of the stomach must also be included Though at the time adhesions the result of perigastritis are conservative and may frequently result in the saving of [illegible] by limiting peritonitis, the result of perforation [illegible] infection due to ulcer, yet later [illegible] great functional disturbance by [illegible] of bacteri[illegible] such adhesions may lead to interfering with the motor activity of the stomach and causing pain, disability, and other ailments. As I shall hope to show, not only are these disturbances caused by adhesions of a functional nature, producing dyspepsia and so-called visceral neuroses, but not infrequently dilatation of the stomach, vomiting, severe pain, and great loss of flesh may result. In 1893 I read a paper before the Clinical Society of London on the subject of pyloric adhesions and related several cases which had been cured or relieved of long-continued stomach symptoms by their division. Since that time my experience has considerably extended and I can now point to a very large number of cases (nearly 50) of pyloric or other stomach adhesions caused in some cases by gall-stones, in others by gastric ulceration, where the adhesions, though not the original disease, were of the first importance in producing the symptoms for which operation was undertaken and where gastrolysis led to their relief or cure. Though in some cases the adhesions may be due to a perforating ulcer it is by no means necessary that ulceration need be near perforation to lead to perigastritis, for in many cases long before the peritoneum is reached by the ulcer a local peritonitis occurs, leading to the pain and well-known local tenderness which characterise ulcer of the stomach, and then lymph is thrown out which may fix the inflamed region to contiguous organs

Adhesions are found around the stomach in about 5 per cent. of all necropsies, and about 40 per cent. of all cases of ulcer of the stomach are associated with adhesions. My experience in a very considerable number of abdominal sections, about 500 of which have been in the upper abdominal region, is that pyloric adhesions are very much more common than is usually supposed and that their importance is greater than is generally recognised even at the time of operation. This is especially the case in cholelithiasis where I am accustomed to find gastric dilatation as a regular sequence of gall-stones and to look for it as an ordinary concomitant sign; and in such cases it is almost always due to adhesions of the pylorus to the gall-bladder and liver. Sometimes the adhesions may be strictly limited to the pylorus and gall-bladder leading to a characteristic train of symptoms. In one case under my care "acute dilatation" of the stomach came on suddenly and ended fatally within 36 hours, it being apparently due solely to pyloric adhesions, as a post-mortem examination revealed no other cause. At other times they may extend from the pylorus along the lesser curvature of the stomach, fixing the upper border of the stomach firmly to the gall-bladder, cystic duct, and under surface of the liver. When the pylorus is tied up in this abnormal position, not only are the normal movements of the pylorus and stomach interfered with, but the food has

FIG. 2.



No 1 shows kink of the pylorus from adhesions. No 2 shows adhesion of stomach to liver producing hour-glass contraction (For these and other diagrams I am indebted to my friend Dr McGregor Young) to be forced out at a higher level, and when the pylorus is alone fixed a kink forms, as shown in Fig 2, No 1, leading soon to well marked dilatation with flatulence chronic dyspepsia, and loss of flesh Where perigastritis is due to ulceration the adhesions are only found over the site of the ulcer, and if this be at the pylorus a double difficulty is presented, for not only is there fixation of the pylorus at an abnormally high level but the pyloric orifice itself becomes stenosed from the contraction due to the healing of the ulcer If the ulcer happens to be on the anterior wall of the stomach it may lead to hour glass contraction as in two of the cases I shall relate under that heading (Fig 2, No 2) I find that I have operated on 47 cases of stomach disorder where adhesions alone or adhesions associated with some other disease such as gall stones, led to serious dyspepsia or other digestive derangements and where the removal of the adhesions was followed by great relief or cure of the symptoms The symptoms vary according to the site and cause of the disease from mere dyspepsia to serious apepsia, and the brief descriptions of cases in the following table are selected as illustrating the different causes and effects of gastric adhesions

Although cancer is a well recognised cause of perigastritis in every region of the stomach, the symptoms from adhesions are merged in the more serious ailment, it is therefore unnecessary that I should further consider them at this moment, except to say that they seriously add to the difficulty and danger of pylorectomy or partial gastrectomy I think the cases I have mentioned can leave no doubt in the minds of my audience as to the serious effect of pyloric and gastric adhesions, although it is a curious fact that many recognised authorities on stomach diseases barely mention it The remarks that were made by several eminent physicians when I gave my original paper on this subject before the Clinical Society of London showed that although the subject was not unknown its importance was certainly under rated That I am not exaggerating its importance is shown by reports of cases by other observers For instance, Hartmann and Soupault[6] relate cases where adhesions were the only apparent cause of gastric dilatation Terrier, in his work on Stomach Surgery (1899) relates a case of a woman, aged 62 years, whose gastric symptoms were relieved by breaking down adhesions Brieto related a very instructive case, resembling one of mine above described, where a band was

TABLE X —SHOWING THE CAUSES AND EFFECTS OF GASTRIC ADHESIONS

Date	Sex	Age	Operation	Description	Result	After history	With whom seen
Dec 4th, 1895	M	32	Gastrolysis	Ten years previously there was obstruction of the bowels lasting for a week with vomiting and abdominal colic A similar attack occurred a few months later Since then the patient had been subject to bilious vomiting and for two years to dyspepsia and flatulence with constipation but there was no marked jaundice For two years there was pain in the right hypochondrium which was relieved by taking food He never vomited blood There were loss of flesh and increasing debility and well marked tenderness over the gall bladder and the pylorus with dilatation of the stomach Operation The pylorus was found to be tucked up to the liver and kinked, the adhesions round the pylorus were separated No gall stones were present	R	The patient made a good recovery By March 3rd 1896 he had gained a stone in weight. In 1900 he was well and had been engaged in full active work as a medical man in a large practice ever since he recovered from his operation	—
July 6th, 1897	F	36		The patient had had spasms for 20 years Cholecystotomy had been performed 10 months before when four gall stones were removed. After healing of the wound in five weeks there was return of pain There were pain always after food and at times vomiting but never of blood The patient lost flesh rapidly There was dilatation of the stomach but no tenderness over the gall bladder Operation The adhesions between the pylorus and the gall bladder and the liver were broken down and omentum interposed		On July 6th, 1898, the patient wrote: I now feel a different person and enjoy perfect health	—
July 25th, 1899	F	25	"	There had been dyspepsia without vomiting for 16 months and some pain after food Latterly there was pain which was dragging and continuous chiefly in the epigastrium There were loss of flesh and dilated stomach Dieting and rest gave no relief On pelvic examination under ether a small ovarian tumour was found Operation: The pylorus was adherent by a long band to the right anterior abdominal wall The adhesions were separated and ovariotomy for tumour was performed at the same time		The patient was well in February 1900 She has lost all previous troubles and has gained weight	Mr F H Mayo (Headingley)
August 22nd 1899	M	31		The patient had been ill since February, 1893, when he had influenza followed by scarlet fever in March In the same year biliary colic with jaundice and during the year repeated similar seizures At the beginning of 1899 he was jaundiced for six weeks Latterly gastric symptoms were very prominent There were pain and dragging after food and occasionally vomiting He lost 2 st 3 lb in weight in the last 16 months. At the examination rigid right rectus and tenderness below the ninth costal margin were found There was no jaundice but there was dilatation of the stomach Operation Extensive adhesions of the pylorus and pyloric extremity of the stomach to the liver and the gall bladder which was contracted Gastrolysis and cholecystotomy were performed The adhesions were separated and the gall bladder was drained	"	The patient was well in January 1900 He had regained the lost weight	Dr R. Turner (York)
Dec 7th 1899	M	49	"	There had been dyspepsia for two years with progressive loss of weight to the extent of 2 st 2lb within the last year There was no history of ulceration. There was questionable cholecystitis following influenza. At the examination rigid right rectus with little tenderness and a dilated stomach were found The patient was thin but not emaciated Operation: Many small bands fixing the pyloric extremity of the stomach to the gall bladder and causing a kink in the first part of the duodenum The adhesions were separated	"	The patient made a good recovery and gained 1 st in weight within two months	Dr W McGregor Young (Leeds)
Jan 2nd, 1900	F	42	"	Twenty two years before there had been symptoms of ulcer of the stomach Since then the patient had suffered from attacks of vomiting every week or two and from pain after food During the last three years the symptoms had become more marked Under medical treatment, with rest in bed there was no improvement She vomited material large in quantity and fermenting, and sometimes containing blood There had been loss of weight to the extent of 3st and great tenderness over the stomach especially to the left. The stomach was dilated reaching below the umbilicus and well over to the right. Operation On the anterior surface of the stomach there was found the scar of an old ulcer The lesser curvature was closely adherent to the liver The pyloric extremity and first part of duodenum were attached, high up to the gall bladder and cystic duct.	"	The patient made a perfect recovery She can now (March 1900) eat anything without discomfort and is rapidly putting on flesh having gained 19lb in a month	Dr T Holmes (Garstang

---

[6] Revue de Chirurgie, 1899 p 340

found attached to the lesser curvature of the stomach about one and a half inches from the pylorus, which ran obliquely downward to the anterior abdominal wall on the right of the umbilicus. When the stomach was full the band dragged the upper border downwards and produced a kink which led to stenosis. A case related by Mr. H. W. Page[7] is a good example and many others can now be found scattered through medical literature.

The diagnosis in these cases rests on a careful consideration of the previous history, together with the presence of well-marked signs and symptoms, so that it is not generally difficult. There will usually be a history of gall-stones, typhoid fever, ulcer of the pylorus, or some local peritonitis in the pyloric region, months or years previously. This will have been followed by indefinite dyspepsia and flatulence, which later takes a very definite shape, consisting of discomfort and pain after food, especially after a full meal, so that the patient prefers to take several small repasts rather than one large meal. The pain and discomfort are at once relieved by the recumbent posture, so that a necessity to lie down or rest after every meal is suggestive. Relief is frequently found by the wearing of a belt and this is usually discovered by the patient before advice is sought. The pain is often of a dragging character. At times it may be acute, and it is increased or brought on by lifting or reaching, say, to adjust a picture Walking or any active exertion may bring on discomfort and pain; hence active exertion is shunned, and inability to perform ordinary duties is complained of. When dilatation of the stomach is well marked there may be loss of flesh and, vomiting every few days, often in large quantity.

Besides the ordinary signs of dilatation of the stomach and the tenderness between the umbilicus and the ninth costal cartilage, as shown by the rigid right rectus, there is an important physical sign to be obtained by distending the stomach with gas, and that is, the cavity of the stomach is found to extend further to the right and higher than normal. An entire cessation of pain and freedom from dyspeptic troubles if the patient be confined to bed is suggestive, for it will be seen that under these circumstances the higher level of the pylorus is done away with and the recumbent posture prevents the dragging of adhesions; but after all, an exploratory operation is the only way of setting doubt at rest, and if these distressing symptoms have resisted long-continued medical treatment a surgical operation is clearly justifiable, though doubtless in some of the less severe forms careful medical treatment may lead to an amelioration of symptoms and may give such marked relief that an operation will not be called for. Relief may be obtained by advising the patient to take small meals and to avoid bulky and fermentable foods such as potatoes and bread, to rest after meals, and to wear a well-fitting abdominal belt. The natural cure, in some cases where there has been no operation, is probably due to the stretching of adhesions and to their absorption if the exciting cause has fortunately been removed; but in the more severe cases, where the adhesions are almost universal, such a fortunate termination of symptoms is scarcely to be hoped for, and in some cases the adhesions are so extreme that nothing short of gastro-enterostomy can prove of any avail.

I have heard it suggested, what is the use of simply detaching adhesions? Fortunately my experience in this class of cases is sufficient for me to give a very direct answer to this query, for I can point to many cases of cure where men and women formerly invalided by pain and dyspepsia are now leading active and useful lives. Slight adhesions I am accustomed to separate with the fingers, firmer bands I divide between ligatures, going carefully to work until I feel that the pylorus is quite free. Where the omentum is available I usually bring the right border upwards and leave it between the pylorus and the gall-bladder and the liver, so that should any adhesions form again they will be in the shape of a loose mesentery and not binding, like adhesions to fixed organs.

The following table of cases (Table XI.) of gastrolysis shows the operation to be a very safe one, the mortality in 77 operations being only at the rate of 2 5 per cent.

HOUR GLASS CONTRACTION.

Hour-glass contraction is generally considered among the rarer diseases of the stomach, but my recent experience would lead me to believe that it is much more common than is usually thought, for I have operated on no less than six cases within a year. As its name implies, hour-glass contraction is a division of the cavity of the stomach into two compartments, but I am able to show a drawing of one case on which I operated where the cavity was actually divided into three. (Fig. 3, lower drawing.) I am fortunately unable to show you the specimen as the patient is now in robust health after being an invalid for 17 years, but on the table is a specimen of a case of hour-glass contraction in which death occurred from perforation of a pyloric ulcer, and in this case not only was there well-marked hour-glass contraction with two large cavities each having a greater capacity than the normal stomach, but the pylorus was also contracted and would barely admit a No. 10 catheter. (Fig. 3, upper drawing.) I am astonished that I can find so few examples of hour glass stomach in the museums, especially as there are a number of cases on record. I fully expect, however, now that more attention is being drawn to the surgical aspect of stomach diseases, that we shall recognise it much more frequently among gastric ailments. On the table are several well-marked examples from the Hunterian Museum.

TABLE XI.—*Statistics of Gastrolysis for Adhesions.*

	Name of surgeon operating or compiling cases.	No of cases.	Recovered.	Died.
1.	Lauenstein.	10	9	1
2.	Mayo Robson (Private 42, Hospital 5).	47	47	—
3	Naylor.	1	1	—
4.	Terrier.	1	1	—
5.	Wallis.	1	1	—
6.	De Clive Lowe.	1	1	—
7.	C. Wegele.	1	—	1
8.	Péan.	1	1	—
9.	Pearce Gould.	1	1	—
10	K. Schwarz.	1	1	—
11.	Marion.	11	11	—
12.	W Cheyne.	1	1	—
	—	77	75	2*

* Equals a mortality of 2 5 per cent.

References—1 Archiv fur Klinische Chirurgie, 1892, vol xlv., p. 121. 2 Two cases reported in THE LANCET, Oct 21st, 1893, pp. 1004, 1090. 3. Indian Medical Review, 1898, p. 101. 4. Bulletin de la Société Chirurgique, vol xx., p 424. 5 Transactions of the Clinical Society of London, vol xxxii, p. 54. 6. Australian Medical Gazette, 1893, p 240. 7. Munchener Medicinische Wochenschrift, 1893, p 401 8. Tribune Medicale, 1893, p 826 9 Medical Press, 1893, p 200 10 Wiener Medicinische Wochenschrift, 1896, No 25 11. Thèse de Paris, 1897. 12. King's College Hospital Reports, 1897–93, vol. v., p 127.

The chief cause of hour-glass contraction is cicatricial contraction of a chronic ulcer, as in the cases I am about to relate, but the bi-partite condition of the stomach may also be due to perigastritis and the subsequent contraction of a band of lymph, or to adhesions on the outside of the stomach. It is said at times to be congenital, as in cases described by Mr Hastings Gilford[8] and by Dr. Sievers,[9] but as their cases occurred in women aged 32 and 26 years respectively, and as in both there was ulceration of the stomach which terminated fatally, I am not at all convinced that in either the disease was truly congenital. In many cases no morbid changes are found in the walls of the constricted portion; for instance, in 13 out of 22 cases collected by Hiersch, ulcers, erosions, scars, or thickenings were present though at some distance from the constriction.

Anatomy.—The anatomy of hour-glass contraction is best shown by the diagrams (Fig. 3), but they do not show everything. The constriction may be partly hidden by enormous thickening of the stomach wall and the extreme narrowing of the communication may only be made out after the stomach is opened, as in the case related below. In other cases the hour glass condition is evident the moment the stomach is seen. In all my cases the cicatricial character of the stricture showed the case to be ulceration. The smoothness of the mucous lining of the stricture, I take it, is no proof of the narrowing being congenital in any case, for in nearly all of my patients the mucous membrane covering the communicating channel was smooth, although the puckered peritoneum showed that contraction after ulceration had occurred The site of the stricture varies in position, as might be expected, but in all my cases except one it has been sufficiently to the right to leave the proximal cavity decidedly the larger, in that exception the pylorus was also contracted The cavity between the stricture and the pylorus may vary considerably in size, but is seldom dilated to any great extent unless there is also a narrowing of the pylorus

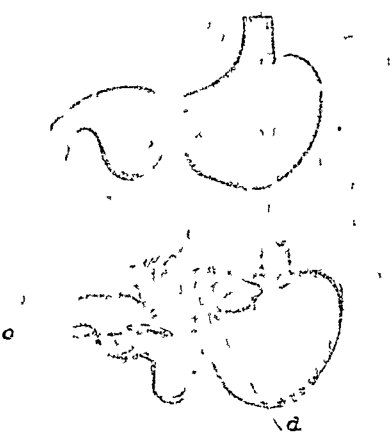
---

[7] Brit. Med. Jour., Jan. 23rd, 1899.

[8] Guy's Hospital Reports.

[9] Berliner Klinische Wochenschrift, April 10th, p 325.

FIG 3



The upper figure represents a bifid stomach and the lower a trifid stomach In the trifid stomach c denotes the opening for pyloroplasty and d an adhesion to the liver

The following are descriptions of the two cases referred to In Mr Hastings Gilford's case a domestic servant aged 32 years, had had symptoms of gastric ulcer since she was 18 years of age She had long periods of dyspepsia nausea, vomiting, pain and bleeding and one or other was never absent There was evidently pyloric obstruction, for enormous quantities of liquid were vomited. There was a regular sequence—comparative ease when she could eat, epigastric pain and anorexia copious vomiting, and relief A very puzzling symptom was observed, an occasional gurgling, very distinct and different from the usual intestinal gurgling She was most comfortable in bed and when she was fed by the rectum When feeding by the mouth was resumed even with fluids pain and vomiting recurred Large doses of bismuth relieved the pain but not the vomiting After three months' treatment without progress, unhealed pyloric ulcer and stenosis were diagnosed and operation was advised A much more complicated condition was found The stomach was bound down by adhesions and it was impossible to explore more than a few inches of its outer surface It was hour glass shaped The stenosis between the two compartments was so complete that the finger could only be forced through with difficulty It seemed impossible for any food to have passed except when the upper cavity was full A third compartment lying between the lesser curvature and the liver was found Probably an ulcer had perforated at this spot and formed an adventitious cavity No active ulcers could be found The stenosis was treated by the method of Heineke and Mikulicz After two days the patient was fed by the mouth —She improved and took slops well but a month after operation severe hæmatemesis set in and she died The external wound was found healed, the gastric wound was unhealed in one part which was apparently the source of hæmorrhage Three very chronic ulcers were present in the dilated first part of the stomach The contraction seemed to be of the nature of a malformation, for no scars or ulcers could be found upon it and it appeared to be too uniform to be due to cicatrisation No doubt the gurgling heard during life was due to the passage of fluid from the accessory cavity In Dr Sievers's case a servant girl, aged 26 years, strong and well nourished, was attacked during menstruation with acute abdominal pain Two days afterwards (on admission into the hospital) the face and extremities were cyanosed and the pulse was 120 weak, and fairly regular The abdomen was distended, tenderness was greatest in the right iliac fossa and the percussion note was tympanitic The patient was extremely thirsty and was exhausted by continual vomiting of offensive dark brown fluid Death rapidly ensued Five weeks previously she had been treated for gastric ulcer and had apparently recovered There had been no other serious illness At the necropsy the abdomen was distended with gas and there was a large amount of foul smelling brown fluid in the peritoneal cavity Several collections of pus were found The stomach was of the hour glass form and there was a perforation large enough to admit the little finger through which the fluid had escaped Either half of the stomach measured about 14 centimetres (five and a half inches) from either the cardiac or pyloric end to the central constriction. The breadth of both cardiac and pyloric portions from the lesser to the greater curvature was about 15 centimetres Uniting the two halves was a tubular connexion about two centimetres long and two and one-third centimetres broad A circular ulcer was situated on the lesser curvature about one centimetre from the constriction, it was one centimetre in diameter Microscopically all the coats of the stomach were normal The other organs were healthy

From the specimens which I here show, which come from the Hunterian Museum, it would seem that cancer must be reckoned among the causes of hour glass contraction The specimen No 2408o was from a man, 60 years of age, who died from asthenia after four years' history of gastric ulcer The cancerous growth is in the anterior wall and might have been secondary to ulcer No 2425, which is from a woman, 50 years of age, shows a cancer of the cardiac end of the stomach partly shutting off the fundus in an hour glass shape so as to form a large pouch As the symptoms had existed for three years this was probably also a case of cancer supervening on ulcer No 2416 is an hour glass stomach with the vessels injected There is a growth round the cardiac end

The following brief notes of three of my cases in private practice illustrate both the symptoms and the beneficial results of operative treatment (See Table XII)

Symptoms and diagnosis —So far as I know very little attempt has been made at diagnosis in this class of cases, but out of my six cases I was able to make a diagnosis before operating in two In all there were stomach symptoms extending over various periods, in one case so long as 23 years, and in every case there was the history of ulceration at the beginning, with gastralgia and hæmatemesis, this being followed by relief for a time and then by relapse and all along by alternate recoveries and relapses, each attack leaving the patient weaker until extreme emaciation with pain and suffering led to the question of surgical treatment Vomiting at first was present during the time of ulceration, then it ceased, to be followed by dyspepsia and afterwards to recur at intervals of several days, in this resembling dilatation of the stomach from stenosis The vomit was hyperacid It contained free hydrochloric acid, and in other respects resembled the fermenting contents of ordinary dilated stomach Constipation with diminution in the quantity of urine excreted was noted among the symptoms Visible peristalsis was seen in three of the cases In all there was marked loss of flesh Borborygmi formed a distinct symptom in several of the cases and were complained of as being a very uncomfortable accompaniment A sulcus between the two halves of the stomach on distension with carbonic acid gas was well marked in two of the cases In these the symptoms were so distinct as to leave no doubt of the diagnosis Two pathognomonic signs were present (1) on cleansing the stomach by lavage and leaving it pure a second washing within a few minutes showed that the distal cavity had emptied itself into the proximal and the second washing out brought away fluid as foul as if no lavage had occurred, and (2) on distending the stomach with air pumped through a stomach tube the two loculi could be distinctly mapped out both by palpation and percussion After all, however, a diagnosis will usually be made by an exploratory incision, and as in other stomach conditions if the distressing symptoms accompanying this condition are associated with marked loss of flesh despite

TABLE XII.—THREE CASES OF HOUR-GLASS CONTRACTION OF THE STOMACH.

Date.	Age.	History.	Operation.	Result.	After history.	With whom seen.
June 6th, 1899.	30	There had been attacks of pain and vomiting for 15 years. The pain began at the left side and passed to the epigastrium and through to the left subscapular region. There was severe hæmatemesis 10 years before. Occasionally before and since the vomit had been streaked with blood, which was sometimes "coffee-ground," but had contained no blood for eight years. The patient vomited large quantities at times and had lost flesh steadily for the last five years. There were dilatation of the stomach and doubtful peristalsis. There was no tumour, but the pylorus was felt to harden from time to time.	Double hour-glass contraction one-third way from cardia, adhesions causing diminution of calibre and two inches from pylorus contraction, only admitting tip of little finger, were found. The adhesions were divided and gastroplasty was performed, the wound being sutured over a large bone bobbin.	R.	On August 6th, 1899, the patient had gained 2 st. in weight.	Dr. W. Duncan (Clay Cross).
July 28th, 1899.	48	The patient had had constant indigestion and flatulence for 20 years with a feeling of pulsation and tenderness. There had been free hæmatemesis two years before and vomiting occasionally since but not regularly. There was pain an hour after food, but lately the patient had ceased to take much solid food. The patient had noticed slime and blood in the motions. There had been great loss of flesh. There was well-marked stomach splash. No tumour was present, but there was tenderness in the epigastrium.	Extreme contraction one-third way from pylorus, just admitted tip of little finger. Gastroplasty was performed, a large bone bobbin being used.	R.	The patient made a good recovery from the operation and the indigestion was relieved. There was an increase in weight to a moderate degree.	Mr. F. T. Hindle (Askern).
Sept. 1st, 1899.	52	In 1873 there had been ulceration of the stomach. The patient had been well for two years, then return of symptoms ensued, the pain now occurring two hours after taking food. Relief followed treatment, but there was recurrence two years later and again in 1885, since which the patient had never been well. The disease was said to have been "nervous" dyspepsia, and the patient was told in 1894 by a physician that she would never be well. For the last nine months she had got rapidly worse, having pain even after drinking liquids and suffering from inability to sleep. There was vomiting about every third day and at times she brought up a large quantity of fermenting fluid. She had lost 2 st. in weight during the last year. Dilatation of the stomach was well marked, but there was doubtful peristalsis. No tumour was found but contraction at the pylorus was felt.	Hour-glass contraction. The communication would admit only a No. 7 catheter. Gastroplasty was performed, a large bone bobbin being employed.	R.	The patient made a good recovery. On Oct. 2nd, 1899, she had gained 5¾ lb., on the 10th 7 lb more, and on Nov. 1st 13¼ lb. additional. In February, 1900, she was reported to be quite well.	Dr. E. Walker (Huddersfield).

medical treatment, an exploratory operation will be amply justified.

Treatment.—With reference to early medical treatment I have not much to say, as in all probability it will be only in the later stages that the surgeon will be asked to give an opinion. Lavage and careful dieting will give relief, but the limit is soon reached if constriction be well marked, and as soon as marked loss of flesh is occurring despite careful medical attention, medical treatment should give place to surgical treatment. After opening the abdomen the stomach must be carefully examined and on the condition found will depend the exact line of treatment to be pursued. If adhesions be the cause of stricture they must be divided, and if after this the communication between the two cavities be sufficiently free the abdomen may be closed. If the stricture be cicatricial its calibre may be easily felt by pinching it up between the finger and thumb, when the lumen will be felt between the finger tips. Three courses are now open: (1) gastroplasty; (2) gastro-gastrostomy; and (3) gastro-enterostomy.

TABLE XIII.—*Statistics of Gastroplasty for Hour-glass Contraction.*

	Name of surgeon operating.	No. of cases.	Recovered.	Died
1.	Krukenberg.	1	1	—
2.	Jaboulay.	1	1	—
3.	Doyen.	1	1	—
4.	Langenbuch.	1	1	—
5.	Watson Cheyne.	1	1	—
6.	T. H. Morse.	1	1	—
7.	Mayo Robson.	6	5	1
8.	Hastings Gilford.	1	—	1
	Total	13	11	2

References.—1. Münchener Medicinische Wochenschrift, 1893, No. 19. 2. Archives Provinciales de Chirurgie, October, 1896, p. 641. 3. Traite des Affections de l'Estomac, 1895. 4. L'Estomac Biloculaire, Thèse de Lyon, 1896. 5. THE LANCET, March 19th, 1898, p. 785. 6. THE LANCET, May 13th, 1899, p. 1287. 7. These cases are here reported for the first time. 8. Guy's Hospital Reports, 1896, vol. liii., p. 103.

1. Gastroplasty is the operation that I have performed in all my cases and to facilitate its performance I have modified the operation by stitching up the longitudinal incision transversely over a large decalcified bone bobbin, thus making an opening between the two cavities from one and a half to two inches in diameter. Either a catgut suture may be employed for the mucous margin and a silk suture for the serous surfaces or silk sutures may be employed for both. The operation can, of course, be performed by simple sutures without the bobbin, but I prefer to employ the bobbin in order to be sure of having the new opening sufficiently large. Appended is a list of 13 cases of gastroplasty for hour-glass stomach (Table XIII.), in which 11 patients recovered, the two deaths being due to perforation and hæmorrhage which occurred eight days and a month respectively after operation and were dependent on ulceration of the stomach.

2. "Gastro-gastrostomy" seems a good term to apply to the operation for making an artificial opening between the two cavities of the stomach. It can be performed either by simple suture or with the help of a bone bobbin as a splint

TABLE XIV.—*Statistics of Gastro-Gastrostomy for Hour-glass Contraction.*

	Name of surgeon operating.	No. of cases.	Recovery.	Died.
1.	Wölfler.	1	1	—
2.	Von Eiselsberg.	1	—	1
3.	Lauenstein.	1	1	—
4.	K. Schwartz.	1	1	—
5.	Hochenegg.	1	1	—
6.	Langenbuch.	1	1	—
7.	J. Watson.	1	1	—
	Total	7	6	1

References.—1. Beitrage zur Klinischen Chirurgie, xiii., 1895, p. 221. 2. Archiv fur Klinische Chirurgie, 1895, p. 923. 3. Munchener Medicinische Wochenschrift, 1896, No. 21. 4. Wiener Klinische Wochenschrift, 1896, No. 25. 5. Ibid., 1898, No. 21, p. 514. 6. Centralblatt fur Chirurgie, 1896, No. 17. 7. Boston Medical and Surgical Journal, 1896, vol. i., p. 332.

or by means of Laplace's forceps, but in this situation I would not advise the use of a metal button as it would have no chance of escaping and might lead to subsequent trouble. Table XIV. shows seven operations, with one death.

3. Gastro enterostomy between the proximal cavity and the jejunum would leave the second cavity with its foul contents untouched, and although relief would be likely to occur I question whether a permanent cure would ensue. If, however, as in my sixth case, it be at once discovered that not only is there a constriction in the stomach, but also one at the pylorus, the question of gastro enterostomy would be worth considering as it would lead to a considerable saving of time by substituting one operation for two. It has been performed by Tricomi successfully.

DILATATION OF THE STOMACH.

Though gastrectasis is by some authors only treated as a symptom it is one of such importance that in many cases it may truly be said to be a disease in itself; this is certainly the case in that serious and often fatal form known as "acute dilatation." A medical friend whose practice lies among mill operatives told me that a moderate degree of dilatation was almost a constant symptom among them owing to their living so much on tea and farinaceous food, and it is generally known that well-marked dilatation is usually seen in gross feeders or in those living almost solely on bulky farinaceous food, such as potatoes. The capacity of the stomach cannot therefore be taken as a guide in estimating the dilatation that should come under the notice of the surgeon and, in fact, it is only in the well-marked cases that a surgical opinion is sought. Unfortunately, the aid of surgery is too frequently put off until extensive emaciation has ensued and the patient is almost moribund.

The causes of dilatation of the stomach are: 1. Mechanical obstruction at the pylorus or near it or in the duodenum, (*a*) from cicatrisation of a simple ulcer at or near the pylorus; (*b*) from cancer of the pylorus; (*c*) from perigastritis leading to stricture or to kink of the pylorus; (*d*) from hypertrophy of the pylorus and spasm as a sequel of ulceration, which may continue long after the original ulcer has disappeared; (*e*) from fibroid thickening of the pylorus; (*f*) from polypus; (*g*) from congenital stenosis; and (*h*) from tumour outside the pylorus. 2. Dilatation from atony from various causes not mechanical, but persisting after the original cause has passed. 3 Acute dilatation from causes not yet understood

Diagnosis.—Although in cases brought before the notice of the surgeon the diagnosis is usually already made he will need to verify its correctness for himself and if possible to arrive at the probable cause. Where there is severe dilatation the stomach soon becomes displaced downwards. This is associated with vomiting, the vomiting differing from that which occurs in any other condition. For instance, it does not occur after meals, nor even every day, but usually every second or third day and more frequently at night than in the day; and when the vomiting occurs it is as a rule in enormous quantity, the vomit consisting of fermented material with mucus, and sarcinæ and yeast cells are usually present. When the dilatation is dependent on ulcer the vomiting may be excessively acid owing to the presence of hydrochloric acid. If, however, the dilatation is dependent on cancer the acidity is due to lactic acid, and hydrochloric acid will be in small quantity or absent. Though patients with dilated stomach do not, as a rule, vomit after food they complain of a sense of heaviness and discomfort and have flatulent eructations, these symptoms becoming more and more intense as the stomach contents accumulate, until relief is obtained by vomiting. As a rule the first sign noticed in stomach dilatation is the splash on succussion of the abdomen, this being the more marked the greater the contents. If the patient has previously vomited, the stomach splash may be absent, but it is usually obtained by allowing him to drink freely of warm water. Constipation and diminished secretion of urine are nearly always present. Where the obstruction is mechanical visible peristalsis from left to right can frequently not only be felt but observed through the abdominal wall; and if visible peristalsis be present it is always indicative of considerable pyloric obstruction which will probably only yield to surgical treatment. Loss of flesh, diminution of body temperature, coldness of the hands and feet, and general feebleness are characteristic of the later stages. Tetany is sometimes present and if well marked may even lead to a fatal termination, but before this stage is reached cramps in the muscles of the forearm and drawing inwards of the thumb, otherwise a tetanoid condition, are usually noticed. The amount of dilatation may be ascertained by distending the stomach with air introduced through a tube and pumped into it by means of a Higginson's syringe. This can be done with very little discomfort and without danger. A simpler method which I frequently employ is to give a dose of tartaric acid immediately after one of carbonate of soda, when if the patient is recumbent, inspection, palpation, and percussion show the increase in size of the organ. As to the cause of dilatation the history materially helps. If it be simple the history is usually a question of years and, if malignant, of months; but in the latter case a tumour is much more frequently present than in the former and an examination of the stomach contents after a test-meal is also of service. In dilatation from ulcer there will usually be a long history of ulceration possibly with vomiting of blood, but it is quite possible for an ulcer of the pylorus to pursue a quiet course and for a long history to be absent. That peculiar form of dilatation known as acute may apparently occur as a result of spasm without organic pyloric obstruction. It is highly probable that nearly every case of extreme dilatation of the stomach has some mechanical explanation and can only be efficiently treated by surgical means. I know that this view is one which will raise some criticism, but I think that time will prove that the statement is correct. I do not, of course, refer to those cases of moderate dilatation which are so commonly seen and which are associated with atonic conditions and with chronic catarrh, but I refer to the cases of dilatation producing the characteristic symptoms I have mentioned. In a discussion with my colleague Dr Barrs I find that he supports these views.

Treatment.—The treatment in any form of gastrectasis will at first be medical and general, but if in a short time weight and strength be not definitely gained and maintained, with relief to pain and discomfort, then time should not be wasted by persisting with lavage and medical treatment for months until the vital powers have become sapped and the patient reduced to the last extremity of exhaustion before surgical treatment is advised.

Surgical treatment.—The stomach should be washed out for a day or two before operation if the patient be not so far advanced that there will be danger in waiting, and during 12 or 24 hours rectal injections may with advantage supplement light stomach feeding. The last lavage should be several hours before operation. A subcutaneous injection of 10 minims of solution of strychnine may with advantage be given just before the operation if the patient be very weak, so as to forestall shock, which may also be further lessened by a pint of saline solution being given by the rectum and by operating on a heated operating table. After exposing the stomach by the incision previously described, a diagnosis of the cause will be speedily made by inspection and palpation of the stomach and pylorus. If there be stricture of the stomach itself, either from cicatrisation or from ulcer leading to hour-glass contraction, it must be treated in one of the ways previously described. If the dilatation be dependent on adhesions of the pylorus and these can be detached leaving the pylorus free, they should be dealt with as I have described.

If there is a stricture of the pylorus it must be dealt with in one of the several ways to be immediately mentioned (pylorodiosis, pyloroplasty, gastro-enterostomy or pylorectomy), according to its nature.

If the narrowing of the pylorus be due to spasm or hypertrophy of the circular muscular fibres, *pylorodiosis* or dilatation of the pylorus may be indicated. This is known as Loreta's operation, since it was he who first employed the method as a definite operative procedure and in 1884 brought it before the profession; but in 1681 Richter dilated the pylorus by bougies and Hahn did the same. Hahn also advocated rapid dilatation through the stomach wall. Loreta practised dilatation of the pylorus through an incision on the stomach side of the pylorus, through which he introduced the index finger of the right and left hand into the pyloric orifice and stretched it forcibly until the diameter was approximately eight centimetres, after which the stomach wound was closed by sutures Bull advocated the use of bougies and Barton used a uterine dilator instead of the fingers. Jaboulay in a case of cancer dilated the pylorus by invaginating the stomach wall by means of a finger, great relief to the patient resulting. This all sounds very simple, and when we hear of Loreta having had 29 cases all successful it would seem that the operation does all that could be desired; but there is another side to the picture when we hear that in the hands of many able surgeons this apparently simple operation has such a high rate of mortality as 40 per cent., and that Loreta himself has confessed to having had several deaths from hæmorrhage and peritonitis. Moreover, recurrence of the stricture seems to have occurred in so large a number of the cases that it is scarcely likely that the operation will hold its own in competition with the more exact and safer operations of pyloroplasty and gastro-enterostomy. It probably has some use in that very limited class of cases where the stenosis is simply dependent on spasm of the sphincter, which may either be caused by ulceration or independently of such a condition. Such a case has been related by Mr. Paul. "The patient was a man, aged 21 years. He was admitted into the Royal Infirmary, Liverpool, under the care of Dr. Caton, in November, 1895, for pain in the epigastric region and a lump. The lump proved to be a largely dilated stomach, in which splashing sounds could be easily produced. He was treated by careful dieting and washing out of the stomach, but not having materially improved in January, 1896, the case was transferred to me. The patient was anæmic, and decidedly of neurotic type. On Jan. 6th the abdomen was opened for exploratory purposes. The stomach was found to be dilated, the pylorus was thick but not fibrous, and upon invaginating the anterior wall upon the forefinger into the pyloric orifice abnormal resistance was met with. This was gradually overcome by continued steady pressure, and ultimately the opening was over-dilated without splitting, by passing three fingers through it. No cut was made in the organ. The patient healed well, but was subsequently attacked with acute mania and had to be sent to the county asylum, where he remained for five months before he got his discharge. He had no recurrence of the gastric symptoms." I have had one case similar to the above in which dilatation was successfully done by invagination. This is, however, the operation suggested by Hahn and not by Loreta. The late Greig Smith held a favourable opinion of Loreta's operation, but Mr. Treves and other surgeons have told me that they have given up pylorodiosis, and my own feeling is decidedly in favour of pyloroplasty where no active ulceration is going on, and of gastro-enterostomy where the pylorus is ulcerated.

TABLE XV.—*Statistics of Loreta's Operation.*

Name of surgeon operating or compiling cases.	No. of cases.	Recovered.	Died.
1. Barton and Bull.	23	19	9
2. P. Swain.	2	—	2
3. Carle and Fontino.	3	3	—
4. Von Kleef.	1	—	1
5. Winslow.	6	4	2
6. Haberkant (including Loreta's cases).	31	19	12
7. Single cases collected from various sources by Mayo Robson.	7	2	5
Total	78	47	31*

* Equals a mortality of 39·7 per cent.

References.—1. Medical Record, May 25th and June 8th, 1889. 2. THE LANCET, August 26th, 1893, p. 465. 3. Il Policlinico, 1898, vol. ii., p. 105. 4. Med. Tydchs., 1898, No. 6. 5. American Journal of the Medical Sciences, April, 1895. 6. Archiv für Klinische Chirurgie, 1896, lvii., p. 535. 7. These cases have not previously been reported.

The principle of obtaining an increase of the calibre in a stricture by dividing the narrow passage longitudinally and closing the wound transversely (as shown in Fig. 4) is as ingenious as it is efficient, and in no situation can the procedure be of greater service than in simple stricture of the pylorus, when the operation is known as *pyloroplasty*, an operation which is destined to almost replace, if it has not already done so, pylorodiosis. The operation was performed first by Heineke in March, 1886, and his patient recovered. Mikulicz performed his first pyloroplasty in 1887, but the patient died; in his second operation in the same year the patient recovered. Of the first 17 operations 11 recovered. If the pylorus be free from adhesions the operation is of the simplest, as the pylorus can be brought outside the abdomen and surrounded by gauze pads or sponges, so that this heavy mortality of 35·3 per cent. must have been due to an improper selection of cases, as later results only show a mortality of 9 per cent. in Czerny's clinic (Stendel), 7·6 per cent. in my own cases, and no mortality in several series. It is desirable to adopt all the usual precautions against shock, and the stomach should, if practicable, be washed out some little time before operation so as to avoid the danger of soiling the peritoneum. The incision through the pylorus must be longitudinal, commencing on the stomach side of the sphincter and being prolonged through it either by scissors or by the knife over a director. Blunt hooks or catch forceps placed in the wound convert the horizontal incision into a transverse one and it is then closed by a double line of sutures.

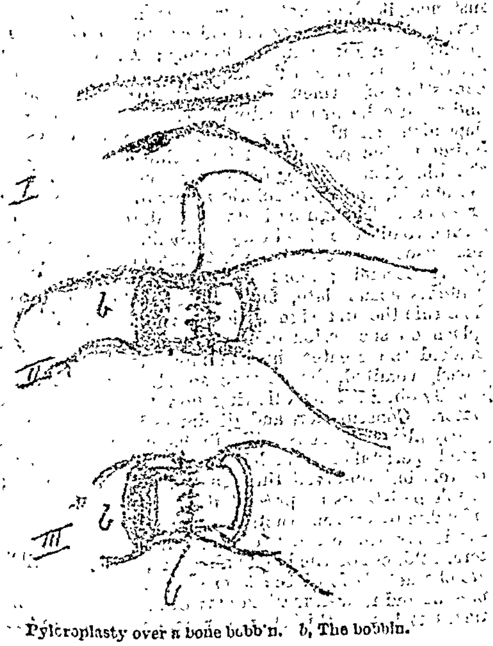
TABLE XVI.—*Statistics of Operation of Pyloroplasty.*

Name of surgeon operating or compiling cases.	No. of cases.	Recovered.	Died.
1. Köhler.	16	12	4
2. Pearce Gould.	21	16	5
3. Haberkant.	51	40	11
4. Caujole.	90	75	15
5. Terrier and Hartmann.	31	27	4
6. Stendel.	11	10	1
7. Mayo Robson.	13	12	1
8. Leeds Infirmary.	6	5	1
9. Dreldorf.	29	23	6
10. Morison.	20	20	—
11. Morse.	1	1	—
12. Greg.	3	3	—
13. Herbold.	1	1	—
14. Carle and Fontino.	14	13	1
15. Van Kleef.	5	5	—
16. Koeppelin.	3	3	—
17. Maurice Richardson.	3	3	—
—	318	269	49*

* Equals a mortality of 15·4 per cent.

References.—1. Soci. de Med. int. de Berlin, June 23rd, 1890. 2. THE LANCET, May 20th, 1893, p. 1183. 3. Archiv für Klinische Chirurgie, 1896, vol. li., p. 532. 4. Thèse de Lyon, 1895-96, No. 1134. 5. Chirurgie de l'Estomac, Paris, 1899. 6. Czerny's Clinic. 7 and 8 are here reported for the first time. 9. Keen. 10. Transactions of the Clinical Society of London, vol. xxxii., p. 144. 11. THE LANCET, May 13th, 1899, p. 1287. 12. Norddeutsches Medicinisches Archiv, 1898, No. 26, p. 1. 13. Deutsche Medicinische Wochenschrift, Jan. 27th, 1898, p. 61. 14. Il Policlinico, 1898, vol. ii., p. 105. 15. Med. Ligdsch, 1898, No. 6. 16. Lyon Médicale, Sept. 24th, 1899. 17. Boston Medical and Surgical Journal, Nov. 30th, 1899.

FIG. 4.



Pyloroplasty over a bone bobbin. b, The bobbin.

The modification of the operation by the use of an internal splint in the shape of a bone bobbin over which to apply the sutures is one that I have employed in all my operations and one which I consider offers several advantages For instance, only two continuous sutures are required for the mucous and peritoneal margins respectively The bone tube secures an immediate and thoroughly patent channel It affords protection for from 24 to 48 hours to the line of sutures, by which time union should be established, and it prevents the new channel being inadvertently made too narrow Although the bone bobbin that I originally invented for pylorectomy and enterectomy answers quite well, a recent modification, as shown in Fig 4, in which the barrel of the bobbin is lengthened facilitates the operation This modification has been followed by Rushton Parker[10] and other surgeons with success The following examples are selected from my cases

At the operation cicatricial stricture of the pylorus was discovered. The cure was complete Koeppelin maintains that this modification is safer than the older pyloroplasty The advantage is of course, in the avoidance of opening the stomach cavity and therefore as lessening the danger of sepsis the modification may be occasionally employed, but it should certainly never be performed in the presence of cancer If, owing to the cicatrisation of the ulcer, there be extensive hypertrophy of the pylorus with a large amount of thickening pyloroplasty is insufficient, as in such cases contraction will be likely to recur Here pylorectomy may be performed as in two cases of my own or better still gastro enterostomy, which is a simpler, quicker and safer operation Numerous and firm adhesions, active ulceration, and the presence of new growth, are also contra indications for pyloroplasty

Dr Maurice Richardson[12] advocates partial excision of the stricture where there is extensive thickening and well marked stricture, as in the following reported case in a man, aged 54 years The pylorus was extensively thickened and tightly constricted A longitudinal incision was made for three inches through the stomach, the stricture, and the pylorus The incision was converted into a lozenge shape or a broad V by removing a considerable portion of the cicatrix of the anterior wall of the pylorus By bringing together the opposing surfaces of the duodenum and the stomach an abundant artificial lumen was procured The mucous membrane was first united by a continuous suture, and the peritoneum by an interrupted silk Lembert's suture The patient was in good health five months later This pyloroplasty with partial excision seems to be the right practice in bad organic stricture The dense tissue being cut away, the lozenge shaped incision can be readily sutured so as to become transverse whilst if a simple longitudinal incision is made through the tissues of a dense stricture it is impossible to convert it safely into a transverse line of sutured wound owing to the great tension if the two ends be made to meet in the middle If on opening the stomach or pylorus a

TABLE XVII —EXAMPLES FROM CASES OF PYLOROPLASTY OPERATED ON BY MR MAYO ROBSON

Date.	Sex	Age	Description	After history	With whom seen
May 24th 1897	M	39	In a letter dated May 13th 1897 the patient says "During the last 18 months I have suffered much pain The result of this trouble has caused me to be laid fast for two three or four weeks at a time and it has required another month or more for me to gain strength enough to move about 18 months before, the patient had epigastric pain several hours after food which was relieved by vomiting Since then his health had never been good and three and a half months ago he had a similar attack which was very severe and was accompanied with collapse The vomit contained blood 14 days ago he had another severe attack His normal weight was 10 st 10 lb. but it was now only 9 st. 3½ lb His stomach had been weak since childhood There was marked dilatation, but no tumour Operation There was a deep ulcer at the pylorus and extreme stricture barely admitting an ordinary director Pyloroplasty was performed a bone bobbin being used.	The patient completely recovered and gained his normal weight In a letter dated Feb 16th 1898 he says: I thought you would like to know that I am able to attend business as usual and have done so without interruption since July 19th 1897	Dr A. L. Matheson (Sheffield)
July 12th 1897	F	46	The patient was said to have had ulcer of the stomach 20 years ago Since then she had been subject to attacks of pain from half an hour to two hours after food sometimes it was continuous pain For three or four months there had been vomiting three times a day and the patient had lost a stone in weight in that time She had been leading the life of an invalid and was for a long period under medical treatment without benefit There were dilatation of the stomach visible peristalsis and tenderness over the stomach especially at the pylorus No tumour could be felt Operation: The stomach was much dilated and there was thickening at the pylorus Pyloroplasty was performed a bone bobbin being used	The patient made a good recovery She weighed 11st on Jan 8th 1898, a gain of over 2st In June 1898, there was some slight trouble with the stomach which subsided under treatment.	Dr T C Johnson (Aysgarth)
July 27th 1897	M	23	There had been vomiting and loss of flesh for two years The patient's weight was 10st it was now only 7st The dieting and lavage gave only temporary relief There were emaciation pallor and dilatation of the stomach but no tumour Operation There was much contracted pylorus and great hypertrophy the walls being more than one third of an inch thick Pyloroplasty was performed a bone bobbin being used.	The patient made a good recovery On Dec. 23rd 1897 his weight was 9st 13lb. and he was well	Dr Percival (Hillam) and Dr A. G Barrs
Dec 14th 1895	F	29	March 9th 1895.—She had had spasms for 10 years but pain more on the left side The attacks occurred two or three times a week They started without apparent reason and lasted an hour or two but sometimes persisted for 24 hours they were relieved by vomiting There were severe cramps in the legs. She had lost 2st in weight There was no jaundice but marked constipation There was rigid right rectus and no rigidity but tenderness to the left Dilatation of the stomach was well marked. Nov 22nd 1895 —Relief under treatment was followed by relapse There was now vomiting daily The patient's weight was 9st Operation The adhesions of the pylorus were separated. Active ulceration at the pylorus and tight stricture were found Pyloroplasty was performed a bone bobbin being used	On July 24th 1896, the patient weighed 9st. 5lb and was very much better There was a relapse in 1896 possibly from recurrence of the ulceration This was cured by gastro enterostomy In 1900 the patient was quite well	Dr C E Salter (Scarborough)

Koeppelin[11] reports a modification of the operation known as *submucous pyloroplasty* The horizontal wound along the pylorus is made through the two outer coats, serous and muscular, of the bowel and through the cicatrix, if there be one and the exposed and unopened mucosa at once bulges like a hernia The divided coats are then united vertically as in ordinary pyloroplasty Three reported cases of the submucous operation have proved successful The first patient was a girl aged 22 years who was subject to spasm of the pylorus The second patient was a woman aged 60 years, who had suffered from cancer Marked relief followed the operation 10 months later the second patient underwent gastro enterostomy with temporary benefit Jaboulay of Lyons performed the third submucous pyloroplasty last June The patient was a man aged 42 years, who had suffered eight years previously from symptoms of gastric ulcer, followed later by evidence of pyloric obstruction He at length vomited incessantly suffered from intense pain which necessitated large doses of morphine and became very thin polypus be found as a cause of the obstruction it must be emoved, and if necessary the operation can be completed by a pyloroplasty as in a case of my own mentioned under the head of tumours.

---

[10] Brit Med Jour Dec 14th 1895

[11] Lyon Médicale, Sept. 24th, 1899 Brit Med Jour supplement Jan 6th, 1900.

[12] Boston Medical and Surgical Journal, Nov 30th 1899.

If the dilatation be dependent on an obstruction outside he stomach—as, for instance, a tumour of the pancreas, iver, or gall-bladder—relief may be given by removing the umour, or, if that be impracticable, by *gastro-enterostomy.* The instance reported by Dr. Ewart and Mr. Jaffrey[13] is a case in point where, vomiting incapable of relief by medical means was dependent on an aneurysm flattening out the pyloric end of the stomach and causing obstruction. The ollowing is an account of the operation with remarks by Mr. Jaffrey: "Dr. Ewart asked me to see this case in consultation with him on August 26th. There was a swelling midway between the umbilicus and the ensiform appendix which appeared to me to pulsate more freely than one would expect from a growth of the stomach lying over the aorta. However, taking into consideration the symptoms and the swelling we agreed that an exploratory laparotomy should be done. This I did on the following day. I made an incision from four to five inches long above the umbilicus. The stomach presented in the wound and on examination it was found to be quite healthy though dilated. On pulling the stomach out of the wound there appeared to be between from half a pint to one pint of fluid collected in the most dependent part of the fundus. The colon appeared to be normal and the walls of the stomach did not appear to be materially thinned. I attempted to press some of the fluid into the duodenum but did not succeed in getting much to pass, and on further examination the swelling which we had felt through the abdominal walls proved to be a large fusiform aneurysm of the abdominal aorta. It commenced about half an inch below the aortic opening of the diaphragm and extended to the level of the umbilicus. The pyloric end of the stomach was flattened over the convex surface of the aneurysm; so much so that it caused obstruction to the passage of the contents of the stomach into the duodenum. This seemed to me to be partly due to the weight of the dilated stomach and its contents and of the colon and omentum. I deemed it advisable to pull as much as possible of the stomach over to the right side of the aneurysm so as to relieve this pressure. As the stomach seemed inclined to remain in its new position I did not think it necessary to fix it any way. The patient rapidly recovered from the operation, the wound was dressed with dry cyanide gauze, and the sutures were removed on the eighth day. There was slight vomiting frequently recurring for several days in connexion with nausea excited by the smell of brandy. The alarming symptoms disappeared and the patient slowly improved and became able to take solid food and to walk for short distances. She complained of burning sensations in the epigastric region, and had general hyperæsthesia of the abdomen, but the pulsating mass was less easily felt; this was no doubt due to the fundus of the stomach being placed between the aneurysm and the abdominal wall."

If cancer of the pylorus be found to be causing the dilatation *pylorectomy* may be indicated if the disease be limited and there be no secondary infection, but if it be too extensive *gastro-enterostomy* will be the only treatment likely to afford relief.

CONGENITAL STENOSIS OF THE PYLORUS.

Maier (in Virchow's Archives) holds that a degree of congenital stenosis is a frequent, if not the most frequent, though unrecognised, cause of dilatation, and he cites a number of cases, mostly in adults, of chronic catarrh of the stomach with dilatation in which stenosis of the pylorus varying from three millimetres to one centimetre (the normal, one to three centimetres) was found. He is careful to distinguish between the congenital form and that due to catarrh, ulcer, and cancer, the acquired forms of stenosis, and gives his reasons for considering the stenosis primary and the catarrh secondary in the cases mentioned. He acknowledges, however, that clinically the distinction is extremely difficult. Basing his classification on the anatomical structure of the pylorus he distinguishes between a simple form of stenosis in which there is a round or slit-like narrowing of the pyloric orifice and a complicated form due to a hypertrophy of the longitudinal or of the circular fibres of the pyloric region. In the first case, where the longitudinal fibres are hypertrophied, the stenosis is usually conical in shape, with the apex of the cone at the pylorus and projecting into the duodenum after the manner of the os uteri into the vagina, but sometimes it is ring-like, the constriction then measuring as low as from four millimetres to five millimetres. When the circular fibres, on the other hand, are increased the form taken is usually that of a thick swelling, the lumen of the canal not being so much reduced as in the former case.

The interest of a case related very fully by Dr. W. K. Penn with an account of the necropsy by Dr. Maxwell Adams,[14] lies in its proving conclusively that congenital stenosis does occur in a form capable of relief by operation. The case was one of persistent vomiting from three days after birth until death, which occurred in the third month, and as the pylorus was hypertrophied and stenosed, but not adherent to neighbouring viscera, a pyloroplasty might have been curative. This form of stenosis may explain many of the cases of dilatation and catarrh of the stomach coming on in young adults without apparent cause, and it may also explain many of the cases of persistent vomiting set down to a vicious habit or to hysteria. To judge from the literature of the subject, this condition is not of frequent occurrence, but it may be more common than supposed, as necropsies are not frequently made in the case of children dying out of hospital, and persistent vomiting in infants is not a very uncommon event. Ewald also mentions it in its relation to dilatation of the stomach. The subject has been fully treated by Landerer[15] and by Maier.[16] W. Abel[17] records the first case of congenital hypertrophic stenosis of the pylorus treated successfully. The patient was a male infant, eight weeks old, the operation being gastro-enterostomy.

Two Lectures
ON
RABIES.

Delivered at the University of London on Feb. 13th and 20th, 1900,

BY JOHN ROSE BRADFORD, M.D., D.Sc., F.R.C.P. LOND., F.R.S.,
PROFESSOR SUPERINTENDENT OF THE BROWN INSTITUTION; PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL, ETC.

LECTURE II.[1]

Delivered on Feb. 20th.

GENTLEMEN,—I propose to deal in this second lecture with the question of diagnosis of rabies in man and animals.

The diagnosis of rabies may be considered from three points of view—the clinical, the post-mortem, and the experimental. It is, of course, most desirable to make the diagnosis clinically. This, however, is frequently difficult and sometimes impossible, and in the case of animals it is probable that the diagnosis is most often arrived at from a consideration of the post mortem lesions. These, however, are frequently not very characteristic and hence there may not only be difficulty in the diagnosis of the disease during life, but this difficulty may not be removed on post-mortem examination. The experimental method of diagnosis by inoculation affords a more certain means of arriving at an accurate conclusion than either the clinical or the post mortem diagnosis. It is, however, not infallible and in some cases, as I shall show later, it may be impossible to make an accurate diagnosis even by the experimental method. We will consider first of all the diagnosis of the disease clinically—that is to say, the diagnosis from the study of the symptoms. It will be necessary to consider the symptoms of rabies only in man, in the dog, and in the rabbit. As mentioned in my first lecture the occurrence of the malady among other animals is rare.

---

[13] THE LANCET, Oct. 28th, 1893, p. 1155.

[14] Transactions of the Glasgow Pathological Society, May 13th, 1899

[15] Ueber angeborene Stenose des Pylorus, Inaugural Dissertation, Tübingen, 1879.

[16] Beiträge zur angeborenen Pylorus Stenose, Virchow's Archiv, Band cii., S. 413.

[17] Münchener Medicinische Wochenschrift, November, 1899, and Brit Med. Jour., Supplement, Feb. 3rd, 1900.

[1] Lecture I. was published in THE LANCET of March 3rd, 1900

Rabies exists in two forms—furious rabies and dumb or paralytic rabies—and in these two forms it affects man, the carnivora, and rabbits, but in man and the carnivora the furious form is by far the more common as an initial manifestation, and in rabbits the great majority of cases exist in the dumb form. Dumb or paralytic rabies does, however, occur in man and the dog under two circumstances—firstly, as a terminal phenomenon in the great majority of cases of furious rabies, and, secondly, as the sole manifestation of the disease. In the rabbit furious rabies is occasionally seen but it is rare, since during the last four years out of 414 cases of rabies in rabbits observed at the Brown Institution there were only some three cases of furious rabies, and it is a point of some interest that furious rabies can be transmitted by inoculation from one rabbit to another.

SYMPTOMS OF RABIES IN MAN.

I will deal first of all with the symptoms of rabies as presented in man. Three stages in its evolution in man may be recognised: (1) a prodromal period; (2) a period where the disease is fully established; and (3) the third or paralytic stage. In some cases the third stage may be absent, in others the prodromal symptoms may be absent, and, as I have mentioned before, in a few instances the disease exists in the human subject in the paralytic form. That is to say, the first and second stages may be absent.

1. *The prodromal period.*—We will consider first the prodromal symptoms, although these are often vague and, as is frequently the case in other diseases, are recognised as such only after the malady has declared itself. The most important of these symptoms are a general malaise and an alteration in the mental state of the individual leading him to become melancholy and tending to make him shun the society of his fellow-creatures. The patient also suffers from sleeplessness and when asleep his rest is disturbed by nightmares, and it is said that often the nightmare reproduces the scenes of the dog biting him. It is stated—and it is a point of some interest—that even in cases where persons have been bitten by dogs which were not known to be rabid, although they really were rabid, that during the prodromal period following the bite the patient suffers from a peculiar apprehension and vague dread. In the bulk of cases this apprehension or dread is readily explained owing to the fact that the sufferer generally knows or suspects that the dog or other animal was suffering from rabies, but it is definitely stated by various authorities on the malady that the same dread or apprehension may exist where this fact is quite unknown. Other prodromal symptoms are a certain amount of præcordial distress and also slight dyspnœa. The mental symptoms, such as melancholy and apprehension, may in some cases reach such a high degree of development as to amount to insanity, and it is a point of some interest that the virus of rabies may cause symptoms closely resembling those of insanity. The prodromal period is said to last from 10 to 15 days.

2. *The period when the disease is fully established.*—The second stage of the malady is generally ushered in suddenly with dyspnœa and, as I mentioned before, it may occur without any preceding prodromal symptoms. The dyspnœa is severe and very soon the characteristic spasm on attempt to swallow is seen. The patient on attempting to swallow is seized at first with a spasmodic convulsion which involves simply the muscles of the pharynx causing expulsion of the liquid or the substance through the mouth. Very soon, however, the spasm on the attempt to drink spreads to other muscular structures, and not only are the muscles of the pharynx involved but those also of the head and neck and ultimately those of the trunk and even of the limbs, so that an attempt to drink is followed by a more or less generalised convulsion. The convulsive seizures are, however, not limited to the swallowing movements, but the respiration becomes jerky, being interrupted by irregular contractions of the diaphragm producing a sudden and well-known gasp. It is this jerking respiration which has given rise to the popular idea that the sufferer barks. At this time the special senses become more acute, especially hearing and cutaneous sensations, and the period very soon arrives at which the convulsions of the disease are not only produced by attempts to swallow, but at the mere sight of objects or the hearing of sudden noises, or even a draught of air touching the bed-clothes or skin. During the whole of this period the apprehension that existed during the prodromal stage becomes further increased and the patient dreads—and his dread is seen in his face—all the things which will lead to the production of a spasm, such as a sight of fluid or the approach of bystanders to his bedside. It is not at all uncommon at this stage of the malady for a condition of furious excitement, or even one of actual mania, to develop. The frequency of the pulse is greatly increased. Fever is present and the temperature may even reach as high a point as 104° F. Glycosuria and albuminuria are often present. Death may occur from asphyxia during one of the convulsive seizures, but often the malady passes into the third or paralytic stage, which is characterised by a rapidly progressive weakness involving the bulbar muscles, then spreading to the larger muscles such as those of the limbs, and finally to the trunk muscles, and so causing death from cessation of respiration.

3. *The paralytic period.*—The duration of the disease is usually from three to four days from its onset and some two to three days after the first convulsion. In some cases, as I have already mentioned, the first and second stages of the malady are absent and the disease exists in the human being in the third or paralytic form. Under these circumstances, with or without prodromal symptoms, a rapidly increasing paralysis, involving first the extremities, then the trunk, and finally the respiratory muscles, occurs, and, as I mentioned in my first lecture, this paralytic form of the disease was recognised by Van Swieten,[2] and in 1763 Hoin described four cases of paralytic rabies occurring in man amongst eight individuals who were bitten by a rabid wolf.

SYMPTOMS OF RABIES IN THE DOG.

The early symptoms of furious rabies in the dog are, first and foremost, an alteration in the habits of the animal so that it tends to become restless, miserable, and sad, and it is noticeable that at this early period of the disease the animal is in no way savage. Soon afterwards it seeks solitude by hiding under chairs or in dark corners and very soon it suffers from attacks of excitement followed by drowsiness. It is rather characteristic of the malady that the animal wakes up suddenly without apparently realising its position and surroundings. Very soon the reflex activity of the nervous centres becomes increased, so that sounds and sights which before passed unnoticed now produce excitement and at this period of the malady the animal may bite strangers, although it is not usual for it to attack or bite those to whom it is accustomed. The appetite still remains good, but fever is present. In the third stage the restlessness becomes much more marked, the animal cannot keep still, and it attacks furiously surrounding objects and destroys them, biting the furniture and the carpets—in fact, anything with which it comes into contact. It is evident that at this time hallucinations are present, as it is not uncommon for a rabid animal to spring at imaginary objects in the air. The voice becomes affected, owing apparently to the commencing paresis of the larynx, so that the characteristic bark is heard, the main distinguishing feature of which is its peculiar long-drawn stridulous character dying away in a howl. During the earlier period of the malady the seat of the bite is hyperæsthetic, but now it becomes anæsthetic, and later the animal may not only in its excitement bite surrounding objects but it may even bite itself, and more especially, it is said, the region where it was itself bitten. At this stage, when the malady is fully established, there is considerable excitation of the genital organs and this is a symptom that is often marked in man. It is also characteristic of the malady at this period for the animal to wander away. The mad dog will often travel very long distances, and it is in this way that the disease is spread to other animals and to the human subject, as very frequently the strange dog is approached by other dogs who thus get bitten. The excitement becomes more and more marked and the animal more and more furious, and it is at this period of the disease that foreign bodies of all kinds are swallowed, such as wood, coal, hair, and straw. Soon the excitement diminishes and the animal becomes paralysed, the palsy very often commencing in the jaw muscles, and it rapidly spreads to those of the limbs, finally affecting the respiratory muscles and so causing death. The palsy may be hemiplegic or even monoplegic in its distribution, but, as just mentioned, it spreads rapidly. The duration of the disease in the dog is from two to ten days, but from four to five days is the more usual period. The most characteristic clinical features in the disease apart from the difficulty in swallowing—which is well established when the furious excitement is present—are the bark and the restlessness. In cases of doubt in the diagnosis of the disease the rapid onset of palsy after the excitement is perhaps the most characteristic feature.

---

[2] THE LANCET, March 3rd 1900, p. 592.

In the dumb form of the disease sensory troubles are not so marked and, as a rule, the prodromal symptoms are not very obvious, but careful observation will usually show that there has been some change in the habits and that the animal has become anxious. The palsy usually begins in the jaw, causing the well-known drooping of the lower jaw with the viscid saliva hanging from it, but the palsy may begin in other parts of the body and may be either monoplegic or hemiplegic in its distribution. The average duration of paralytic or dumb rabies is from two to three days and the symptoms in no way differ from the terminal symptoms in the last or paralytic stage of furious rabies. Glycosuria is found in a considerable number of cases of rabies in the dog and sometimes albuminuria.

SYMPTOMS OF RABIES IN THE RABBIT.

In the rabbit the most characteristic features of rabies are somnolence with gradually increasing weakness of the hind limbs which rapidly spreads to the body generally, while the general health remains good. Fever and polyuria are also present, and very soon twitching and convulsive attacks occur in which the spasms are generally of a clonic character, together with grinding of the teeth. The weakness of the hind legs is often so marked as to cause complete paralysis, and the rabbit will drag itself from place to place slowly by the action of its forelegs. Wasting, although present in the terminal stages of the disease, is not very marked before the onset of the palsy. It is very characteristic of paralytic rabies in the rabbit that the palsy, especially of the hinder extremities, becomes extremely well marked at a time when the general health of the animal has not undergone very great deterioration. It is common to see rabbits with complete paralysis of the hinder half of the body eating greedily. The presence of the clonic spasms and the twitchings of the trunk muscles at a time when the hinder extremities are paralysed is also very characteristic of the disease. There are many pathological conditions in which palsy of the hinder extremities occurs in the rabbit, so that this by itself is by no means characteristic of rabies. The characteristic feature is that the posterior palsy rapidly spreads to all the muscles of the body and occurs at a time when the general health is good, as shown by the nutrition of the animal and by its taking food. Furious rabies occurs occasionally in the rabbit and then the symptoms are not very different from those seen in the dog. It is a point of some interest that the furious form of the disease when it occurs in rabbits may apparently be transmitted from one series of rabbits to another by consecutive inoculations through a considerable number.

In man the diseases which have to be distinguished from the furious form of rabies are tetanus, mania, delirium tremens, and cases to which the term "lyssophobia" has been applied, where after having been bitten spurious symptoms of rabies become developed. The resemblance between tetanus and hydrophobia is really very distant, the spasms in the one disease being far more generalised and continuous and in the other more localised to the throat, at any rate in the early stages, and intermittent. The confusion, of course, is apt to arise between the two maladies owing to the fact that tetanus may follow a bite in the same way as it may be the sequel of any other wound. Apart from the difference in the distribution and character of the spasms one of the most important ways of distinguishing between the two diseases is by a consideration of the incubation period, that of tetanus being very much shorter than that of rabies. Cases of mania and delirium tremens sometimes present difficulty, especially where these maladies have supervened in patients after they have been bitten. One case has come under my observation where a woman bitten by a dog which was reputed to be mad suffered from symptoms of delirium tremens which were ultimately fatal and which were thought to be those of rabies. Experimental inoculation made from the medulla of the patient and from the medulla of the suspected dog showed the absence of rabies. It is not very uncommon for lyssophobia to be confounded with rabies, and in the *Annales de l'Institut Pasteur*[3] there is a very good description of a case of lyssophobia where the diagnosis was arrived at partly from a consideration of the incubation period, which was only seven days, and partly by the difference of the symptoms. In this case the patient had no difficulty in keeping water in his mouth and the spasm only developed when he attempted to swallow; and, in the second place, a draught of air only produced a spasm when it was directed against the mouth or nose, whereas in the genuine disease, as I have just mentioned, the slightest cutaneous irritation produced by the incidence of cold air is quite sufficient to cause a spasm. The case I have just alluded to as recorded in the *Annales de l'Institut Pasteur* recovered with simple treatment. The fact that symptoms mimicking those of genuine rabies may occur after the bites of animals in susceptible people is a point of considerable practical importance as regards the reported cures of hydrophobia by bath treatment.

In the case of paralytic rabies in man the diagnosis is much more difficult, as there are several affections of the spinal cord which may give rise to an acute ascending palsy and probably in the majority of cases a satisfactory diagnosis could not really be made without experimental inoculation.

The differential diagnosis of rabies in the dog is often difficult. First of all, in the furious form there are many diseases which may be confounded with rabies, more especially epilepsy and also the epileptiform seizures that are seen in dogs to accompany disease of the external and middle ear. In both these conditions an animal previously quiet and well-behaved will be seized with a fit which may be followed, just as epileptic fits in man are, by a very considerable degree of excitement. Such cases as this perhaps afford the greatest number of the cases of suspected rabies. There are several organic diseases of the brain, more especially the presence of cysticercus in the brain, which will cause epileptiform seizures which may be mistaken for rabies. It would not be thought that such a malady as rheumatism would be confounded with rabies in the dog, but the mistake has arisen owing to the painful and swollen joint having been roughly examined and the dog, irritated by the pain, has bitten a person—and very often the mere fact of a dog biting the individual is held to be sufficient presumptive evidence of the existence of rabies. Intestinal obstruction has also been confounded with rabies in the dog, both clinically and on post-mortem examination.

As regards dumb rabies the greatest difficulty in making the different diagnoses arises in cases of impaction of a foreign body in the throat. Both in dumb rabies and in this condition swallowing is impossible. Very often a history pointing to the swallowing of a foreign body can be obtained and it can be noticed that there is not, strictly speaking, true palsy of the jaw, and, further, the prodromal symptoms have not been present. At the same time, it is very unwise to examine carelessly the mouths of dogs suspected of suffering from impaction of a foreign body, as if the case be one of rabies it is possible that the disease might be communicated by rough or careless manipulation. Inflammation of the temporo-maxillary articulation in the dog producing immobility of the lower jaw has also not infrequently been confounded with rabies. In all the diseases in dogs which are liable to be confounded with rabies the isolation of the animal will speedily settle the question, inasmuch as the duration of both furious and dumb rabies is very definite and also the mode of spreading of the malady. This is especially true of dumb rabies.

DIAGNOSIS OF RABIES BY POST-MORTEM EXAMINATION.

There are two principal reasons why rabies cannot be excluded by a post mortem examination in animals. First of all because the animal is often killed in the early stages of the disease, before the lesions have had time to develop, and, secondly, because rabies may co-exist with other lesions, as, for instance, with the perforation of the stomach or intestines that may be produced by the ingestion of a foreign body. These are both very serious fallacies and they perfectly justify the statement that the disease can never be excluded by post-mortem examination. At the best the post-mortem signs are not very characteristic. In the dog the mouth and tongue are generally coated with dirty thick mucus and the mucous membrane is dry and red, and erosions, or even extensive ulcers, are not uncommon in the mucous membrane of the mouth. The salivary glands, and especially the sub-maxillary, are intensely congested and there is well-marked infiltration of the connective tissue of these glands As regards the stomach there are three points to notice. In the first place the organ contains no food; in the second place it may contain a very large number of foreign bodies of the most diverse description, such as wood, coal, bone, fæces, hair, and the like, and, thirdly, ecchymoses of varying size are commonly present The intestines are empty and retracted and signs of commencing nephritis are usually present. The urine contains albumin and sugar in some 50 per cent of the cases. The other lesions that are found, such as petechial hæmorrhages in the pleura and under the pericardium, are to be looked upon rather as lesions produced by the asphyxia, which is the common mode of death, than as intrinsic lesions dependent on rabies The greatest stress is usually laid by veterinarians on the results of the examination of the stomach in cases of suspected rabies, but the mere presence of foreign bodies and even of fæces in the stomach is most untrustworthy evidence of the disease. No conclusion should be drawn as to the probable presence of rabies unless together with the presence of foreign bodies in the stomach there is absence of food and unless ecchymoses are present

---

[3] Annales de l'Institut Pasteur, January, 1900.

In man post-mortem signs are also not very marked and very often a number of those actually found are dependent on the mode of death, as, for instance, the acute emphysema that has been described, which is probably dependent on the dyspnœa, and the death from asphyxia In the nervous system the blood-vessels are found to be injected, petechial hæmorrhages are not uncommon, and patches of softening have been described in the cord and medulla; the nerves are also hyperæmic, the salivary glands are congested, and petechial hæmorrhages are also found in the mucous membrane of the stomach Slight nephritis has been already described. In the rabbit the most important post-mortem signs are the congestion and ecchymoses of the mucous membrane of the stomach and intestine.

THE EXPERIMENTAL METHOD OF DIAGNOSIS OF RABIES.

A fragment of medulla or some other part of the central nervous system should be taken from the suspected case and placed in pure glyceride *After being in this from two to three days* the fragment of the medulla should be pounded in a sterilised mortar with some sterilised salt solution or bouillon, and an emulsion of it so made should be filtered through sterile muslin and a small quantity of it introduced into a syringe sterilised by boiling. The inoculations should be made either into the anterior chamber of the eye or subdurally, the latter is preferable owing to the fact I mentioned in my first lecture that by this means there is a greater certainty of communicating the disease Inoculation into the eye or intravenously, or even subcutaneously, may be successful, but there is not the same certainty as there is in the subdural method The aqueous humour was recommended more especially in cases where the material was suspected of being contaminated with other organisms with the idea that if the eyeball suppurated it could be removed, and at the same time the virus of rabies would have had the opportunity of infecting the nervous system through the optic nerve So that at one time it was not uncommon to inoculate into the aqueous humour if the suspected material arrived in a putrid state This procedure, however, is unnecessary, as in many cases brains have arrived at the Brown Institution in the hot weather more or less decomposed, and the inoculation of this decomposed cerebral material subdurally has not been followed by any septic complications So that in all my observations the subdural method of inoculation was used If rabies be present the symptoms usually declare themselves from 12 to 19 days after the inoculation, but it is important to remember that they may be delayed for as long as 40 days and that therefore even after inoculation one cannot exclude rabies until a period of something like six weeks has elapsed This, however, is unusual There is no difficulty in the diagnosis of experimental rabies if attention be paid to the point that the palsy in the rabbit is accompanied by clonic spasms, and the only difficulties that present themselves in the diagnosis of rabies experimentally lie in the fact that sometimes the brain injected is contaminated with other organisms, such as those of septicæmia, and so the inoculated animals die within two or three days of the inoculation, or else, as in the case quoted in my first lecture, advanced decomposition in the material injected prevents the manifestation of the activity of the virus of rabies

I will conclude my lectures with drawing attention to the incidence of rabies in this country during the last few years In the year 1892 there were 38 cases of suspected rabies reported to the Board of Agriculture. In 1893 there were 93, in 1894 248, in 1895 672, in 1896 438, in 1897 151, and in 1898 17, so that in the years 1894, 1895, and 1896 there was a very severe outbreak of rabies in this country In 1895 there were 45 suspected cases in London, in 1896 128, in 1897 19, and in 1898 one At the Brown Institution I investigated in 1896 168 cases of suspected rabies and proved the existence of the disease in 113 cases In 1897 there were 64 suspected cases and 25 real cases; in 1898 there were 17 suspected cases; and in 1899 there were 10 suspected cases, but none of them proved to be cases of rabies. It was, therefore, proved that out of a total of 259 cases of suspected rabies examined in the last four years rabies existed in 138, that is to say, in 53 per cent of the cases The experimental method is of the greatest value in providing accurate statistics of the incidence of the disease, but, as I mentioned in my last lecture, it is not so useful for the purpose of determining whether an individual bitten by an animal suspected of rabies should or should not undergo the Pasteur treatment owing to the fact that so long a period—at least from 12 to 19 days—must elapse before a conclusive answer can be given, and because in some cases the incubation period in the rabbit may be prolonged to a length equal to that of the usual incubation period in man—namely, six weeks.

THE TREATMENT OF RHEUMATISM,

WITH SPECIAL REFERENCE TO PROPHYLAXIS AND ITS CARDIAC COMPLICATIONS,[1]

BY WILLIAM EWART, M.D. CANTAB., F.R.C.P. LOND.,
SENIOR PHYSICIAN TO ST. GEORGE'S HOSPITAL AND TO THE BELGRAVE HOSPITAL FOR CHILDREN

[IN his opening remarks Dr. Ewart compared rheumatism and phthisis in respect of their preventibility, discussed statistics of the prevalence and mortality of rheumatic fever, chiefly as observed in Scandinavia, and made a brief allusion to the subject of cardiac complications He then proceeded to consider]

THE INFECTIVE THEORY AND THE ARGUMENTS IN ITS SUPPORT

The meteorological argument —Newsholme[2] points out that rheumatic fever shares with several specific febrile diseases a greater prevalence in winter and spring and with some of them (enteric fever, scarlet fever, erysipelas, &c.) a marked association with a deficient rainfall, the effects of which in lowering the ground water would gradually develop in the subsoil conditions of temperature and dryness favouring the growth of any assumed telluric contagium, whilst a high ground water never accompanies an excessive prevalence

A strong argument is also derived from the observation that in England a relatively high temperature of the air is favourable to an increase of rheumatic fever, and that in London its great epidemics occur only when the mean temperature of the soil is exceptionally high—*i e*, over 50° F., particularly if it has been thus high for two or more years in succession

The bacteriology —The existence of a specific organism awaits further demonstration The doubts entertained as to the truly rheumatic character of so called acute rheumatism in the lower animals detract from the value of experimentations *in corpore vili* Organisms have been described in man by various observers to which Newsholme refers[3] Whilst ect evidence is still wanting, cogent arguments are based on inference by Newsholme in favour of a microbic *teries morbi*, saprophytic with a tendency to parasitism, iquitous in distribution but restricted in its spread by the mplexity of the conditions requisite for its growth, essenlly a soil organism and perhaps, like tetanus, capable of coming pathogenic only when directly inoculated; and the estion is asked whether rheumatism is a purely miasmatic ease, like ague, in spite of the prevalence of the two seases being apparently connected with opposite conditions soil and of rainfall, or a miasmatic contagious disease like teric fever.

---

[1] An introduction to the debate of the Chelsea Clinical Society on March 13th, 1900.

[2] Milroy Lectures on the Natural History and Affinities of Rheumatic Fever, a *Study in Epidemiology* Cf THE LANCET, March 9th and 16th, 1895

[3] Cornil and Babes bacilli as well as micrococci, Wilson, cultivations, Mantle cultivations Petrone, the organisms described by Klebs in rheumatic endocarditis J P Popoff and Birch Hirschfeld, staphylococci or streptococci in joints and valves; Bouchard and Charrin, staphylococcus Triboulet, staphylococcus albus and aureus, Sahli staphylococcus aureus Sacaze staphylococcus albus, M L de Saint Germain, experimental arthritis by intravenous injection of staphylococci, Professor Leyden, and more recent observations are quoted by Pribram Der Acute Gelenkrheumatismus (Nothnagel, Specielle Pathologie und Therapie), Band v, Theil i, Wien, 1899

The epidemiological argument.—After suggesting that infecon might be conveyed (*a*) directly from person to person (*b*) indirectly from infective discharges gaining access to e soil from water, milk, or other foods, or from desiccaon in habitations, Newsholme[4] refers to the prevalence of e disease being occasionally concentrated in certain cities, in streets, or even in houses. Important instances of ese local epidemics are quoted. Ch. Fiessinger[5] reported at in a village of 500 houses 10 out of a total of 21 cases served in recent years had occurred in one street, four curring in the same house, and two in the same room. dlefsen,[6] at Kiel, found 728 cases occurring in 492 houses 00 houses for 108 cases)—viz., two cases occurred in one ouse 100 times, three cases in one house 27 times, four cases one house five times, five cases in one house five times, six ses in one house once, and seven cases in one house once. riedlander in the discussion on Edlefsen's paper stated that t of 357 cases eight cases occurred in one house twice, ven cases in one house once, five cases in one house once, ur cases in one house eight times, three cases in one ouse ten times, and two cases in one house eight times. antle[7] has recorded multiple cases in the same house, also instance of rheumatism running through a family. The idemic spread of rheumatism does not occur with explosive pidity as does that of measles or influenza, but with slow nd creeping progress, like that of diphtheria, taking years invade a country and years to die out of it.

The general conclusions reached from a study of the candinavian returns of cases and other returns are:—1. hat considerable irregularities occur in the yearly incidence f rheumatic fever sometimes such as to deserve the term epidemic" 2. That there are two kinds of epidemics, the ne "explosive," terminating in one year or at the most ree years, and the other "protracted," chiefly observed in rge centres of population, or in connexion with the tatistics of an entire country, being possibly made up of the usion of two or more explosive epidemics. 3 That the avourite years for epidemics in England were 1855–56, 1859, 864–65, 1868–71, 1874–76, 1884–85, 1888, and 1893 4. That o absolute periodicity can be traced though epidemics are pt to recur at intervals of three, four, or six years. But in nany instances a regular alternation may be traced between he explosive and the protracted epidemics—two of the ormer occurring between each two of the latter.

The clinical argument.—Much stress is also laid upon ertain clinical features which are analogous to those of ecognised specific fevers—viz.: (1) the mode of onset shivering, general aching, &c); (2) sore throat (80 per ent. of cases, J. K. Fowler); (3) the progress of the fever nd its various complications, particularly endocarditis (all iseases leading to the latter being, except perhaps chorea, nown to be infective); (4) the tendency to relapse relapses are common in erysipelas, pneumonia, influenza, c.); (5) the incidence of the disease mainly upon the oints, where the infection is buried (this might be an xplanation for the absence of any perceptible contagiousess); and (6) the specific power of the salicylic remedies which is compared with that of quinine in malaria and of he iodides in syphilis. Personal proclivity, which may be egarded as inherited, largely determines individual liability, s in all infections which are widespread or ubiquitous. As to the channel of infection Newsholme believes that it ies through the tonsils or some part of the nasopharynx. Since all knowledge of the incubation period s wanting we are able to think of a "latent parasiism" as conceivable, the latent rheumatic infection eing suddenly called into activity in individuals pparently healthy and not exposed to any infection. The well-known influence of injury, fatigue, and chill, all of which lessen the resistance of the individual, is analogous to the personal factor of inherited immunity or predisposition and cannot be regarded as negativing the infective theory. Finally, there is the weakness of the alternative theory—the lactic acid theory of Prout, Todd, and Richardson, its chief clinical evidence being derived from Sir Walter Foster's[8] observations. In his two diabetic patients the prolonged administration of lactic acid produced a rheumatic fever, but D. A. Harkin[9] has suggested that this might have been gout in disguise as the small joints were chiefly attacked. At any rate, if lactic acid were developed in excess this would occur through the agency of a micro organism, which would be, according to Newsholme, the essential cause of the disease.

The Prophylaxis of Rheumatism.

In this direction suggestions are still wanting. The benefits of notification are largely due to a stimulation of clinical observation and thought; and in the case of rheumatism the *clinical method* is specially recommended by the fact that none of the general determining factors of rheumatism possess the same prominence as the individual factor of predisposition.

General prophylaxis.—Pending fresh bacteriological revelations general prophylaxis seems to be limited to the scope of sanitation. Yet our modern improvements have not, as in the case of phthisis, resulted in a steady decrease; but the recrudescences which have occurred from time to time are consistent with Newsholme's view that desiccation of the subsoil may be at the root of the evil, since during recent years droughts have coincided with an increasing consumption of water by the water-supply companies. But it is not clear how this general indication is to be met On the other hand, we still trust to an obvious indication for desiccation of the surface soil, and particularly of the sites for houses, as well as of the habitations themselves. The prophylactic indications connected with climate and mineral baths can only find their application in connexion with the individual.

Individual prophylaxis.—In individual prophylaxis we seem to have hitherto neglected or missed our opportunities. Where does the weakness reside which lays a child open to insidious rheumatism or an adult to rheumatic fever, when others undergo the same depression, fatigue, or exposure with impunity? By what sign shall we tell the special predisposition? And if able to suspect its presence, how shall we best arm the subject against it? A study of the features characteristic of a rheumatic predisposition and of the earliest rheumatic premonitions or of the prerheumatic state is an obvious requisite. For instance, as regards the general physical appearances, although physicians may have derived general impressions from a prevailing tendency to pallor, sallowness, imperfectly cleared skin, and the like, they have not been able, so far as I know, to frame a typical "facies" peculiar to the predisposition; but to this point I dare not devote further time.

Rheumatic tonsillitis.—The great frequency of rheumatic tonsillitis has its significance. The tonsils, which are strongly suspected of introducing and of harbouring the germs of phthisis, have also been suggested as portals of infection by the supporters of the infective theory of rheumatism. But there are other sufficient reasons for not neglecting them as possible factors in the disease. May not indications be traced in their behaviour or aspect which might aid us in recognising the rheumatic proclivity? Again, is the frequent immunity from arthritis, in spite of a liability to carditis, in any way connected with the more active function of the tonsil in early life? Can anything be achieved by treating the tonsils which could in any way influence the rheumatic bias? This practical question might conceivably be answered by the results of surgical interference. Has the rheumatic tendency been favoured or in any way affected by a removal of the tonsils and of adenoids? If any connexion were traceable between the rheumatic tendency and the behaviour of the tonsils valuable indications might be gained by a systematic examination of children at schools and in private practice with a view to prophylaxis.

Prophylaxis by climate, environment, and general management.—This includes the most important indications, which are also those least within reach for the majority, particularly as regards selection of circumstances; and much is also implied which it may become easier than it now is to formulate. Prophylaxis against a disease so largely affecting young life cannot in cases of suspected indisposition be undertaken too early, perhaps even in infancy, with the twofold object (1) of avoiding individual exposure, and (2) of increasing individual resistance to its causes. Early childhood and early school days are the special periods during which watchfulness is needed, for there is reason to believe that among the poor the predisposed children fall early victims to their adverse circumstances when, in addition to the evils of damp, of cold feet, and of underfeeding, there is a wasteful leakage of energy wanted for visceral innervation into the service of mental effort and school worry. We learn the importance of schools being removed from town into country. For predisposed children the selection of schools should be largely guided by considerations of school hygiene and of local climate, atmosphere, and soil, concerning which we yet know too little. Is rheumatic fever ever developed at sea? Is the rheumatic tendency counteracted by marine climates, and if so, by which variety, the soft or the bracing? Too much stress cannot be laid upon the importance of management and regulation of the alimentary functions in this form of delicacy. Errors in quantity and in quality of the food, imperfect digestion, unrelieved bowels, checks, both acute and chronic, to the action of the liver, lymphatic embarrassments, which are passed over as trivial in average children, are dangers to the predisposed, and the physical appearances, particularly those of the complexion, abdomen, tongue, and pharynx, may be health-saving guides.

---

[4] Loc. cit.

[5] Gazette Médicale de Paris, No 14, April, 1892.

[6] Zur Statistik und Aetiologie des acuten Gelenkrheumatismus

[7] Brit Med. Jour., June 25th, 1887.

[8] Synthesis of Acute Rheumatism, Brit. Med Jour., Dec. 21st, 1871.

[9] Pathology and Treatment of Acute Rheumatism, Dublin Journal of Medical Science, vol. lxxii, 1881, p 312.

Prophylaxis by drugs.—Is salicylate indicated? Various remedies will serve the purposes of internal hygiene, but information is needed as to the tonics best suited to counteract the early rheumatic bias With special reference to the iodides and to cod-liver oil are the indications analogous to those approved in the scrofulous predisposition? But our most immediate concern is the prophylactic use of anti-rheumatic remedies at all stages of the liability. Belief in the specific virtues of the salicylates would almost imply as a duty its systematic administration in all threatened individuals. Unhappily, that belief is shaken by instances in which fresh arthritic attacks have occurred whilst the patients were taking salicylates. But putting aside that doubt some good probably results from periodical courses of salicylate treatment for the sake of its hepatic action. The responsible question remains, "Can its continuous administration be detrimental, particularly to the young?"

THE VARIETIES OF ACUTE RHEUMATISM, WITH SPECIAL REFERENCE TO THEIR LIABILITY TO CARDIAC COMPLICATIONS.

In spite of its rapidly advancing cleavage the rheumatic group is still unwieldy. Its recent contraction owing to the identification of various specific microbes or toxins may be argued in support of, though truly it may also be argued in opposition to, the assumption of an infective nature of the remainder. Pyæmic, gonorrhœal, post-zymotic, and other secondary arthropathies are no longer spoken of as rheumatism; and as to those infective forms which have been less completely differentiated, the name "pseudo-rheumatism" sufficiently declares their dissociation from the group. Whether a single or several specific infections may yet be detected in the latter will be determined by further bacteriological studies; at this stage a purely clinical analysis of its members would seem to be possible d expedient. But any sorting of our cases is merely prosional. In phthisis different types of disease have been nstructed when the difference was simply between the nstitutions or structural peculiarities of the subjects, and e same might happen with rheumatism.

The distribution of the arthritic lesions.—Arthritic lesions, regards their local incidence and their varying tendency localisation and the order of their migrations, are tangible atures which may serve as indicators to the more essential at less obvious contrasts and affinities between acute eumatic and rheumatoid arthritis. Four broad types and out clearly. 1. Monarthritis. Whether rheumatic or eumatoid, this is in both affections an outlying and ysterious variety, equally untrue to the accepted definition and to the usual type of either, and therefore straining all our theories. 2. Symmetrical rheumatoid arthritis. A systematic bilateral and symmetrical progress is typical of rheumatoid arthritis, both acute and chronic, and in strong contrast with the third type. 3. Non-symmetrical or erratic rheumatic polyarthritis. In its most acute form, which we may suppose represents the true type of rheumatism, the polyarthritis is conspicuously non-symmetrical. It is erratic as well as migratory, attacking first, it is said, those joints which were most in use, but subject to no obvious rule in its wanderings. Symmetry, when it does occur—and this is perhaps not more frequent than belongs to the law of chances—would seem to be an exception rather than the rule and a departure from the purest type. 4. "Symmetrical rheumatism," acute and subacute. In some cases, usually not the most severe and often subacute, symmetry is a prominent feature of the arthritis. The more I have looked for this symmetrical condition the more frequently have I found it and the more have I been impressed with certain peculiarities in the cases which presented it. The following tabulation of the rheumatic series is an attempt to follow out the gradual transitions which may establish a distant connexion between its two extreme representatives. Chronic fibrous rheumatism, which is not included, would unnecessarily complicate the table.

CLINICAL CLASSIFICATION SHOWING TRANSITIONAL VARIETIES.

I. Chronic rheumatoid arthritis.	Su -variety (*a*): with symmetrical, permanent incurable deformity.
	" (*b*): with symmetrical deformity capable of some degree of recovery.
II. Acute and subacute *rheumatoid* arthritis.	" (*c*). distinctly "rheumatoid"; heart not affected.
	" (*d*): "rheumatoid" in the local persistence of its joint lesions and "*rheumatic*" in its heart lesions.
III. Acute symmetrical rheumatic arthritis.	" (*e*) with persistent and refractory joint mischief (a rheumatoid feature) with or without heart lesion.
	" (*f*): with transient joint mischief and no permanent heart lesion
	" (*g*): with permanent heart lesion and transient joint lesion.
IV. Acute cardiac rheumatism without arthritis ("juvenile" type).	" (*h*)· joint pains only (usually bilateral) with cardiac lesion.
	" (*i*): febris rheumatica sine arthritide
V. Acute rheumatic polyarthritis.	" (*j*): polyarthritis without heart lesion
	" (*k*): polyarthritis with heart lesion.
	" (*l*): hyperpyrexia and various acute complications.

In the fifth group "polyarthritis," a sub-variety (*j*), is made up of cases without heart lesions. The percentage of the latter may eventually be found to be less common in the acutest rheumatic attacks and weighty questions of treatment might be opened up thereby; in this connexion it may be helpful to remember that the most active production of valvulitis occurs in Group IV. from subacute and almost latent attacks in the young.

Acute symmetrical rheumatism.—Among those other purely tentative distinctions suggested as possible helps to study special attention is called to Group III. and to its sub-varieties. The acuteness of the arthritis in this symmetrical rheumatism has seemed to me to be usually not of the first order, but its tendency either to stay or to return is exceedingly marked. This peculiarity may be developed to any degree from that represented in the sub-varieties (*f*) and (*g*) where the symmetrical affection of the joints closely resembles, but for its systematic distribution, the ordinary acute polyarthritis, down to the condition found in sub-variety (*d*), where the persistent or steadily relapsing character of the arthritis and the eventual deformity identify the case as "rheumatoid," in spite of its originally purely "rheumatic" appearances and of the heart lesion which is so frequently found to co-exist. Indeed, the most important of the features of the whole group is the frequent implication of the heart. It would be important to determine whether the cardiac lesions are, as I think, always of the verrucose type rather than of the vegetative, and whether pericarditis is or is not relatively more frequently associated with it than with the non-symmetrical variety.

The practical difficulty of separating the rheumatoid sub-variety (*d*) from the rheumatic sub-variety (*c*) is great, so closely do some of the cases in the latter imitate the rheumatoid characters In some of these acute or subacute rheumatic attacks the affection is confined to, or settles plan and should be preferred. A strong case has been made out in favour of the alkaline salicylate method; for the other method no positive argument has been advanced so far as I know. There would seem to be a natural fitness in associating in our treatment two remedies the virtues of which seem to complete each other, the sphere of the salicylates being the rapid control of the pyrexia and of the arthritis, that of the alkalies the control of the tendency to endocarditis. But it is essential that we should learn from overwhelming evidence the full extent of the advantage which our patients might gain. Meanwhile, a hope has been raised by Dr. R. Caton's[18] favourable report on his treatment by a series of small blisters together with the administration of sodium or potassium iodide that the best results of the combined alkaline and salicylate treatment may yet be surpassed.

THE THERAPEUTIC ACTION OF SALICYLATES IN ITS BEARING UPON THE PATHOLOGY OF RHEUMATISM AND OF THE RHEUMATIC HEART AFFECTIONS.

It is noteworthy that salicylates do not depress a normal temperature—a circumstance pointing rather to a sedative action than to one upon the metabolism of the body. Dr. Archibald Garrod distinguishes between the hyperæmic and the fibrous rheumatic changes and ascribes to salicylate treatment considerable power over the former. Possibly the refractory cases are those which present pre-eminently the latter tendency. The tendency of some of the "symmetrical" as well as of all monarthritic attacks to become localised agrees with that view. The same distinction between the hyperæmic, fluxional, or vaso-motor and the fibrous morbid changes has an important bearing upon the pathology of the cardiac lesions. But when we turn to the valves which are the chief seat of the cardiac lesions the nervine theory has no place. Our pathology becomes, like the tissues of the part, independent of vessels and of vaso-motor nerves. Cells and juices are the only material for our speculations. The juices, known to be unhealthy with that tendency to hyperfibrinosis which is common to all pyrexia but is specially conspicuous in the acute rheumatic state, probably irritate and swell the intercellular channels and the cells which they permeate. The endothelial cells probably suffer most from the rheumatic malnutrition, perhaps even to the point of necrosis and disappearance. Local deposition of fibrin is the disastrous mode of repair which finally leads to fibrosis and crippling of the valve. Whilst the vascular membrane suffers in this way similar influences probably overtake the endothelia of the lymph-channels. These changes need further study; they may include swelling of endothelial cells, inspissations of lymph, and partial obstructions. We can judge only of their results in the shape of infiltration and swelling of the fibrous tissues. These two agencies respectively at work at the surface of the valves and in their thickness combine to bring about the well-known changes of valvulitis. From this simplified conception of the valvular lesion we may work back to the arthritic morbid processes and distinguish in them a mainly extravascular set of changes which in some varieties of arthritis are inveterate and refractory to our present methods of treatment, and the vaso-motor changes represented by the passing hyperæmic and fluxional swellings which so rapidly disappear in favourable cases under the influence of salicylates.

If these views be correct we may regard rheumatism as largely made up of a perverted metabolism and of its damaging effects upon the lymphatic structures, including in some cases the serous membranes, and, on the other hand, upon the vascular endothelium. The failure of salicylates to check the cardiac complication need not imply that the rheumatic process in the heart is different from that in the joints. The mechanical conditions alone differ. The joints can rest, but the heart and its valves never do. There is, however, another paramount determining factor, that of predisposition.

Endothelial vulnerability.—The frequency of zymotic or post-zymotic valvulitis and arthritis may bear the interpretation that in early life endothelial structures are singularly susceptible, particularly in those extravascular tissues which are exposed to much work, such as the membranes of the valves and the joint structures. Yet, since not in all children, but in a minority only, is the heart affected after measles or scarlet fever, and since most children also escape cardiac rheumatism, the endothelia of those who suffer may be regarded as specially vulnerable. This brings to mind the analogous liability, traceable through families, to the changes of atheroma. We are also reminded of individual differences noticeable in the skin, particularly in relation to eczema. Some skins develop eczema under the slightest provocation, others even under strong irritation are almost incapable of it. An analogous vulnerability of the endothelia, such as is seen also in phthisis, might explain some of the rheumatic events. The peri-articular rheumatic swellings and the inflammatory exudations occurring in situations where no blood-vessels are found and at the surface of serous membranes might possibly be viewed as the result of damage to a specially vulnerable lymphatic endothelium. To this might be partly due the œdema of the extra-vascular tissues of the valves, the surface lesions of which are lesions of the vascular endothelium. If this excessive vulnerability could be identified in its bearers at an early age the road might be paved to an efficient prophylaxis.

THE RHEUMATIC HEART COMPLICATIONS AND THEIR PROPHYLAXIS.

Whilst the recognition of fully-developed rheumatic fever presents no difficulty the same cannot be said of the minor and insidious forms of acute rheumatism. Leaving aside the list of pseudo-rheumatisms which includes various articular affections referable to toxic and to infectious agencies, variability in the localisation and in the degree of the lesions is a prominent feature of the rheumatic group. Any implication of the joints is readily ascertained, but the condition of the heart cannot in a large proportion of cases be determined with certainty. Though no murmur be audible it is impossible to prove the complete absence of some minor affection, the signs of which may develop only at a late stage. The researches of Dr. D. B. Lees and Dr. F. J. Poynton have raised our estimate of the frequency of rheumatic carditis and its results as distinct from simple valvular affection. Indeed, it is a safe rule to frame our treatment on the assumption that the heart is threatened in all rheumatic attacks. Its continued activity, not always restrained by a merciful immobilisation of acutely inflamed joints, is an abiding risk. Nevertheless, we have reason to believe that it is not in every case inflamed or strained beyond its normal holding. Judging from rough clinical standards and from the progress of cases the occurrence of pericarditis is the exception and that of myocarditis and dilatation is far from being the rule. Not only is valvulitis the prevailing danger, but, as pointed out by Dr. A. E. Sansom, valvular disease may often arise secondarily as a late result of changes which were originally myocardial.

Much importance attaches to the fact that from the severe arthritic attacks to the cases of febris rheumatica sine arthritide, again recently brought to notice by Dr. C. O. Hawthorne, cardiac lesions may accompany every form of arthritis, but their frequency and their degree are not proportionate to the degree of the joint affection or to the intensity of the rheumatic attack. As hinted above, acute immobilising arthritis is in some measure protective to the heart. Is it protective otherwise than in the measure of the mechanical rest afforded? Is the heart less safe when the articular effusion as well as the pain has been dispelled? This is a question with important therapeutical bearings.

The treatment by vesication.—The claims of the treatment by blistering, which was introduced long ago by Herbert Davies and recommended by Harkin, will be dwelt upon with special authority by Dr. R. Caton and a few brief remarks will serve the present purpose. The evidence which has been produced is too important to be lightly put aside. Knowing that blistering is harmless we may avail ourselves of any help it may give. Multiple blisters over the joints (Davies) or a large blister over the heart (Harkin) would have equal opportunities of influencing and curing the rheumatism if, as it was alleged by them, blistering is a cure. If this or any other treatment were found to safeguard the heart we should not hesitate to give up the exclusive use of salicylates; but for the mere relief of the arthritis blistering the joints, although efficacious, is now in most cases just as superfluous as the ice-bags which were applied to them long ago by Esmarch. Since the cardiac inflammations have not been prevented or suppressed by our internal medication they should not be denied any advantage such as that which præcordial blistering professes to confer. There are sufficient indications for a renewed inquiry in this direction both from a general therapeutical and from a sero-therapeutical aspect I have been struck by the circumstances that immunity from heart lesions often coincides with very free arthritic effusion and general acuteness of symptoms. Is this a guide for our treatment of those cases where, as in childhood, little or no articular effusion occurs? If so, prophylaxis might demand in predisposed subjects the application of blisters for the threatenings of an attack. The size and the frequency of application are practical points for discussion; and for the supporters of the infective theory of rheumatism there is the additional question whether there might be any advantage in the re absorption, from constantly recurring vesications, of systematic doses of a serum presumably endowed with anti-toxic properties, or whether the blisters should be treated by incision and allowed to act merely as revulsive, derivative, and counter irritant remedies.

---

[18] R. Caton, THE LANCET, August 17th, 1895, p 399 Cf. Edinburgh Medical Journal, 1899; also Transactions of the Clinical Society of London, March 9th, 1900.

THE GENERAL TREATMENT OF THE ACUTE ATTACK.

It were almost presumption to touch upon this subject in this assembly were we not all conscious that in spite of the predominant position taken by the salicylate treatment considerable divergence still obtains in our practice and a brief statement of views may be expected of me The keynote of the condition is general embarrassment of metabolism specially evidenced by the characteristic persistence of anorexia and failure of excretion. Chief and paramount is, therefore, the indication for free outlets, whilst supplies must be carefully measured. Purgation would seem to be the first and essential duty and it will be best carried out by remedies promoting the flow of bile It has been a question in my mind whether rheumatic arthritis could long co-exist with diarrhœa Extreme purgation could never be a suggestion of treatment, but no trivial consideration should interfere with a systematic and full relief of the bowel.

Remedies which promote the tendency to perspiration—and this is one of the recommendations of salicylates—are indicated in preference to those likely to check it. The need for diuresis is sufficiently manifest in the loaded condition of the urine and is usually met by the diuretic properties of our remedies and by an abundant supply of fluids These general measures efficiently carried out are a considerable portion of the cure, but the employment of special remedies should not be delayed. Probably the sodium salt of salicylic acid is the best to administer—though the strontium salt is favourably reported upon from America—and should be given in full doses. In the presence of albuminuria all salicylates should be strictly barred and we should rely upon a mild alkaline treatment Alkalines have appeared to me to be the most essential part in the treatment in all cases, and whether sodium salicylate be also administered or not I venture to think that they should never be omitted. The potassium salts are usually preferable to those of sodium, and for reasons which I have explained the potassium citrate may be largely or entirely substituted for the bicarbonate. Both the alkaline and the salicylate treatment should be continued with diminishing frequency of administration for two weeks after the cessation of joint symptoms, and the urine kept alkaline during convalescence partly through the agency of diet. As the salicylate is diminished quinine, which may be needed from the first, is added or increased. Absolute rest in bed for a fortnight or longer and a gradual return to activity are rigid rules. Blisters may be applied from the first as a prophylactic measure, and as a curative measure in all cardiac affections, and especially in pericarditis.

It is time that I should briefly refer to the iodides of sodium and potassium long in favour for the treatment of chronic rheumatism, also of undoubted service in the acute stage of rheumatoid arthritis and likely to be useful in some of the cases included in Group III. in the sub-variety, (*e*) of the symmetrical form of rheumatic arthritis when the skin is sufficiently tolerant But it is in the treatment of acute rheumatism that Dr. R Caton has brought forward strong evidence in favour of a specific action of the iodides, when combined with continued vesication over the chest, in preventing and in curing endocarditis They would seem to be specially recommended by the influence which they exercise upon the lymphatic system on the one hand and upon the blood on the other. I need not dwell upon the evidence of their power to facilitate the lymphatic flow which should be of service in removing the products of arthritis. A more important action may be exercised upon the blood.

Iodide of potassium has been largely prescribed with a view to the consolidation of aneurysms. I have prescribed it in considerable doses for considerable periods, but after continuous treatment extending over months the post-mortem examination has revealed no clotting within the sac. This *has led me to the conclusion that the tendency of* the iodide is to lower the coagulability in spite of the favouring influence of a diseased arterial surface and to expect good results in a disease where the absence of clotting is the great end to be secured.

The potassium salt would seem to be best suited to the acute form of the disease, but in the rheumatoid cases and in the rheumatic cases approaching to the type of rheumatoid arthritis the sodium salt probably would prove less depressant and, so far as my observations go, is sufficiently satisfactory in the result.

During convalescence iron is not tolerated unless associated with adequate purgation and alcohol is not needed in average cases.

Attention must be paid to the varied requirements of individual cases. The heart being concerned gastric inflation should be guarded against and relieved. A totally different treatment, so far as I have observed, is called for in the monarthritic acute rheumatic attacks.

THE LOCAL TREATMENT FOR ARTHRITIS AND THE CONSTITUTIONAL TREATMENT FOR RHEUMATISM: THEIR SEPARATE SPHERES AND THEIR COMBINATIONS.

Most of the acute rheumatisms are now treated exclusively by drugs. Sometimes drugs entirely fail and recovery is delayed until it is realised that the arthritis and not the rheumatism is the thing to treat. But other cases need a judicious combination. The proportion in which local treatment is needed may be roughly measured in individual cases upon that of the tendency to localisation, as I shall now endeavour to explain.

The treatment of acute monarthritis.—Here little of the internal treatment which has been described is appropriate except that relating to the *primæ viæ*. The primary indication is to treat the joint (by splint and bandage, elevation, leeches or preferably blisters, inunctions, and graduated pressure); and the next to support the patient in the direction where support is most needed Most often quinine or bark with nerve tonics and stomachics are indicated in addition to mild salines. A depressing treatment by salicylates and strong alkalies is worse than useless and its prolonged and unsuccessful trial often impairs the powers of recovery.

The treatment of the "acute rheumatoid" and of the "symmetrical rheumatic" attacks —As regards the necessity for local treatment the nearest approach to the monarthritic type is to be found in Group II., but the kind of local treatment needed may be totally different. As I have insisted elsewhere,[19] in harmony with Fuller's teaching many, though not all, of these inveterate or relapsing pyrexial cases, alike refractory to salicylate and to alkalies, are made worse by continued rest and are curable by movement and by a supporting treatment But the acute arthritic swelling needs first to be subdued by Esmarch's ice application or by ice massage. None of the anti rheumatic medicines or of the dietary restrictions are needed in these cases, the treatment of which cannot be given here in its full detail. This part of the subject would not be complete without a mention of the surgical treatment which has been advocated and practised by Dr. J. O'Conor of Buenos Ayres, but of which I have not had personal experience. Some cases in the same group have stronger rheumatic features and in that proportion may get relief from salicylates, though local treatment should not be neglected. But it is in Group III. that we find the chief variety of cases needing adjustment between the local and the constitutional treatment. Without attempting to enter into detail, instead of dealing with an unyielding attack by increasing and oppressive doses of salicylates we should trust to milder measures, those of internal hygiene and of diet, and to a saline treatment sufficiently alkalising to protect the heart, associated with quinine, nerve tonics, or stomachics, as each case will seem to suggest. The question of blistering the joints or the præcordium is one which should be earnestly considered in this set of cases The local measures may have to be tentative, like our medication, and may include leeching, ice massage, bandages, or even splints.

DIET.

Diet is the last part of my subject but by no means, in my estimation, the least important The conclusions which may venture to put forward are that rheumatism is in art a dietetic disease and that in the wide range of our ases the "feeding" plan needs to be represented as well as he "starving" plan. In rheumatic fever the diet cannot e too light. Nature refuses food and the state of the ongue forbids it; but plenty of water is needed to clear the way for food.

---

[19] Cf Medical Press and Circular, 1899

The source of the over-supply of lactic acid has been traced in our theories to the decomposition products of muscle and therefore meat and beef-teas have been gene- ally held detrimental, but the inability of some patients to manage milk diet has led me to question whether milk might not in them keep up the rheumatic tendency and become the ecurring supply of acid. There is evidence that fermentation s set up in the stomach as well as on the tongue and this s another source of dilatation of the stomach to which I would call special attention. I have arrived at the conclusion that administering a small quantity of salt (15 grains to the half-pint) or adding it to the milk is an important indication in all cases of exclusive milk diet and usually renders its previously difficult digestion easy. This is also an indication in dyspeptic infants who are sometimes supposed to be intolerant of milk.

I am glad to find in Dr. Burney Yeo's "Manual of Medical Treatment" that he has recommended a salted alkaline milk drink in acute rheumatism. Clinical observation has, however, suggested to me another line of diet, the further trial of which I may safely invite. A temporary vegetarian diet seems to be as much indicated by the rheumatic state as the avoidance of animal food, and in refractory cases it is possible that the administration of soups made of a variety of vegetables such as I am now prescribing at St. George's Hospital supply the food as well as in part the medicine required. Whilst meat renders urine acid, vegetables render it alkaline, and this is the result at which we aim.

I have reached the end of this cursory sketch of an almost unlimited subject. The points for elucidation are many but they may be grouped under few heads and these have been sufficiently indicated. The main questions which I submit for your discussion are: How shall we prevent rheumatism? and, How shall we put a stop to the rheumatic heart evil?

SOME REMARKS ON EXTERNAL URETHROTOMY.

By REGINALD HARRISON, F.R.C.S.ENG.,

SURGEON TO ST. PETER'S HOSPITAL.

THE *examination in the out-patient room of a patient who* was operated upon for stricture by external urethrotomy over a year ago gives me an opportunity of referring to some points connected with this operation to which I attach importance. The case may be taken as a typical one of its kind, of the details of the operation employed, and of the results to be aimed at.

This patient was a man, aged 47 years, who had suffered from stricture of the deep urethra for several years. He had been treated by various methods of dilatation but with no permanent benefit and attacks of retention, hæmorrhage, and cystitis had been frequent complications. At the end of 1898 I took him into hospital and performed an external urethrotomy in the following manner. As the stricture would only receive a filiform guide an internal urethrotomy was first performed with Maisonneuve's instrument. Then a full-sized grooved staff was passed into the bladder to complete a perineal section. Exploration with the finger from the perineal wound enabled me to detect some stricture fibres which had escaped the internal urethrotomy and these were divided with a probe-pointed bistoury. Then I could pass my finger readily into the bladder and forwards along the urethra towards the external meatus, thus showing that the constriction had been completely removed. A full-sized gum elastic bladder drainage-tube was passed into the bladder and secured. For the latter a flexible rubber one was substituted on the fifth day and after 16 days' drainage and irrigation so as to keep the divided stricture thoroughly cleansed the wound was allowed to close and the patient left the hospital after a stay of three weeks. During the after-treatment the distal portion of the urethra was washed out and kept clean by syringing from the external meatus and so out by the wound. He was instructed to use a full-sized bougie and to report himself from time to time, but as he remained well he did neither. Fancying, however, after a recent attack of influenza, that there was something wrong with his urine he came to see me. There was nothing amiss with the urine beyond an excess of urates, and I was able to pass a series of bougies of No. 10 (English) to No 15 (French 26) easily and without pain. I usually select Maisonneuve's instrument in these cases for the preliminary internal urethrotomy, as it will enter any stricture, however narrow, without any preceeding dilatation, by means of its filiform guide. Some prefer a urethrotome which divides the stricture from behind forwards, but I do not think this makes the least matter *so long as* the end of the instrument is fairly within the bladder. The kind of drainage tube referred to is made in different lengths and sizes in gum-elastic to fit the wound and deep urethra and bladder with as much accuracy as a tracheotomy tube fits a windpipe. From the day when it is inserted it commences to mould the repairing urethra to the dimensions required. It is readily used or temporarily removed for the purposes of irrigation and cleanliness, and when any slight risk of bleeding or oozing which might require side-packing is over its place is taken by a soft rubber tube with depressed openings of similar dimensions. Thus cicatrisation proceeds up to the time of its final removal. I first had these tubes made for me in the days when lateral and median lithotomy were common operations. On several occasions when there was oozing or free bleeding which could not be readily stopped I inserted one of the largest of these tubes, of about the dimensions of an average thumb, and closed in the incision around it firmly with sutures. This invariably arrested the bleeding, whilst the flow of urine remained uninterrupted and the patient was readily kept quite dry. This is the most effectual and convenient way of arresting bleeding in this class of operations.

I might have added further illustrations in correspondence with the case I have related where patients have been under observation for long periods, but after what I have already written elsewhere[1] this is hardly necessary.

External urethrotomy seems specially applicable to the following classes of cases.

1. To resilient and rapidly contractile strictures in the deep urethra, which, like burn-scars, are unamenable to stretching or dilatation and where a splice or an interval of new tissue is required within the circumference of the contraction. It was in this class of cases where dilatation had failed or recurrence had occurred that Syme first demonstrated the permanent advantages of this operation.

2. In cases where the wound made by an internal urethrotome is out of proportion to the natural drainage possibilities of the urethra A wound may be so constructed within this canal as to never drain completely either in regard to urine or to its own discharges. The result is much the same in these circumstances as what follows accidental lacerations of the urethra. Some years ago I demonstrated in a considerable number of cases that partial ruptures of the urethra from violence, when treated promptly by perineal section and drainage, were no more liable to be followed by traumatic strictures than either a median or lateral cystotomy for stone. I was led to draw this conclusion and to apply it in practice by noticing that it was the slighter cases of ruptured urethra either not treated at all or by the retention of a catheter which were followed by the most dense and contractile forms of traumatic stricture, whereas the severer cases, where the rupture was so extensive or so complete as to render the introduction of the latter instrument impossible and to necessitate a perineal section with bladder drainage, did the best and were much less liable to the subsequent formation of a stricture at the site of the wound. Surgical cleanliness and drainage were evidently important items in the prevention of the latter. In dealing with any lesion of the urethra, made either accidentally or surgically, we must feel fairly sure that the unaided efforts of the wounded canal are sufficient to furnish adequate drainage, otherwise this should be artificially supplied. It is reasonable to infer from these observations that in the larger proportion of cases where internal urethrotomy gives excellent results the operation precisely fulfils the required conditions—namely, the complete division of the stricture by a wound which the urethra itself is capable of draining. It is no doubt possible in

---

[1] Surgical Disorders of the Urinary Organs, fourth edition, 1893

some instances where considerable wounds are made within the urethra to supply the necessary drainage by the retention of a catheter for some days after the operation This expedient, however, often breaks down, as in the case of accidental injuries, and is not so reliable or cleanly as the external incision and drain tube These provide alike for the urine as well as for the discharges of a wound, which can only be imperfectly placed under antiseptic influences

3 In cases of stricture complicated with urinary fistula and sinuses The division of the stricture from without and the formation of a single opening for urine drainage communicating directly with the bladder often leads to a speedy recovery in these instances

4 In cases of stricture with extravasation of urine The division of the former with direct drainage of the urine from the bladder as well as from the surrounding tissues is a matter for separate consideration

5 In some rare cases of wounds connected with the treatment of stricture which are rapidly followed by acute symptoms of impending death I had occasion to perform Holt's operation for a man with a chronic stricture The operation was apparently safely accomplished Some six ounces of urine were voluntarily passed 12 hours afterwards, when the patient had a severe rigor and was much collapsed With the exception of a few drachms no more urine was passed, and 24 hours after the operation a second rigor occurred with a temperature of 105° F Acting upon the opinion which I had formed that this patient was poisoned by something that was being absorbed through the urethral wound and that another dose would probably kill him outright I performed an external urethrotomy and put a large drainage tube into the bladder The patient had no further rigor, free excretion of urine followed, and he made a good recovery I am sure the latter was entirely due to the course that was adopted Another instance of acute suppression of urine which I saw in consultation under somewhat similar circumstances was dealt with in the same way equally satisfactorily Had death occurred in either of these cases, as seemed probable, there was no reason to believe that renal disease would have been discovered other than the congestion which is invariably found in instances of this kind and which is probably directly due to the poison that is absorbed

The points to which I attach importance in the operation of external urethrotomy are these (1) the use of a guide, (2) the utility of internal urethrotomy as an immediate preliminary to the external operation, and (3) the more efficient provision for urine and wound drainage

1 External urethrotomy when performed without a guide, so far as the stricture is concerned, is seldom anything else than a difficult, a dangerous, and an incomplete operation Fortunately, now it may be said that there is little or no necessity for making an attempt under such adverse circumstances So long as the canal is capable of transmitting urine even in minute quantities there is evidence as to its permeability, or, as Syme put it, "if the urine is permitted to pass no matter in how small a stream, there must be room for the introduction of an instrument provided it is sufficiently small and properly guided," An impervious stricture necessarily means the presence of a urinary fistula behind the point of obstruction If such conclusions could have been formulated in Syme's time how much more are they applicable now when we consider the great improvements that have taken place in all kinds of instruments used for this purpose But cases do occur, though much more rarely than formerly, where it is found impossible by reason of the character of the stricture to enter the bladder with a urethrotomy guide or ordinary staff Wheelhouse's method of dealing with an impassable stricture, though affording conclusive evidence of the permeability of all strictures not complicated with a urinary fistula will be found to furnish a solution to the difficulty Thus an external urethrotomy may be completed as perfectly as if an ordinary grooved staff were used Hence it may be concluded that no case of external urethrotomy for stricture should now be undertaken without the assistance of a guide, otherwise the chance of success is extremely remote The restoration of a structurally occluded urethra where the whole of the urine escapes through a fistula is another matter and will require separate consideration

2 The utility of an internal urethrotomy as an immediate preliminary to the external operation is shown by the ease and completeness with which the latter can be carried out or a larger staff than could otherwise be used

3 The necessity for providing the most efficient and cleanly kind of urine and wound drainage in connexion with external urethrotomy for stricture is apparent from what has been advanced The entire character of the tissue by which the stricture is repaired after it has been divided either in external or internal urethrotomy may be importantly determined by the nature and duration of the drainage and irrigation that is employed I am not aware that the influence of the latter on scar tissue which forms after lesions of the urine passages has ever been adequately considered from this standpoint I am glad to find that "the remote effects of surgical lesions of the urethra (*interventions sanglantes*)" have been selected for discussion at the Paris International Congress this year in the Surgical Section presided over by Professor Guyon, reports on this subject having been officially invited from Professor Albarran (Paris), Professor Marnochess (Odessa), and myself

In presenting these observations my objects are (1) to simplify, and to render more effectual the operations of urethrotomy, and (2) to substitute the least contractile and most pliable form of cicatrix or cicatricial interval for the original stricture

Lower Berkeley street W

THE MEDICAL EXAMINATION OF PERSONAL INJURY CLAIMS

BY ALBERT BENTHALL, F R C P EDIN, &C

OFTEN in the various phases of life there are questions which for a time do not come to the surface—questions which, though important to individuals or even to the body politic, do not appeal to the masses and yet are questions which eventually in the progression of an advancing civilisation have to be considered and answered

Twenty five years ago accident insurance companies were in their infancy, and the general public, although protected by the common law against accident occurring through the negligence or default of others, yet had not attained to the perception of its rights Since the advent of the school boards and the advance of general education with the increased knowledge and sharp wittedness of the population the individual members of the public have come to a full perception of their powers of claiming for disability, and a certain section have even advanced to a very exaggerated notion of the damages that may be obtained as compensation for the most trivial accidental injury The general public even if not employers are now liable to be shot at by all sorts of exaggerated if not bogus, claims, and although the wisest way for all of us is to insure, yet it must be remembered that the reasonable settlement of *bonâ fide* claims is of interest to everybody, inasmuch that large settlements are not only injurious to the individuals having to pay them, but must increase the rates of insurance to those who are provident enough to insure Thus the settlement of personal injury claims assumes an importance which it has never done in the past, and is now a question which has come to the surface and must be faced in the interest of all who are in the position of those who "have" in contradistinction to those who "have not"

To give some slight idea of the enormous number of accidents occurring in our midst which produce personal injury I may mention that in 1898 in London alone 9865 persons were injured by accident, of whom 145 died, that in the same year 16 091 persons were injured by railway accidents of whom 1269 died, and that the Ocean Accident and Guarantee Corporation in the mere working of its employers indemnity department in the 18 months from July 1st 1898—when the Workmen's Compensation Act of 1897 came into force—had to deal with 60 000 injured persons and over 1000 fatal claims

It is not a question of the masses against the classes for the masses have money, or money's worth in their labour and no one individual of the masses is safe from expense and even ruin, if a claim is made against him for accidental injury through his negligence or want of reasonable care This being the case it will be to the general good if claims can be investigated and settled with the least possible expense and trouble to the parties concerned. This I have no doubt will be admitted by everyone, but as to the obtainment of this "consummation devoutly to be wish'd" there are many points in dispute, for the dead past is in conflict with the living present.

In the days now past to which I have alluded, the general public was but little affected by claims for personal injury and the great railway companies were practically the only bodies who habitually employed medical men to examine and report, and these medical men were not asked to do anything further; thus it came to be generally accepted by the profession, that the duty of a medical examiner was simply to report on the medical aspect of the claim which he was asked to examine and that all questions of settlement or assessment of damages were outside his province. In these days, however, everyone shot at by a claimant alleging personal injury has not the millions of a railway company at his back, and it has become absolutely necessary that these claims should be examined, assessed, and if possible settled on the lowest possible terms and with the least possible expenditure in expenses. To effect this the cumbrous procedure of sending every claim to a firm of solicitors, who would in due course instruct a medical man to report, upon which the matter would be considered and the client advised, and after days or weeks of delay an attempt to settle be made, has had to be given up. Up-to-date insurance societies, firms, and even railway companies who are not fossilised in their methods, are now dividing their claims into two categories, immediately after receipt and inquiry—*contentious* and *non-contentious*. The former claims are sent as before to solicitors, and the latter, in which liability is absolutely clear, are sent to a medical man with instructions to examine and if the injuries are *bonâ fide* to assess and to settle in consultation with the medical attendants of the claimants. This procedure is of the greatest advantage to all parties; the claimant gets promptly, money which is very often urgently needed, and he also gets an absolutely fair assessment of his possible length of disability from his own medical man, while the firm claimed on for its share of advantage gets a fair instead of an exaggerated assessment, and a total absence of all legal costs which sometimes in cases which are allowed to run on, even where there is no question of law, amount to more than the original claim. In spite, however, of the obvious advantages of assessment and amicable settlement of personal injury claims by medical men, still it is sometimes said that the majority of medical men have not fitted themselves for the requisite attention to business principles and the minor legal questions which must crop up in these negotiations; and there is some truth in this, but an increasingly large number of medical men are quite capable of dealing with any business matter and many are well versed in the law as affecting these claims, even when they have not qualified themselves as barristers-at-law or as solicitors, and the object of this paper is to call the attention of our younger medical men to the fact that in the future medical men will be increasingly called upon to deal with these matters, and that therefore they should become conversant with the common law, the Carriers' Acts, the Employers' Liability Act, and the Workmen's Compensation Act, and the decisions governing them, and also that they should take care to train themselves in strict business habits.

Having devoted my time for many years almost exclusively to the examination of personal injury claims under the various Acts under which they can be made, it may not be considered out of place if I venture to state some of the principles which, in my opinion, should control the action of medical men in carrying out the further duties which the time and the age are casting on their shoulders. Although some of these will be mere obvious axioms to the members of the honourable profession which I am privileged to address through the influential columns of THE LANCET, yet I do not omit them as it might perchance be thought that I had not borne them in mind or considered them of the first importance.

The medical examiner should approach the consideration of each claim with a strong sense of absolute impartiality and fairness and he should never allow any discourtesy or even rudeness on the part of an illiterate or vulgar claimant to have any effect upon his mind or opinion, or to produce the slightest deviation from a demeanour of studied courtesy and sympathy.

I would especially call the attention of young medical men to the danger of either magnifying or minimising the effects of personal injury in a medical report—it must be remembered that on the medical report the question of settlement or of an action at law frequently depends, and that if the latter is decided on, every medical point or opinion given in the original medical report will have to stand the test of cross-examination in the witness-box. It is not only most humiliating and distasteful to be humbled in court, but it is fatal to the medical witness's chance of future employment.

He should, even in the most exaggerated claims, show no feeling or allow his temper to be in the slightest degree ruffled. He should always examine the claimant in the presence of his medical attendant and he should be studiously careful not to give pain in any tactual manipulation, as nothing will be more likely to make a claimant obstinate and angry than any suggestion of roughness in the demeanour of the medical examiner. All dressings, splints, or bandages should be removed and replaced by the usual medical attendant, and this for obvious reasons: first, because the examiner has no right to interfere with or influence the treatment, and, secondly, because if he should do so the claimant will have the power of alleging that the action of the examiner has retarded his recovery and thus increased his claim for compensation. The medical attendant should be treated with the greatest courtesy and consideration and nothing should be said in the presence of the patient likely to give the least offence; at the private consultation afterwards much may be said tactfully without causing the least friction.

All appointments and negotiations should go through the attending medical man or also through the solicitor where a solicitor has been instructed by the claimant; in this latter case an amicable and advantageous settlement can usually be obtained at a consultation at which the claimant's solicitor is present. I cannot sufficiently express my opinion that on no consideration should a medical examiner in any way even appear to go behind the back of the medical man attending or of a solicitor acting for the claimant—it is not only unprofessional, but any such attempt will recoil with tenfold force not only on the medical examiner, but on the firm for which he acts. Sometimes medical men are asked to examine and to arrange a settlement and are not informed that a solicitor has been consulted. I think the medical attendant should always be asked as to whether a solicitor has been instructed—as a settlement arrived at with great trouble may be upset and the matter reopened if a solicitor is ignored.

In such a complex civilisation as ours opinions must at times differ, even between professional men of standing and experience, but the more medical men I meet in consultation the more I am convinced that consideration and tact, careful examination of views opposed to one's own, with equally careful exposition of the reasons on which a conclusion has been arrived at, will clear away difficulties and produce a near approach to, if not an actual, harmony of view, and this is most desirable, for nothing gives so much occasion for the laity to scoff at professional opinion as the unfortunate disagreement on questions of fact which is sometimes apparent in the law courts.

The examiner's opinion should be held firmly, but it should be based on the solid foundation of fact and pure reason, and when this is the case it is soon felt that it is useless to oppose it.

In conclusion, I should like it to be emphasised that the medical profession cannot be enlisted for the purpose of making sharp settlements. Such an attempt would justly lead to strong remonstrance, but the profession by its position can legitimately and rightly be engaged by the public in the fair and impartial assessment of claims for personal injury where liability has to be admitted and there is no legal question except the amount which the claimants are entitled to under the Acts under which they claim. By courtesy and tact such claims can be settled by the medical attendant and the medical examiner meeting in consultation, to the mutual benefit of the claimant and the person claimed upon, and I feel sure that our profession, which is always so entirely at the service of the public, will in this matter uphold its honourable name and gain even more goodwill from those who depend upon its skill and impartiality.

Cockspur-street, S.W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

UNUSUAL ENDING OF A CASE OF EMPYEMA

BY JOHN CROPPER, M A , M B , B C CANTAB ,

LATE OF ACRE, PALESTINE,

THE following case is interesting from its rarity On Oct 20th, 1898, an Arab boy, three years of age, living in Acre, was brought to me by Dr Doukakis of that place with a history of illness of 19 days duration, the symptoms pointing to empyema of the right side of the chest On examination I found amongst other symptoms some bulging of the right side of the chest, together with absolute dulness of the lung below the level of the fifth rib, and the diagnosis was at once confirmed by exploration in the eighth intercostal space, where pus was found I therefore decided to open the chest next day and the parents consented to return with the child On bringing him to the hospital, however, the mother volunteered the statement that during the night a large quantity of pus had been passed by the bowel, and the truth of this was shown by the fact that the most prominent symptoms of empyema had disappeared, the right chest being resonant in its whole extent However, having confirmed the diagnosis the day previously, I held a consultation with Mr W H Anderson of Safed and decided to open the chest, the patient being in fairly good condition With the help of Mr Anderson, therefore, who administered chloroform, the chest was opened and one inch of the seventh rib was excised a little behind the mid-axillary line The point of exit of the pus could not be found with the probe and no long search was made A drainage-tube with flange was inserted after a small amount of pus had been evacuated and the patient was sent back to bed At the first dressing we found a little food on the gauze used and subsequently, though the pus decreased in amount, there was an abundance of clear, colourless, watery fluid, evidently gastric juice, with a few clots of milk on the dressings On Oct 24th, on illuminating the pleural cavity, watery fluid could be seen to be slowly oozing from the direction of the stomach, and from this time all food continued to come through to the dressings, and as it was found impossible to prevent this the patient got gradually worse He was taken home by his parents and died two days later It was of no use to ask for a post-mortem examination, this being invariably refused, for the moment death has occurred the house is always filled by relatives and friends who come to shriek over the body

Though empyemata are stated to burst in various directions internally I have not been able to find an account of one opening into the stomach (or duodenum), which evidently took place in this case Probably the operation made no difference to the result of the case, but doubtless it was put down as the cause of death by the parents who were Moslems Nutrient enemata were suggested and tried, but without effect as they were not retained Seeing that the child had had food on the day that he was brought to me there seemed no great reason for haste in opening the chest

Chepstow

A LOOSE FOREIGN BODY IN A HYDROCELE SAC

BY J R BENSON, F R C S ENG ,

LATE SURGICAL REGISTRAR KING'S COLLEGE HOSPITAL.

A BOY, 14 years of age was brought to me on Feb 1st, 1900, complaining of a lump in the left scrotum He was a healthy boy, but had hitherto been unable to join in ordinary games on account of the swelling, the sense of weight, and the fear of further injury to the left testicle The swelling had never been larger than it then was nor had the patient observed any variation in size He had consulted several medical men in London and Plymouth and had had fluid drawn out on three occasions Although this operation gave him relief his condition soon became as bad as ever Upon examination a hydrocele of about the size of a golf ball could be detected It affected the cord only and was quite free of the coverings of the testicle The testicle felt normal Owing to the flaccidity of the tumour and the rapidity of its return after operation I concluded that there was some communication with the general peritoneal cavity, although no impulse could be felt on coughing, nor did prolonged pressure bring about any reduction in its size or decrease in tension I advised complete removal of the sac and took the patient into my house for the performance of the operation A curved incision was made over the external ring and the cord and the testicle were drawn out of this incision The coverings of the sac were stripped off and the sac itself was freed from connexion with the cord The small fibrous band connecting it with the testicle was ligatured and tied The funicular process was not completely obliterated above, so I ligatured this neck in two places and cut between them and so removed the cyst unbroken The upper part of the funicular process communicated with the abdominal cavity by a long and very small canal, through which a fine probe could with difficulty be passed This process was treated as an ordinary hernial sac A stitch was passed so as to reduce the size of the opening in the abdominal parietes and the skin wound was closed The patient made an uninterrupted recovery, the dressings being left off on the eighth day

On examining the removed cyst a body of about the size and shape of an almond could be seen by transmitted light moving about freely within it The sac was opened and about an ounce or more of quite clear fluid escaped The foreign body proved to be a small mass of hard fatty tissue The outer part was somewhat looser in texture, very uneven and somewhat nodular The central part was more dense and fibrous—in some places almost cartilaginous There was no sign anywhere of its having been recently attached How did it get there? It may probably have been a detached piece of an appendix epiploica but if so it must have been very small when it got through the minute canal leading to the sac I could not find any history of the hydrocele having at any time been freely connected with the abdomen—in fact, it came very gradually and was first noticed below and only attained its present size within the last year or eighteen months Of course, it may have arisen from a little clot of fibrin after one of the previous tapping operations I have never seen a case before, though I find that Rose and Carless in their recent work make some mention of similar bodies in the hernial sacs The specimen which was a very perfect one, was, I am sorry to say, thrown away by accident after I had completed my examination

Bath

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere et inter se comparare —MORGAGNI *De Sed. et Caus Morb*, lib. iv Procemium

UNIVERSITY COLLEGE HOSPITAL

A CASE OF TRAUMATIC ENOPHTHALMOS

(Under the care of Mr PERCY FLEMMING)

A GIRL, aged 12 years attended at the eye department of University College Hospital on Dec 13th, 1899, with the history that two months previously she had been knocked down by a cart She was carried home, though she thinks she could have walked There was a wound on the left eyebrow and the eyelid and face were much swollen on that side The wound was stitched and the eye was bandaged There was also some bleeding from the nose When the eye was uncovered three days later, the child at once complained that she saw double, and the mother noticed that the eye was sunken Dr W W Hodgins, who treated the case at that time states that the wound healed by first intention and that at no time was there any sign of orbital cellulitis

The patient was taken to the hospital later on account of the diplopia.

The present state of the patient is as follows There is a linear scar about one and a half inches long extending inwards from the left external angular process of the frontal bone parallel with and just above the orbital margin. It is not adherent to the bone or puckered. The left eye is sunken, having much the appearance of an artificial eye. The left palpebral aperture measures nine millimetres in its widest part, while on the right side the measurement is 14 millimetres. The eye can be moved freely in all directions except downwards. The left pupil measures five millimetres, does not react to light, but reacts readily to accommodation. Cocaine causes a slight increase in the size of the left pupil, but no widening of the fissure. The right pupil measures 7 5 millimetres and reacts normally to light and to accommodation. The vision in each eye is $\frac{6}{6}$ and J. 1. There is crossed diplopia in the lower part of the field increasing in the downward direction, the vertical displacement being most marked when the patient looks downwards and to the left; the lower image belongs to the left eye. Tactile sensation over the lids, side of the nose, face, and conjunctiva is normal. While the patient was being tested for tactile sensibility she stated that some days after the accident she had noticed that the left side of the nose and face was numbed, and that she did not have any sensation when she touched the skin of those parts. The general condition of the child is very good and she seems to be in no way the worse for the accident with the exception of the eye symptoms. There are no signs of injury anywhere else than in the orbit.

Remarks by MR. PERCY FLEMMING.—Cases of enophthalmos fall mainly into two groups—the traumatic and the non-traumatic. Excluding more rare cases in which the eyeballs appear to sink in the orbit as the result of some rapidly exhausting illness such as cholera, the non-traumatic cases appear to be due to some lesion of the sympathetic fibres which supply the involuntary muscle in the lids and orbit, the enophthalmos being associated with a small pupil and a narrowed palpebral fissure. These fibres may be interrupted in different parts of their course. Thus the cord of the cervical sympathetic may be affected and Nicati records a case of retraction of the eyeball with myosis and ptosis associated with hypertrophy of the thyroid. Secondly, they may be affected as they leave the spinal cord. Experimentally enophthalmos has been produced by section of the eighth cervical and first dorsal nerve roots, and clinically cases of lesion involving the brachial plexus have been recorded associated with ptosis and myosis on the same side, though enophthalmos does not seem to have been observed, but a case was reported in THE LANCET of March 10th, 1900, p. 692, in which the brachial plexus was torn, and there was slight enophthalmos on the affected side with some narrowing of the palpebral fissure. Further, the path may be interrupted within the spinal cord by localised lesions such as are found in progressive muscular atrophy and syringomyelia, and although enophthalmos does not seem to have been noted in these conditions, yet the fact that myosis and ptosis have been observed makes it probable that a certain amount of recession of the globe may be present if looked for. In another group of non-traumatic cases the enophthalmos occurs in association with some affection of the fifth nerve. Thus a case has been recorded of morphœa[1] in the territory of the fifth nerve with enophthalmos and another in which the fifth nerve was involved in a pontine lesion,[2] and the condition is found, too, in cases of facial hemiatrophy. Another group of cases contains those in which the sunken eyeball becomes prominent when the patient stoops or when the internal jugular vein is compressed. Such cases have been explained as due to a vascular growth in the orbit, causing absorption of orbital fat, the vessels of the growth becoming engorged on stooping. In some of the cases in this group there is a history of preceding injury.

Several cases of enophthalmos following directly on injury have now been recorded. Various explanations have been offered and it is not likely that the pathology is the same in all cases. In some the cause is a definite injury of the sympathetic nerve. Thus a case is reported by Jacobsohn[3] of enophthalmos with ptosis and myosis after opening and scraping an abscess in the neck—the pupil in this case did not react to cocaine and only dilated slightly when the eye was shaded. Schrapinger records a case coming on two hours after an injury to the temple in which the condition of enophthalmos had disappeared completely in two days, and argues from the transitory nature of the symptoms that the lesion must be situated in the sympathetic, possibly, as he suggests, a hæmorrhage into the sympathetic root of the ciliary ganglion. In a second group of cases the explanation is to be sought for in a depressed fracture of the orbital wall, by which the cavity is enlarged and the globe sinks in as a consequence of atmospheric pressure. Lang,[4] in suggesting this explanation, referred to two extreme cases in which, as the result of an injury by a cow's horn, the eyeball was driven into the maxillary antrum. Fuchs[5] records a case of left-sided enophthalmos following an injury by a stag, in which there were paralysis of the left inferior oblique muscle and a small pupil, and he thinks that it is to be explained as a result of a fracture. Neulen[6] records another case which he considers to be due to a fracture, as the lower orbital margin showed a deep depression. A third explanation suggested for these traumatic cases is that the enophthalmos is due to an orbital cellulitis, the result of a penetrating injury—this acting either by causing direct traction on the globe as the inflammatory exudation contracts, or by causing a shrinkage in the orbital fat and in consequence an increase in the size of the orbital cavity with backward displacement of the globe as in the fracture cases. It is obvious that in any one case two or more of these factors may be combined; thus fracture may be associated with cellulitis and direct damage to the muscles as in a case reported by Löw,[7] and Beer has suggested that the orbital tissue may atrophy in consequence of a lesion of the fifth or sympathetic nerve. The diplopia in these cases may be ascribed to damage to one particular muscle as in Fuchs's case, and probably in the present one, or to interference with the proper movements of the globe as a result of the cellulitis; or again, it may be a mechanical result of the misplaced eyeball.

In the present case it seems quite possible from the completeness of the history to exclude an orbital cellulitis as the cause. And, on the other hand, the occurrence of epistaxis, the history of numbness over the cheek and nose, and the implication of the inferior rectus muscle are all suggestive of a fracture involving the floor of the orbit. It is difficult to explain the condition of the pupil; the myosis may possibly be due to some damage to the sympathetic in the orbit, but the reaction to cocaine shows that such damage cannot have completely destroyed the nerve.

ROTHERHAM HOSPITAL.

A CASE OF MENINGITIS FOLLOWING ENUCLEATION OF THE EYEBALL.

(Under the care of MR. F. B. JUDGE BALDWIN.)

MENINGITIS may arise in one of two ways from suppuration in the eyeball or in the orbital contents. The sepsis may spread through the lymphatic spaces which are well marked in the orbit or it may pass along one or more of the numerous branches of the ophthalmic veins. In the latter case a septic thrombosis of the cavernous sinus usually occurs. This dangerous complication of a wound of the eyeball is exceedingly rare at the present time, but even before the introduction of antiseptics it was not common. Mr. Nettleship in 1886 collected[1] 35 cases of meningitis following excision and those were all that had been recorded up to that date. For the notes of the case we are indebted to Dr. *J. Sackville Martin, house surgeon.*

The patient, a man aged 31 years, worked at a waggon builders and on Jan. 25th, 1900, he was standing about ten yards away from a running belt. A small brass clip, used to keep the belt in position, was detached and flew across striking him on the right eye. He was sent to Rotherham Hospital and was admitted. There was a Y-shaped wound in the cornea, the fork being uppermost. The iris was prolapsed and there was loss of aqueous. The prolapsed iris was removed. The eye was bathed with a solution of chinosol and a drop of atropine was put in. During the next three or four days the eye became inflamed. The conjunctiva was reddened and chemosed. On Jan. 30th there was a little pus between the edges of the corneal wound and a small amount was diffused in the anterior chamber. As far as could be seen the vitreous was quite clear.

---

[1] Collins, Brit. Med. Jour., 1899, vol ii., p 846 (reference to other cases given)

[2] Ibid

[3] Neurologische Centralblatt, No 5, 1895.

[4] Transactions of the Ophthalmological Society, vol. ix., p. 44.

[5] Wiener Klinische Wochenschrift, 1893, p 184

[6] Inaugural dissertation referred to in Neurologie des Auges

[7] Ibid

[1] Transactions of the Ophthalmological Society of the United Kingdom, vol. vi

On account of the severe headache suffered by the patient, as well as on considerations relating to sympathetic ophthalmia, it was decided to remove the eye. The danger of meningitis was considered and discounted as the suppuration present was so small in amount and so limited in its area. With Mr. Baldwin's consent, Dr. Martin removed the eye. The globe came out easily save at the last moment, when cutting the optic nerve the corneal wound gaped and the vitreous escaped. The vitreous was quite clear and examination of the posterior chamber showed no signs of suppuration. All antiseptic precautions had been taken. The instruments were sterilised in absolute alcohol and the socket was well douched with 1 in 1000 biniodide of mercury and dusted with iodoform.

On the morning of the day after the operation the patient was well and cheerful. Dr. Martin dressed the eye which was looking well. In the afternoon the ward sister noticed that the patient looked strange and was inclined to be restless. He shivered at times but had no definite rigor. At 4 45 P.M. the temperature was taken and was found to be 103° F. Dr. Martin saw him about 7 P.M. and he was then unconscious and could not be roused. He lay on his left side with the limbs flexed and rigid. He was sweating profusely and from time to time he put his hand to the back of his neck. At 9 P.M. he was still unconscious. The temperature was 104° and the pulse was soft and numbered 60. The pupil of the left eye was small and reacted sluggishly to light. He still perspired. There was no vomiting. From time to time he scratched the bedclothes with his fingers, using his hand like a claw. The respirations were 40. He remained unconscious all the night At 8 A.M. he answered to his name and complained of headache. He soon relapsed into unconsciousness, which continued all that day (Feb. 2nd), and he died on the 3rd at 3 30 A.M.

Necropsy.—On post-mortem examination the tissues of the stump were seen to be healthy and though the prolongation of the membranes was carefully dissected off the optic nerve no signs of suppuration could be found there. A layer of yellow pus lay along the right optic tract under the arachnoid. Pus was also found on the under surface of the pons and cerebellum and on the outer and inner surfaces of the hemispheres of the brain, being most abundant over the frontal and parietal areas on the right side. All the membranes were deeply congested, as was also the cortex of the brain. There were numerous puncta cruenta.

Remarks by Dr. MARTIN.—The above complication of enucleation of the globe is fortunately rare. When it does occur its results are so disastrous that no apology is needed [illegible]ng such a case before the readers of THE LANCET. [illegible]ty of such an occurrence should always be kept [illegible] The lesson to be learned from this case would [illegible]e the necessity for extreme caution in enucleating [illegible]hich there is any evidence of active suppuration [illegible]w slight its amount. An eye as severely injured [illegible]vas should have been enucleated at once, and this [illegible]e been done had it been possible to have obtained [illegible]tient's consent. In the light of the experience [illegible]ned in this case it would have been preferable to have [illegible]owed the eye to pass through a condition of panophthalmitis to phthisis bulbi, when it could then have been removed with less danger. The case is a painful one, but its instructive value is so high that I have no hesitation in recording it. I am indebted to the kindness of Mr. Baldwin under whose care the case was for permission to do so.

A LARGE BEQUEST TO LONDON HOSPITALS.—Four London hospitals will benefit by a sum estimated at between £300,000 and £400,000 under the will of the late Professor David Edward Hughes, F R S. The first trustees of the "David E. Hughes Hospital Trust Fund" are to be the treasurers of Middlesex Hospital, London Hospital, King's College Hospital, and Charing Cross Hospital, who are to retain the capital of the fund under certain conditions. The will expresses the wish that after a period of 21 years the four hospitals will add to their respective funds as capital one-third of their income from Professor Hughes' bequest.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Skin Affections in Bright's Disease.

A MEETING of this society was held on March 13th, Dr. F. W. PAVY, the President, being in the chair.

Dr. HUGH THURSFIELD read a paper on the Skin Affections met with in Bright's Disease. After carefully comparing the accounts of all the writers whom he had been able to consult he suggested the following classification: 1. The affections which characterised the early stages of renal disease: pruritus, urticaria, and eczema. 2. Those which occurred in the final stage and in uræmic conditions: the universal erythematous, bullous, or desquamative eruptions. 3. Purpura and other hæmorrhagic eruptions. 4. Those affections which were seen only with marked œdema and which were in all cases, he believed, due to a local infection of the skin, usually by some one of the pyogenic micrococci. Of these last he did not propose to say anything on the present occasion. 1. In 1874 Rosenstein drew attention to the occurrence of intolerable itching, without any rash or inflammation, in chronic uræmic conditions. Ten years later Bartels confirmed these observations and at the same time showed that aggravated pruritus was not infrequently an immediate antecedent to uræmic convulsions. Besides the cases which occurred in advanced stages of the disease there were others in which the pruritus made its appearance as an early symptom, perhaps the only one which was so regarded by the patient. In addition to a case which he quoted he had twice seen pruritus in cases of chronic nephritis, where it was the only symptom for which the patients demanded treatment; in one of these cases it preceded the onset of uræmic convulsions on several occasions. Urticaria as a complication of Bright's disease was probably less well recognised than was pruritus. Dr. H. Waldo of Clifton had reported a case of acute nephritis with uræmia attended by an urticarial rash which lasted for a week and was followed by desquamation. The patient recovered. Eczema had for long been regarded as a disease which had a close relation to failure of the excretory functions; but although most writers on skin diseases enumerated Bright's disease among the causes of eczema there was nothing in his opinion to show that eczema was more common in patients suffering from albuminuria than in others. 2. The second group of skin affections were those which occurred in the later stages of Bright's [illegible] and which consisted principally of generalise[illegible] were [illegible] Of these one in particular had attracted a [illegible] attention—viz., "erythema papulatum [illegible] on Coxa Vara. Hervers described an eruption, consisti[illegible] in five of these [illegible] of a bright red colour, which [illegible] of coxa vara, and th[illegible] and at the end of a few days the m[illegible]without the Roentgen ra[illegible]me confluent and occupied the whole[illegible] be possible to fi[illegible]he face. Then either desquamation took[illegible]gan between 10 and[illegible] of small branny flakes (Huet) or in [illegible]xcepting one. C[illegible] almost equalling in size those of derma[illegible]ty of the upper e[illegible]ancaster). All agreed that the eruption app[illegible]k below the i[illegible]ediate precursor of uræmic symptoms, and the [illegible]arance of this rash was an omen of the utmost gravity; the [illegible]ongest period which ensued from the appearance of the rash till the death of the patient was five weeks. Dr. Lindley Scott in the *British Journal of Dermatology* for July, 1899, reported five cases and observed that erythema papulatum uræmicum was a rare disease. Dr. Thursfield had been able only to find in all 46 recorded cases in the medical literature of the last 25 years. The generalised bullous eruptions were, however, still rarer in chronic nephritis. In 1867 Dr. Murchison reported a case of chronic pemphigus which terminated in death by uræmia. General exfoliating eruptions had only lately been recorded in kidney disease. Dr. Pye-Smith in 1896 stated that he had twice seen an eruption resembling a universal pityriasis rubra, remarking that the eruption appeared as a late symptom when other features of Bright's disease were already prominent. Dr. Thursfield narrated two cases which raised the question whether renal disease might not be a cause of general pityriasis rubra which was sometimes overlooked. Altogether he had found records of eight cases of universal exfoliative dermatitis in chronic Bright's disease, including one doubtful one. 3. The third division which he had proposed included purpura and other hæmorrhagic affections. The chief interest of these lay perhaps on the historical side. In 1813 Blackall, a physician of Exeter, published a remarkable book on the "Nature and Cure of Dropsies," and he described four cases resembling "land scurvy." In reading his account it seemed certain that these were purpuric eruptions occurring in the course of Bright's disease. In 1849 Walshe recorded a case of Bright's disease with a hæmorrhagic eruption. Dr. Gee recorded the cases of three children, all of whom had purpura associated with chronic nephritis; and lastly, at a meeting of the Clinical Society in May, 1889, Dr. Colcott Fox reported a case of hæmorrhagic erythema occurring in an elderly woman the subject of granular disease of the kidneys. As to the causation of all these different forms of skin affections in Bright's disease the most probable suggestion appeared to be that they were due to some special toxin or toxins circulating in the blood. They thus came into close relationship with the rashes which occurred in septicæmia and in connexion with certain drugs, and, as in these instances, the toxin most probably acted, not directly, but through the agency of the vaso-motor and trophic nerves. The nature of the toxin was absolutely unknown, though it was certain that it was neither urea nor uric acid. Possibly it might be not merely one well-defined substance, but the product of several toxins interacting on one another.

Dr. PYE-SMITH congratulated Dr. Thursfield on his paper and remarked on the rarity of eruptions of the skin due to disease of kidneys. Moreover, it did not follow that when two phenomena co-existed they were necessarily causally connected. He was not at all satisfied that eczema was ever really due to Bright's disease, though it was not surprising to find two common affections like these together. As regards erythema læve (Bateman) there was no doubt that it was associated with acute Bright's disease. This was a more or less local condition and of inflammatory origin. Other skin affections were associated with chronic renal disease. He agreed with Dr. Thursfield in putting aside the purpuric conditions; these were only part of the general tendency to hæmorrhage. Pityriasis rubra had a definite relation with renal disease. Some observers might regard the renal disease as most likely secondary, but the skin affection was the result of the kidney disease. The most common eruption in his experience was an eruption consisting of large discrete papules with considerable pruritus. This was the skin lesion which had the closest relation to chronic renal disease and he narrated cases in illustration in which marked pruritus was a feature. In many cases the patients did get better of these eruptions, and it was not correct to call them uræmic, for they appe[illegible] before the uræmic stage. He did not share the views [illegible] that these eruptions had such a lethal tenden[illegible], the prognosis was not any worse for the prese[illegible]on. The renal affection was of itself seriou[illegible] stages were more often attended by ski[illegible]er stages.

Dr [illegible] marked that there were two ways o[illegible]n—either the renal disease as the caus[illegible] the skin lesion as the cause of the albu[illegible] not from his experience say that an[illegible]er of skin disease necessarily suggested [illegible]. It was only by the complete inve[illegible] the organs in any given case of skin d[illegible] their renal origin could be discovered. [illegible] was associated sometimes with albuminuria, but [illegible] far more often associated with glycosuria. Some cases o[illegible]riasis rubra did occur with albuminuria, but he believ[illegible]at albuminuria was more often a late sequel of the [illegible] affection than *vice versâ*. He did not think that derm[illegible]s herpetiformis had much to do with renal disease—[illegible]was rather in his opinion a neurosis. Uræmic erythema was undoubtedly connected with renal disease. In these circumstances he had often noticed that the occurrence of the erythema in the shape of discs was suggestive of a uræmic origin and he quoted cases in illustration. A woman, aged 34 years, who had albuminuria, developed an eruption of this kind. The skin at first got better, but later it developed into a generalised lupus erythematosus and she died. He also mentioned the case of a boy, aged 12 years, in whom the skin lesion began as a papular erythema which coalesced and became diffuse. In this case the kidney was a large white kidney. He believed any form of renal affection might give rise to these skin symptoms and many varied kinds of skin lesion might be associated with renal disease. Skin disease might be due to many different toxic causes and the same cause might give rise to different forms of skin disease.

Dr. SIDNEY RINGER said that he would like to ask whether the skin disease could be produced indirectly through the nervous system by modifying the action of some microbe. Might it not be due to a direct action? The influence of the nervous system could be seen in infectious fevers, such as chicken-pox, and herpes zoster was another well-known illustration.

Dr. H. A. CALEY thought that there was no doubt that exfoliative dermatitis was sometimes directly due to renal disease. Some years ago in the wards of St. Mary's Hospital there was a remarkable series of cases of exfoliative dermatitis, and the proportion of cases in which it was associated with Bright's disease was too large for any casual connexion. The form of the renal disease in all was chronic interstitial nephritis.

The PRESIDENT remarked that in view of the close relation between the skin and the kidneys it was surprising that skin complications were not more often met with in chronic Bright's disease. Moreover, the complications of chronic Bright's disease affected the surface structures, such as the serous and mucous membranes. The poison of chronic Bright's disease also ought, it would seem, to affect the nervous system and through it the skin. The nature of this toxin was very obscure. It was due to an arrest of the function of the kidney, but not only this, an altered metabolism occurred in the body, and this was what constituted uræmia. The dyscrasia which resulted was manifested in some forms of skin affections.

Dr. THURSFIELD, in his reply, remarked that he regarded erythema læve as one of the diseases which affected tense œdematous skin and belonged to the fourth group of diseases which he had not discussed in his paper. The universal eruptions seemed always to be associated with chronic interstitial nephritis, excepting only in one case which he narrated. But in most cases it was the granular kidney which was associated with these skin affections. As to the question whether the albuminuria might not be the consequence rather than the cause of the skin affection, it was a most remarkable fact how seldom even severe cases of skin affections were complicated by albuminuria.

MEDICAL SOCIETY OF LONDON.

A New Method of performing Prostatectomy.—Coxa Vara.

A MEETING of this society was held on March 12th, Dr. FREDERICK T. ROBERTS, the President, being in the chair.

Mr. P. J. FREYER read a paper on a New Method of performing Perineal Prostatectomy. He commenced by expressing the opinion that the vast majority of cases of senile enlargement of the prostate were best treated by careful, cleanly, and judicious catheterisation; but there were a minority in which some kind of operation was advisable, and a still smaller number in which it was imperative. The various recognised methods of performing prostatectomy might be classified into three groups: (*a*) Palliative operations, undertaken when the disease was complicated by severe cystitis or other conditions rendering catheterism impossible or extremely difficult: (1) suprapubic cystotomy with temporary or permanent drainage of urine through a retained tube; and (2) perineal urethrotomy with temporary or permanent drainage. (*b*) Operations undertaken for the purpose of inducing permanent atrophy or shrinkage of the enlarged prostate: (1) castration; and (2) vasectomy. (*c*) Radical operations, which aim at removing a part or the whole of the obstructing portion of the gland: (1) division of a median obstruction by means of the galvano-cautery, introduced through the urethra (Bottini) or through a perineal section (Wishard); (2) removal of a median growth through a perineal opening in the urethra by cutting forceps or other instrument; (3) suprapubic prostatectomy (commonly known as McGill's operation), suitable only for enlarged middle lobe, ring of hypertrophied tissue round the orifice of the urethra, or enlargements of the lateral lobes prominently projecting into the bladder; (4) perineal prostatectomy by Dittel's method, which consisted in removing a wedge-shaped portion from the under surface of one or both lateral lobes, through an incision extending from the median raphe round the sphincter ani to the tip of the coccyx, the urethra and bladder being left intact; and (5) Nicoll's operation, which was similar to this last, only that a preliminary suprapubic cystotomy was performed for the purpose of introducing a finger into the bladder, with a view to pushing the prostatic tumour into the perineal wound, thus facilitating its removal. In the operation about to be described advantage was taken of the perineal incision recommended by Dittel. The patient was a man, aged 59 years, who came under the care of Mr. Freyer in October, 1899, for the following symptoms: increased frequency of and difficulty in starting micturition, diminution of force, and sometimes intermittency of stream. For some months the urine had occasionally been dark-coloured and there was pain at the end of the penis and in the hypogastrium. All the symptoms were worse at night; they were increased by exercise and relieved by rest. No stone could be detected. On examination of the rectum a tumour of the right lobe of the prostate twice the size of a walnut could be felt, very tender to the touch. This was confirmed on examination by the cystoscope, and the tumour projected into the bladder. The first step in the operation was the performance of external urethrotomy in the usual way. The fingers introduced into the bladder detected a tumour of the right lobe of the prostate and by means of another finger introduced per rectum it could be felt as a rounded, hard, nodulated lump. It was then removed by the perineal method and the prostate was removed piecemeal. Bleeding was not profuse and no ligatures were necessary. A large soft rubber tube was inserted to drain off the urine direct into a vessel under the bed and the usual dressings were applied. The whole of the urine [illegible] through the tube during the first six days, but two weeks later the patient began to pass urine through the natural passage and the perineal wound healed soon afterwards. The patient made a good recovery and left the "home" Dec. 18th. The tumours turned out to be of a poison adenomatous type resembling that frequently found [illegible] in aged. The advantages claimed for this method of operation were: 1. The preliminary external urethrotomy permitted of the introduction of the finger into the bladder, which, with a finger in the rectum, enabled the surgeon to define accurately the shape, density, size, and extent of the prostatic growth in a manner that could not be otherwise accomplished, except, perhaps, by a suprapubic opening—a much more serious proceeding. 2. The finger could be hooked over the enlarged lateral lobe and this latter pushed well into the wound in the ischio-rectal fossa, thus to a large extent obviating a deep and dangerous dissection, as in Dittel's operation. 3. With the tumour pushed well into the wound the capsule could be easily incised and erased, and the cutting forceps and scissors easily and freely applied to eradicate the whole mass. 4. The finger in the bladder enabled the surgeon to feel where the cutting instruments were approaching that viscus so that he could remove the whole growth excepting a thin layer for the support of the mucous membrane of the bladder and prostatic urethra without opening the latter, thus avoiding infection of the wound and the existence of a permanent fistula. 5. The large perineal drainage-tube inserted into the urethral wound carried off all the urine and prevented the perineal wound from becoming septic. The drawback to this operation was that, like all other operations proposed for removal of prostatic growths, it was applicable only to certain forms of this disease. It was not, of course, applicable to cases of enlarged middle lobe projecting into the cavity of the bladdder. For such cases McGill's operation was undoubtedly the best. In very fat patients or when the prostatic tumour was extremely large it might not be feasible owing to the fact that the finger might not in such cases be sufficiently long to hook it round the growth.—Mr. C. W. MANSELL MOULLIN had always thought that the operation of prostatectomy had been kept rather in the background in spite of McGill's successes. It had never become very popular. There were, however, certain cases in which prostatectomy could be done with advantage. When there was any intravesical growth the operator could not get at the growth in such cases; and, again, if the perineum was very fat or very rigid a tumour was difficult to reach, but when the tumour was confined to an extravesical situation the operation could be done with comparative ease. Many failures were due to its being postponed too long when cystitis became established. He had about three months ago performed almost an identical operation as that described, though he had not, like Mr. Freyer, planned it beforehand; nor did he insert a tube for urine, as Mr. Freyer had done. The patient passed urine per urethram almost from the time of the operation. Nicoll's operation was much more thorough, but it involved a suprapubic incision, which was a serious disadvantage. He had only one criticism on Mr. Freyer's paper to offer: the symptoms had commenced when the patient was 56 years of age, and why should it be called "senile" enlargement?—Mr. SWINFORD EDWARDS wished also to take exception to the title of the paper. The operation should be spoken of as an operation by para-rectal incision combined with external urethrotomy. Mr. Freyer had not mentioned one operation which he (Mr. Edwards) had been in the habit of employing—viz., urethral prostatectomy with Woolley's prostatectome. No one method was applicable in all cases. Mr. Freyer's operation seemed suited for those cases where the tumour was limited to one side and of limited extent. For intravesical tumours he thought McGill's operation was the best.—Mr. STANLEY BOYD agreed with Mr. Swinford Edwards in his criticism on the title of the paper. He would also like to know what was the effect on the rectum and whether it had the result of anæsthetising the anus? Would it not be an advantage if a large semilunar flap were thrown backwards behind the scrotum exposing the central part of the perineum?—Mr. BRUCE CLARKE remarked that no prostatectomy was an ideal operation because the prostate might become enlarged in three directions, into the bladder, and into the rectum, and it might produce pressure on the prostatic urethra. His experience was that only temporary good was accomplished by such operations because sufficient could not be removed at one time. No one operation was suitable for all cases. The reason prostatectomy [illegible] not more often performed was because very nearly all of [illegible] were septic and because it was very difficult to know beforehand what was the extent and nature of growth to be removed.—The PRESIDENT remarked that these cases did not always go to the surgeon first. The point about cases becoming septic before operation was a very important one and he thought it would be well if a surgeon were called in before cystitis had supervened. He objected to cases being referred to as "senile" when the patient was only 60 years old or less.—Mr. FREYER, in reply, again pointed out that the operation suggested was only applicable to certain forms of prostatic growths—viz., lateral growths. He could not agree with Mr. Moullin that Nicoll's operation was the only one applicable when the growth projected into the bladder. In his case the tumour had projected in this direction. He was quite surprised that operation had not been thought of before. In describing the case as one of senile enlargement he followed Sir Henry Thompson. The objection to many of the other operations was that the operator was working in the dark. No two cases of prostatic disease were alike, and therefore different operations were called for.

Mr. C. B. KEETLEY read a paper on Coxa Vara. He had seen seven adolescent cases, and in five of these skiagrams had demonstrated the existence of coxa vara, and the other two were sufficiently marked without the Roentgen rays. By searching it would, he thought, be possible to find many others. The symptoms in all began between 10 and 16 years of age—i.e., about 14 years—excepting one. Coxa vara might be described as a deformity of the upper end of the femur. The head tended to sink below the level of the trochanter. There was considerable curvature of the neck of the femur. The articular surface of the head tended to look downward. It was not a mere shortening of the [illegible]. The shaft was also bent. The upper and the [illegible] parts of the neck were the strongest parts, [illegible] the [illegible] and outer, as in normal femora. Very often no evidence of rickets existed in any of the cases, but that was perhaps because the rachitic process was over. Genu valgum was often present also, and this indicated rickets. He believed that coxa vara was really often a compensatory deformity of genu valgum. Alteration of the bones of the face and forehead also often coexisted—at least, when coxa vara came on early in life. Pain in the hip, increased by walking, was almost always the first symptom noted; it often extended to the knee, and this caused cases to be mistaken for hip-joint disease. Soon after the patient began to limp and three or four months after this the opposite limb was affected. Objective signs appeared soon after, and with these there were shortening of the limb and some amount of genu showed more leucocytes than red blood discs. The subcutaneous tissue was mucoid, there were no structural differences between arteries and veins, and nucleated corpuscles, some containing hæmoglobin, were found in the bone marrow. In both specimens the thyroid, the spleen, the thymus, and the liver were absent. In the large fœtus the ovaries and rudimentary kidneys were present, and in the smaller fœtus the genito-urinary arrangement of a fifth-month fœtus was noticeable. These dropsical parasitic fœtuses were probably the result of an imperfect division of the ovum to form twins. It was known experimentally that absorption of part of a segmenting ovum led to such errors in development. A parasitic fœtus was probably the result of the unequal division of a twin-forming ovum.—The PRESIDENT said that he had published a communication on Acardiac Monsters in the Museums of London Medical Schools which was to be found in the Transactions of the Obstetrical Society of *London for 1889. He congratulated Mr. Keith on his lucid* demonstration of a very complicated teratological subject. Dr. Boxall's and Mr. Keith's two specimens caused practitioners to reflect on the precise significance of fœtal œdema and anasarca.

Dr JOHN PHILLIPS read a paper on a case of Extra-uterine Gestation in which Fœtal Death occurred at Term after Spurious Labour, and where Abdominal Section was performed from four to five months later The patient, aged 31 years, had had three children, the youngest nine years ago. She had menstruated last normally in November, 1896 (the exact date was uncertain). About a month later she was seized with severe abdominal pain and was ill for 14 days. Subsequently all the symptoms of a normal pregnancy developed; she had, however, frequent and prolonged attacks of pelvic and abdominal pain. At term a spurious labour occurred and subsequently the signs of pregnancy became less marked and the abdomen less distended. From four to five months afterwards she was seized with much pain and fever after a rigor. The abdomen was opened and a full-term dead fœtus was removed from an extra uterine sac. The placenta, which was putrid, was removed without hæmorrhage. The patient made a good recovery and was now in good health.—Dr. C. J. CULLINGWORTH commented upon the normal condition of the Fallopian tubes in this case. As tending to corroborate Mr. Bland Sutton's observations on the analogy between the behaviour of the uterus and the Fallopian tubes when expelling a contained ovum he had on a previous occasion exhibited to the society a Fallopian tube which had entirely resumed its normal appearance 10 hours after the occurrence of rupture and expulsion of an early ovum. He thought that Dr Phillips's theory was correct—viz., that there had been a complete tubal abortion and that the ovum had preserved its vitality and had continued to develop in the abdominal cavity. He thought that the fœtal sac would then be the fœtal membrane, but wished to know if it had been examined. He asked for further information as to the site of implantation of the placenta, and especially as to whether the placenta had retained its connexion, wholly or in part, with its original site, which was the general rule.—The PRESIDENT observed that his own case of removal of a putrid fœtus would shortly be reported. It was not "abdominal," but of the "posterior ligamentary" type, infection occurring through the walls of the rectum. The patient did well for six weeks and then she sank slowly from marasmus rather than from complete obstruction, dying in the ninth week He asked Dr. Phillips whence the putrid infection was derived in his case.—Dr. JOHN PHILLIPS, in reply, said that a piece of the sac wall had been excised and microscopically examined; it consisted of fibrous tissue. The colon was incorporated in the sac-walls and hence the putrefactive changes which took place.

Mr. G. W. B. LAWRENCE, introduced by Dr G. F. Blacker, gave a short demonstration on Spondylolisthesis.

The following cases and specimens were shown.—

Dr. BLACKER. Specimens illustrating Mr. Lawrence's demonstration on Spondylolisthesis.

Dr. MACNAUGHTON JONES: Two cases of Congenital Malformation of the Genital Organs.

Dr. LEWERS: (1) Rupture of the Uterus, with a Dermoid Cyst of the Ovary; and (2) Fibroid undergoing Mucoid Changes, Abdominal Hysterectomy.

Dr. CULLINGWORTH and Dr. J. S. FAIRBAIRN. An Acutely Inflamed Ovarian Cyst communicating with a Chronically Inflamed Fallopian Tube.

Dr. R BOXALL: Fœtus with Anarsaca and Large Placenta.

CHELSEA CLINICAL SOCIETY.

The Treatment of Rheumatism

A MEETING of this society was held in the Parish Hall, Pavilion-road, Chelsea, on March 13th, Mr. FOSTER PALMER being in the chair.

A discussion was opened by Dr. W. EWART, whose speech is printed in this issue of THE LANCET (see p. 761), upon the Treatment of Rheumatism, with special reference to Prophylaxis and its Cardiac Complications.

Dr. T. J. MACLAGAN said that if they wanted to
the pathogenesis of the disease they must go b
days when it was possible to study it b
cylates were introduced. In early times
ment was by bleeding and purgatives. Th
form of treatment was introduced by Sydenh
came the alkaline treatment with the sup
lactic acid was the cause. Next came the tr
William Gull by mint-water, but no form of t
controlled the disease. It struck him
to use salicin at the same time when
introduced into Germany. The rheumat
on the muscle and on the joints;
advanced was that the rheumatic poiso
origin, which, however, had never b
it was a minute organism acting on
on the fibrous textures of the joints. The salic
ment had an absolutely curative action. The heart
in the same position as the joints—what recovered i
joint recovered in the heart; the one structure whic
not apt to recover was the endocardial lining. He di
know on what grounds Dr. Ewart asserted that ca
complications were more frequent with the salicylate t
ment than before; he could not accept it without some
to support it and he called it into question at once. If the fact was accepted that salicylate treatment did control the rheumatic process it must have the same action on the cardiac complications as it had in the joints. Dr. Ewart had referred to the influence of cold; it was easy to put everything down to chill and cold and he could not agree with that view.

Dr. A. E. SANSOM considered that arthritis was one thing and that rheumatism was another, or, in other words, rheumatism was one thing and arthritism was another. He had seen the treatment by blisters, by big, little, and all sorts of blisters, and he concluded that it added nothing to the patient's ultimate recovery, but considerably to his discomfort. He thanked Dr. Maclagan for the salicin treatment because patients were now placed in a condition of comfort. He used salicylate of soda without combining it with alkalies in the first stages. There were so many difficulties about estimating the occurrence of heart lesions that it was taken out of the range of statistical inquiry. In acute rheumatism heart lesions might be very pronounced or untraceable and symptomless and unknown except for physical examination. He had seen pericarditis occur without any symptom at all in a boy who insisted upon walking about, and it was not possible to get him to rest in bed; he had unmistakeable pericarditis, they had to try to keep him quiet. He had not seen many cases in which there had been toxic symptoms from salicylate. He had known of cases in which it seemed that that must be so, but the evidences had shown that the toxic symptoms were really manifestations of the disease. He advocated the use of the ice-bag, as Dr. D. B. Lees applied it, in cases of rheumatic pericarditis. The process of rheumatic valvulitis was extremely slow and extremely subtle and care ought to be exercised in the prognosis and treatment. As regards rheumatic endocarditis they were very powerless indeed, but they had in their present methods of gradual muscular exercises, baths, and hygiene a means not possessed in the early days of the treatment of heart affections Galvanism might be tried to the vagus; the treatment required patience and produced no harmful effects. In the more acute stages of the development of cardiac disease he had seen a great deal of harm result from digitalis—very often it produced toxic effects without procuring the toning *up of the heart muscle; and the same objection applied when* there was the condition of swollen heart

Dr. DONALD HOOD said he was not satisfied from statistics that salicylates formed such a great remedy as many considered. From his investigations he found that the patients under salicylates were longer in hospitals, more generally enfeebled, and the complications seemed to be more formidable. It seemed to him that after the treatment with salicylate of soda patients suffered more from after crippling. They might be led astray by the fact of the great relief to pain from salicylates and forget the enormous number of patients who relapse after treatment. He had been for many years in the habit of giving patients what he would call a modified alkaline treatment.

Dr. D. B LEES said that the term cardiac complications ought not to be used any longer. Rheumatic heart disease was more important and more common than rheumatic inflammation of joints. Rheumatic fever should be spoken of as a cardiac disease with arthritic complications. In first attacks acute dilatation of the left ventricle was always present, in later attacks it was probably always present also. In many cases of chronic heart disease failure of compensation was not merely from damaged valves but from fresh rheumatism. He thought rheumatism was due to an undiscovered microbe, and it was highly probable that it was a house disease, and it seemed likely that its prevalence would be diminished if every house had an impermeable basement. In treatment long-continued rest was important and the ice-bag, which had yielded such striking results in pericarditis, might often be useful in rheumatic myocarditis.

Dr. A. E GARROD said the evidence seemed to him to suggest that rheumatism was a disease due to a micro-organism and if so its infection did not come to an end but lingered on In adults minor rheumatic attacks were seen, but a child would shew the evidence of the persistence of the infection for years. In post-mortem examinations of old heart cases there had been seen beads on the valves evidencing a fresh outbreak of endocarditis. The use of salicylates would not have become universal and lasted for 20 years unless there had been something in it; the effects of salicylate, however, were not, in his opinion, very marked on cardiac complications.

The meeting then adjourned to Tuesday, March 20th.

SOCIETY OF ANÆSTHETISTS.—A meeting of this society was held on March 2nd, Dr. J. F. W. Silk, the President, being in the chair.—Dr. Dudley Buxton, in re-opening the adjourned discussion on the Respiratory After-effects following the Inhalation of Ether, said that there were three most important questions involved: (1) whether any respiratory after-effects could be entirely attributed to the use of ether; (2) if so, what was the pathogenesis of these complications; and (3) the question of prophylaxis. With regard to the first point he thought that the descriptions and names had been badly chosen because he did not believe that "ether pneumonia" was an entity or any special disease, and that many of the cases that had been reported were due to other probable influences that had been at work. An enormous amount of experimental work had been done abroad, especially in Germany, but the clinical research was less satisfactory, inasmuch as in most cases no reference was made to the method of administration of the anæsthetic. Incidentally he referred to the fact that a large number of cases of respiratory trouble had been recorded as following the inhalation of chloroform, and he pointed out that the trouble was seldom ascribed by surgeons to the chloroform itself, although it was a well established fact that that anæsthetic frequently caused such after-effects. With regard to the frequency with which respiratory troubles occurred after the use of ether, he had found it extremely difficult to prove that ether was the responsible factor, as the published statistics were very loosely recorded. For instance, one observer recorded 17 cases in 4914 administrations, but seven of these were pneumonias commencing on the seventh, twenty-fifth, fifth, fifth, fourteenth, tenth, and fourteenth days after the inhalation, and only two within 24 hours of the operation. It appeared to him at least probable that in these intervals of time many other factors would be at work. Further, the recorded cases had in almost all instances been hospital patients. On the other hand, Julliard of Geneva had never met with any lung complications in upwards of 4000 cases. His own experience was that lung complications were extremely rare, especially in private cases, and that the disease was of the ordinary catarrhal type, modified perhaps by the condition of the patient and the exigencies of the operation—e.g., tight bandaging. With regard to pathogenesis he referred to the important work of Hölscher, Whitney, and Lindemann, who ascribed the pneumonia to direct infection from the pneumococcus associated with the mucus from the mouth. He himself thought that in considering the pathogenesis it had generally been overlooked that the position of the patient under an anæsthetic was not that of the normal individual. For one thing the body temperature was lowered from 2° F. to 4°, which meant, of course, that the vitality and resisting power were correspondingly diminished. The other view was that the ether acted entirely as a local irritant to the bronchi and fine air-cells. In many cases no doubt initial lesions were overlooked. As to prophylaxis Dr. Buxton considered that the limitation of the amount of ether was of importance. When once the patient was fully under very little more ether should be given. All cyanosis should be avoided and the patient should be kept warm during the operation and not exposed to draughts afterwards. He did not think that there was much risk of infection through the face-pieces, though, of course, this should be kept clean —A letter was read from Mr. Carter Braine in which he expressed the opinion that pulmonary troubles after ether were extremely rare provided that the ether was properly given and in suitable cases. Out of 4380 cases of ether administration he had only met with one case of pneumonia, and he was doubtful whether in that one the ether could be entirely blamed, as the patient was exposed to draughts afterwards. Considering the amount of exposure to which patients were sometimes subjected he was rather surprised that pneumonia did not occur more frequently, and he advocated the judicious selection of cases and the substitution of chloroform if ether was found to disagree —A letter was also read from Mr. T. H. Pounds of Derby, who thought that the occasional cases of pneumonia after ether were due to the hyper secretion of mucus occluding the smaller bronchi, and advocating the early administration of belladonna or atropine.—Dr. E. M. Corner gave some interesting details of cases which had come under his notice as surgical registrar at St. Thomas's Hospital.—Mr. G. Eastes agreed with Dr. Dudley Buxton as to the rarity of the lung complications after the administration of ether, but referred to two cases—one of bronchitis and one of pneumonia after chloroform —Mr. W. E Burton only remembered one case out of certainly 4000 administrations in which any appreciable bronchial catarrh had followed the use of ether, but, on the other hand, he had seen many cases of bronchial catarrh after chloroform.—Dr. Probyn-Williams referred to two cases which occurred at the London Hospital in 1897. With regard to Professor Julliard's cases he mentioned that nearly all of the patients had a hypodermic injection of morphia before the administration of the ether. He agreed with the previous speakers as to the importance of changing to the A O.E mixture or chloroform if much mucus was secreted under ether.—Dr. G. B. Flux thought that possibly some cases of pulmonary trouble might be due to the inhalation of small quantities of liquid ether and to faulty administration —Mr. Walter Tyrrell believed that cases of bronchitis might sometimes be due to too rapid administration or too strong a dose of ether To get rid of the excessive amount of mucus he thought that it was occasionally of service to let the patient come round sufficiently to cough and retch.—Mr. H C. Crouch reported a case in which death associated with pulmonary complications occurred after the rapid emptying of a uterus for an incomplete abortion and he thought that the ether which was administered was not to blame.—Dr. Harold Low related a case of Acute Œdema of the Lungs following Gastrostomy.—Dr. Dudley Buxton then made some further observations on the remarks of the previous speakers.—The President regretted that the society had not had the benefit of the experiences of more of their surgical colleagues. He had only been able to find one case of pulmonary trouble in 900 cases of ether administration. The points which seemed to him to have been established by this discussion were: (1) that such cases certainly occurred; (2) the infrequency of their occurrence; (3) that the average age of the patients was lower than might have been expected; (4) that in the reported cases there was a marked preponderance of abdominal operations; and (5) the advantage of prophylactic measures. He quite agreed with Dr. Buxton's view as to the misleading character of the term "ether-pneumonia," for he was sure that the pulmonary troubles after ether did not in any way differ from those due to other causes.

Trustees: Dr. H. I. Fotherby and Mr. F. M. Corner. Honorary Librarian: Dr. T. H. Arnold Chaplin. Orator: Mr. John Poland. Secretaries: Mr. J. H. Targett and Dr. T. Glover Lyon. Council: Mr. H. L. Barnard, Mr. J. S. E. Cotman, Dr. W. A. Dingle, Dr. Fortescue Fox, Dr. E. W. Goodall, Dr. A. Butler Harris, Dr. W. H. Kelson, Dr. J. W. Oliver, Dr. W. Rawes, Dr. F. J. Smith, Dr. J. H. Sequeira, and Dr. T. G. Stevens. Auditors: Mr. F. Gordon Brown, Dr. Hope Grant, Dr. S. H. Appleford, and Dr. W. Rawes.

Reviews and Notices of Books.

A Text-book of the Practice of Medicine. By JAMES M. ANDERS, M.D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia. Third edition, revised. London: Rebman, Limited. 1900. Illustrated. Pp. 1292. Price 36s. 2 vols.

THIS text-book is probably better known in America than in England, and the fact that it has reached a third edition is sufficient proof that the endeavours of the author to produce a useful work have been duly appreciated. The present issue, we are informed in the preface, is the result of careful and thorough revision. Especially was this deemed necessary as relating to the section on Infectious Diseases, a department in which the advance in our knowledge since the publication of the first edition has been considerable.

A special feature of the work will be noticed in the tabulation of the differential diagnosis. In the majority of instances this method has been carried out quite satisfactorily. In dealing with certain infectious diseases, however, the differential diagnosis can scarcely be considered complete. For instance, every practitioner must be familiar with the cases that are not unfrequently met with which at their onset look like influenza, but which afterwards prove to be typhoid fever. A diagnosis between these two diseases is often most difficult and its importance cannot be over-estimated, yet in considering the diagnosis of typhoid fever Dr. Anders does not even refer to influenza, and under the head of Influenza the possibility of mistaking the two diseases is dismissed in half-a-dozen lines.

Pneumonia and Acute Rheumatism are, as in most modern text-books, included under the Infectious Fevers, thus indicating that the author has fully brought the book into accord with scientific advances. In regard to acute rheumatism the author seems to have extraordinary ideas, for we find the following passage: "The disease [acute articular rheumatism] is, in numerous localities, endemic, and at times also epidemic; but, on the other hand, in not a few regions (especially European) is practically unknown—e.g., England, Belgium, and Russia." Further comment is needless. A few new subjects have been introduced in this edition—Glandular Fever, Ether-pneumonia, Splenic Anæmia, and Periodic Paralysis—whilst the accounts of numerous affections have been substantially re-written, such as the chapters on the Plague, Malta Fever, and Progressive Spinal Muscular Atrophy, whilst the descriptions of Typhoid Fever, Yellow Fever, Dengue, Arthritis Deformans, and the Diseases of the Circulatory System have been extensively revised.

LIBRARY TABLE.

Geburtshilfliches Taschenphantom. (*Obstetrical Pocket Phantom.*) One-third natural size. By Dr. ARTHUR MUELLER. Munich: J. F. Lehmann. 1899. Price 6 marks.—The phantom consists of an outline of a sagittal section of the pelvis in which the sacrum and symphysis pubis are represented by wooden blocks while the position of the soft parts is indicated by two watch-springs attached to the sacrum. Seven sagittal sections of the fœtal head corresponding to the form of the typically moulded head are supplied for use with the pelvis. By placing these within the pelvis the different positions of the head at the outlet and the movements of the soft parts can be to some extent represented. A model of a single blade of a pair of straight forceps is also provided and this can be fixed to the models of the head by means of pins and slots and used to demonstrate the application of the forceps at the outlet. In the letterpress supplied with the phantom the method of employing it is described, and a short account is given of the recognition, diagnosis, prognosis, and treatment of the various presentations of the head, together with a description of the method of applying the straight forceps at the outlet of the pelvis. The model is a somewhat ingenious one, but its utility is very limited since it is of no use for demonstrating the position of the head at either the inlet or in the cavity of the pelvis.

Who's Who at the War. London: Adam and Charles Black. 1900. Pp 72. Price 6*d.*—The enterprising publishers of "Who's Who" have issued a compilation from the larger publication, giving the names of various persons, officers and others, who are either serving at the war or engaged out there on some or other business. We notice that no information is given as to Sir Redvers Buller's school. He was, we believe, at Eton, and we understand that in the annotated school lists edited by Stapylton his name appears under the date 1856 as being in "Middle Division." It is possible, of course, that he may have been at Harrow too, as was claimed for him at the beginning of the war. The list of officers killed is sad reading; in all there are 212. The compilation is well up to date, taking in the battle of Spion Kop, but of course it does not give a complete list of all those in authority at the seat of war. On page 72 we notice that Major C. P. Walker, R.A.M.C., is mentioned as having been killed at Ladysmith. This is not correct, for Major Walker died from dysentery. In the list of wounded also the name of Lieutenant G. H. Goddard, R.A.M.C., is omitted. He was wounded near Paardeberg during the operations between Feb. 16th and 18th. However, the publication will be found useful. The biographical notices are reproduced from the larger "Who's Who." Mr. Cecil Rhodes is described as being fond of curios with "a preference for anything Dutch."

The Mirage of Two Buried Cities By JOHN FLETCHER HORNE, M.D. St. And., F.R.S. Edin. London: Hazell, Watson, and Viney, Limited. 1900. Pp. 341, and Index. Price 10*s.* 6*d.*—Pompeii and Herculaneum will for ever remain two cities of the most absorbing interest as veritable museums of a people whose life was suddenly cut short more than 1800 years ago. Dr. Horne evidently knows the district well and he says in his preface that the romance and poetry of his theme have charmed him and afforded him infinite pleasure. The book is in no sense a guide-book, but rather a series of essays written by an intelligent observer upon the bygone life of Herculaneum and Pompeii. There are plenty of persons who travel, especially that class whose only object is to "do" as much as possible in a certain time, who see indeed with the outward eye but who do not observe. Some persons do not want to observe; others do not know how to observe. It is for this latter class that Dr. Horne's book will be found a mine of wealth, and if they read it through they will find that the people who lived in Pompeii were in many ways very like ourselves. They will learn how they ate and drank and amused themselves; how they went to quacks and impostors of all kinds, both medical and religious; how there were among them heroes and saints as well as knaves and thieves. Anyone who has visited the buried cities will find pleasant recollections called up by this book and those who have yet to see them will find profit in reading it previously to a visit.

THE LANCET.

LONDON SATURDAY, MARCH 17, 1900

ON the evening of Friday, March 9th, the House of Commons decided by the significant figures of 124 to 34 to read for the second time the Bill for the Regulation of Midwives. Our Parliamentary correspondent gives in another column an explanation of the circumstances under which this sudden change in the fortunes of the Bill occurred. There was no effective resistance to the second reading, Mr. T. P. O'CONNOR'S well considered words pointing out that a large proportion of the medical profession were against the measure, and against it on general and social grounds failing to secure many adherents to the opposition camp. Dr. TANNER and Mr. AMBROSE supported Mr. O'CONNOR in his attempt to persuade the House that the proposed legislation contained serious perils to the community, but all statements to the effect that under the Bill an inferior order of medical practitioners would be created, with legal powers to exercise on the public that little knowledge which is proverbially so dangerous a thing were nullified by Mr. VICARY GIBBS'S sweeping and not completely accurate assertion that the General Medical Council, the Royal College of Physicians of London, and the Royal College of Surgeons of England were in favour of the measure. In a thin House badly informed upon the points at issue, the second reading was passed the whole proceedings upon the Bill, which included two divisions, only occupying three quarters of an hour. Several of the Members of Parliament who are also medical men were away from their places in the House but as the oldest parliamentarian could not have foreseen that the Bill would come up for second reading when it did their absence does not prove them apathetic.

What now remains to be done is for the medical profession to bring such influence as they possess to obtain modifications in the measure (1) whereby the general practice of midwifery in our country may not fall wholly or largely into the hands of a semi educated class, (2) whereby the scope of the licensed midwife shall be defined and (3) whereby encroachments upon medical practice and infringements of the Medical Acts may be obviated. We have reason to know from the answers which we received to our recent circular letter that while a great preponderance of professional opinion is against the measure, a very large number of medical men are so indifferent to a matter which concerns them vitally that they have never read the Bill. We strongly recommend them to read it now, and to read it in the light of the remarks which follow here. It is late but not entirely too late, for large alterations can be made in its provisions but they certainly will not be made unless the medical profession work hard and unitedly to obtain them. Under the Bill any woman who within two years from the date of the Bill becoming an Act claims to be certified under it, will be so certified provided that she holds a certificate in midwifery from the Royal College of Surgeons in Ireland or from the Obstetrical Society of London or such other certificate as may be approved by the Midwives Board. A similar claim may be made by any woman who can produce evidence satisfactory to the Board that on the passing of the Bill she has been in *bonâ fide* practice as a midwife and bears a good character. At the present moment, of the numerous women who practise midwifery no one denies that a large proportion are absolutely incompetent and that their bungling and malodorous ministrations constitute a source of the gravest danger to the parturient poor. Those who desire an Act of Parliament to regulate the practice of midwives proclaim these facts loudly and see in them the chief argument for the necessity of licensing the handmaids of obstetric medicine after ensuring to them a minimum of properly directed training. Those who are opposed to such regulation equally dwell upon the terrible stories of malpraxis that have been again and again told in coroners courts and in these columns, and in so doing maintain that the dangers will be largely increased under the intended legislation, inasmuch as a grade of practitioners will be created by it who will remain for medical intents and purposes uneducated, even while Government confers upon them the outward and visible signs of obstetric knowledge. The Board will have to decide which of these women are and which are not in *bonâ fide* practice and which are and which are not up to the Board's standard of knowledge—whatever that may be. This Board, which at the outset of its work will be confronted with such exceedingly delicate questions, is according to the Bill to be composed of four registered medical practitioners chosen respectively by the Royal College of Surgeons of England, the Royal College of Physicians of London, the Society of Apothecaries of London, and the Incorporated Midwives Institute, of two persons, one to be a woman, appointed by the Privy Council, and of one person to be appointed for a term of three years by the Association of County Councils. There is nothing to prevent the last three persons being medical practitioners, while the first four will possess medical qualifications. A majority of medical opinion is therefore assured on the Board so that it is to be hoped that in the matter of deciding how the first midwives' roll shall be formed sound counsels will prevail. In carrying out the great duty that will be confided to the Board of regulating, supervising, and restricting within due limits the practice of midwifery, it will be perfectly impossible for the Board to lay down any definite rules to guide their action which will remain exempt from criticism. The due limits of the midwife's work in an ideal condition of things would keep her to nursing and nothing but nursing including the first care of the infant if healthy. In such an ideal condition of things the whole province of obstetric medicine belongs to the fully qualified medical practitioner, for it is obvious that no one can say that at one particular place or another a case passes from physiology to pathology. There being no natural point of division the Board will have to devise some artificial rules saying clearly to the nurse. Thus far shalt thou go and no further"; and, in spite of the valuable fact that medical knowledge will guide and influence the Board, they will find their task a very hard one, and must not hope to escape severe judgment whatever they do. For they are committed to illogical courses by the Bill.

We publish in another column the names of the Members of Parliament who voted for the second reading of the Midwives Bill. Medical men residing in the constituencies represented by these gentlemen may write to them, if they have not done so already, and indicate what are the objections taken by the medical profession to the measure, and he same course may be followed by all of our readers who desire to influence, however late, the shaping of the Bill. They may in this way effect something, although not a tithe of what would have been accomplished if legislators had been placed individually in possession of individual medical opinion from the commencement. Moreover, it must be remembered that the Bill has been referred to the Standing Committee on Law, which is a more expeditious proceeding than reference to a Committee of the whole House The lines on which the measure requires modification have been clearly laid down in our columns at different times, and our readers must remember in addressing their Parliamentary representatives to insist upon the public harm that may accrue from the passing of the present Bill for the regulation of the practice of midwives. The support which this Bill has already received must not be minimised, and Dr. RENTOUL's threat contained in his otherwise able and suggestive letter on page 805 that "should the Bill become law every honest practitioner will spurn and treat it with contempt and refuse to recognise it" should certainly not be made. Honest men do not refuse to obey the law, but a good citizen tries to play his part in bringing the law into line with his convictions of what is right. The General Medical Council and the ruling bodies of the Royal College of Physicians of London and the Royal College of Surgeons of England are in favour of the principle of the Bill. Such supporters have gained for the Bill its second reading, and the point to be insisted on, in urging modifications of the measure, is that the opinion of these groups of gentlemen is not the opinion of the medical profession at large. The General Medical Council does not represent the views of the medical profession any more than the ruling bodies of the English medical corporations represent the views of their members. Again, while no one can be certain how far the Bill in all its details satisfies the officials of the corporations, we can see one place where it fails distinctly to meet the views of the General Medical Council. It does not make the provision advised by the Council "requiring the licensed midwife to apply for qualified medical assistance in every case attended by a midwife which presents symptoms of difficulty, abnormality, danger, or disease on the part of the mother or of the new-born child." This provision is in the opinion of the Executive Committee of the General Medical Council an imperative necessity, and the Council cannot be claimed as supporters of the Bill while no such clause is contained in it.

Until our circular letter was issued to the medical profession of England no one knew exactly what the professional feeling was on the matter. Each side was given to pooh-poohing the standpoint of the other; the conduct of the promoters of the Bill was called unprofessional if not illegal; that of its opponents was called selfish; and in each case we were assured that the leading part was being played by an insignificant if noisy minority. Those of us who were in a position to know could have predicted what the result of the canvass would be fairly closely, but there would have been nothing to prove, without the canvass, that the prediction was more accurate than the factious remarks of the extreme partisans. Medical men can now ask for modifications of the measure on the excellent ground that four-fifths of their colleagues join them in believing that it is, as it now stands, an infringement of the Medical Acts, which Acts were designed to protect the public against irregular medical practice.

IT is pleasant to notice how much the munificence of one man may serve to elevate the whole conception of generosity. The actual money gift bequeathed to four London hospitals by the late Professor DAVID EDWARD HUGHES is a substantial addition to our means of dealing with the suffering of the sick poor of the metropolis. And we cannot but admire the excellent choice of hospitals which was made by the deceased benefactor. But especially the will is exemplary, as that of a scientific man taking no fantastic or faddy views of the merits of hospitals, but looking at them as institutions which contemplate alike the relief of patients within their walls, the perfection of medical science, and such instruction of students in the medical art as shall ensure the wide diffusion of medical knowledge and skill. The censorious criticism by narrow or hypersensitive persons of our great hospitals is a somewhat deplorable feature of recent times, and is well rebuked by such wills as that of Professor HUGHES whose scientific mind gives value to his judgment.

Professor HUGHES's estate has been valued at £473,034 9*s.* 3*d.*, including personalty of the net value of £472,704 15*s.* 4*d.* After making provision for his family and certain bequests to friends he directs that his entire personal estate (including bonds, shares, stocks, and securities at the London Joint Stock Bank) shall constitute a trust fund, to be called the "David E. Hughes Hospital Trust Fund," of which the first trustees shall be the treasurers of the Middlesex Hospital, the London Hospital, King's College Hospital, and Charing-cross Hospital respectively. Out of this fund they are to pay certain annuities. One-half of the remaining income is to accumulate during 21 years and is to be added to the principal, while the remaining one-half of the income is to be distributed in equal shares amongst the said four hospitals, provided they keep in use continuously 100 beds for the use of patients. At the expiration of the 21 years the whole income of the trust is to be so applied. If any of the treasurers refuse to accept the office of trustee their hospitals are to be treated as decayed hospitals. The sum at present available for the Hughes Hospital Fund seems likely to be between £300,000 and £350,000; eventually it will be over £400,000. It was Professor HUGHES's earnest desire that after the period of 21 years the four hospitals should voluntarily add to their respective funds as capital one third of their income from his bequest, and the encouragement to thrift thus held out is worthy of all approbation The testator evidently did not believe in the policy sometimes forced upon hospital authorities, and sometimes, we fear, recklessly pursued, of living on capital and trusting to urgent appeals or financial good luck to make up the deficits

The intelligent munificence of Professor HUGHES will do good beyond its designs Much of the hospital charity which we see is of a halting order The sums cast into the treasury are shillings and odd guineas—widows mites without the saving grace of the widows' penury But here is something like an adequate conception of the work of hospitals and of what should be the scale of gifts to them by wealthy people A few such gifts every year would give new zest to hospital committees and would enlarge the area of hospital relief from which at present thousands of proper objects are excluded We have often said in discussing the scantiness of hospital funds that we want a few men like GUY to follow a grand example Here is a gift like that of GUY, GUY gave for the building of his hospital, which has had such a glorious history, £18,793 and for its endowment £219,499—in all £238 292—and after nearly 200 years his generosity remains a source of healing and of hope to the sick poor of London We are now praising a similar bequest and we commend it cordially for imitation to those who have the means in this wealthier age when the Chancellor of the Exchequer can reckon on the estates of several millionaires each year as a source of national income That such gifts as those of GUY and HUGHES are not more frequent is a matter which may excite surprise The explanation must be found partly in the defective altruism of an age which is tempted by its very wealth to be selfish, indulgent, and luxurious

◆

THE annual report of the Medical Defence Union demonstrates most clearly the excellent work which has been done in the interests of the members of that Union by those entrusted with office The members of the council, under the presidency of Dr W S A GRIFFITH, meet once a month to consider the applications for assistance or advice that have been received, but so large is the amount of business which has to be conducted that a meeting of the Executive Committee has also generally to be summoned to deal with those matters which the council has been unable to dispose of owing to pressure of time The number of members now upon the register amounts to 4465, 449 new members having been elected during the year The financial stability of the Union is ensured by a guarantee fund of £6375 8s, which is available if called up under articles of association

The report consists mainly of two sections one being drawn up by the secretary Dr A G BATEMAN, and the other by the solicitor, Mr W E HEMPSON The aim of the management has always been "defence," and no just expense is spared in the conduct of legal cases brought into court The Union, therefore has spent very little money this year in the prosecution of quacks It was decided, naturally enough perhaps that the subscriptions of members should not be utilised for the benefit of those who are not subscribers, but that the funds should be husbanded for the individual defence of those who are wise enough to "insure" The few instances of such prosecutions mentioned in the solicitor's report are cases in which the council was requested to act by a large body of members living in the district in which the quack ' practised, and in these prosecutions the work done was practically the defence of members of the Union against illegal competition The council is of opinion that until the number of subscribers is much increased and a new Medical Act with a more comprehensive and intelligible penal section is brought in and passed as the law of the country, the prosecution of unqualified practitioners must be left almost entirely to the General Medical Council This expression of opinion was prompted by the solicitor's report for 1898, in which he advised that in view of the indefinite and unascertained basis of the law the Union should not undertake any further prosecutions under the Medical Acts The law as expounded by the magistrates lends but little encouragement to efforts made by the Union and other bodies to suppress unqualified practice, and a conviction can rarely be obtained even if the evidence be of the clearest possible description The council of the Union therefore was practically forced to come to the conclusion not to initiate further action until the Medical Acts shall have been altered Meanwhile a large number of medical men have had reason to be thankful that they are members of the society A perusal of the report forms instructive reading, and those members of the profession who have not read it will have little idea of the number, the scope, and the variety of cases which have been brought under the notice of the council The great majority of applications of all kinds from members can be satisfactorily dealt with by the council, but many are referred to the solicitor His report deals with 120 cases of which 36 relate to the suppression of libels and slanders published and circulated regarding members, 19 relate to the defence of members in actions instituted against them for malpraxis, 42 relate to actions undertaken or defended in a miscellaneous variety of matters in which members needed legal advice and assistance and the remaining 23 involved questions having to do with the suppression of unqualified practice and the prosecution of unqualified practitioners It will thus be observed that the defence of members against libel and slander formed a large and important item of the year's work, and we believe that it is in this connexion that the benefits which members enjoy are felt more than in any other way We have already referred to this aspect of the work of this and kindred societies[1] Mr HEMPSON in his report truly points out that a professional man's reputation is everything to him and unless he is enabled to maintain it unsullied his position in his profession is bound to suffer It is unfortunately true that a medical man is particularly open to attacks on his character, and apart from the relief which the membership of such a society accords him from personal expenses and anxieties, he has the knowledge that a solid body of professional brethren are at his back and supporting his interests In connexion with such matters other remarks of Mr HEMPSON are significant. In our article above referred to we suggested that although an evil-disposed person is willing to enter the law courts against a single individual, he will hesitate if he knows that his intended victim is supported by a powerful society, one of whose aims it is to defend its members when they are attacked. That this principle is becoming more generally recognised as the Union increases in strength is shown by Mr. Hempson's statement that with an increased membership of something like 500 new members over that of the year 1898 it has been found necessary to place in his hands for legal advice and adjustment 120 cases as compared with 138 cases in the year 1898.' There is force in Mr. Hempson's contention that this statement should carry conviction to the minds of members of the medical profession as to the practical utility of the work of the Union in securing to its members far less risk of being involved in litigation than is incurred by those members of the profession who have not availed themselves of the protection which membership of such an organisation affords. There is a further fact upon which the council lays very proper emphasis—that an increasing number of threatened actions against the members are nipped in the bud, it being sufficient for the member to intimate to the solicitors of the attacking party that he has placed his case in the hands of the Medical Defence Union and that its solicitor is prepared to go on with it for the action to be immediately abandoned.

---

[1] THE LANCET August 12th 1899 p 417

We have not space to comment on the numerous cases which are related in the report. But we gladly avail ourselves of the opportunity of expressing our interest in the useful work which is well done by the society. In view of the steady and successful progress of this and kindred societies there is some reason to hope that our profession is at length realising that in union there is strength.

In the Probate, Admiralty, and Divorce Division of the High Court of Justice, before the President, Sir F. Jeune, the case of Crook v. Crook and Horrocks was brought to a termination last week. This was a petition brought by Dr. H. E. Crook, formerly practising at Margate, praying for dissolution of marriage on the ground of the alleged misconduct of his wife with the co-respondent. The details of the case are known to most of our readers, but are set out with more circumstance in an article from a legal correspondent, which will be found on p. 793. The jury found that Dr. Horrocks had not committed adultery with the respondent, but were unable to agree with regard to Mrs. Crook. The evidence tendered during the hearing pourtrayed at once romance and tragedy, and the bitterness of the cup held to Dr. Horrocks was intensified by the fact that he had in his professional capacity attended Mrs. Crook and that Dr. Crook was formerly his pupil. It appears that Dr. Horrocks was consulted by Dr. Crook for some ailment incidental to her sex from which his wife suffered. Of course, the services of Dr. Horrocks were gratuitous. At a later period Mrs. Crook bore a child to which she was devotedly attached, and in fact, according to her husband's statement, she gave up her whole life to its care. Subsequently to this event the petitioner, who had never had reason to suspect his wife's chastity, was induced to visit a female palmist, to whose vaticinations he appears to have turned a not altogether deaf ear. This reader of men's minds by their hands averred to her client that he ought to have been a barrister instead of a medical man, and as a matter of fact Dr. Crook was called to the bar. She told him that he would undertake a voyage, which Dr. Crook, in answer to counsel, said was not unlikely. There can be little doubt that the petitioner was much impressed by his communings with the palmist. He told his wife of his strange experience and gave her the address of the woman. Eventually Mrs. Crook also consulted her, and according to her evidence was told that she would be separated from her husband, "but not by death," and that she had broken her marriage vow.

To what extent the foreboding thus induced was likely to prey on Mrs. Crook's mind—whether it was able to fashion a phantasy of guilt to be transmuted into a "fixed idea"—we do not deem it prudent to decide, seeing that the case may still be considered *sub judice* so far as the respondent is concerned; but we may safely assert that the prophecies were not calculated to have a bracing effect upon any brain—much less would they act beneficially on one in unstable equilibrium. As time went on Mrs. Crook asked her husband what was meant by "adultery," then confessed herself guilty of the offence, and named Dr. Horrocks as her co-partner in guilt. She made a written statement of her infidelity, which was afterwards repeated and amplified. Beyond all reasonable doubt it may be accepted that, truly or falsely spoken, Mrs. Crook at the time believed in her own guilt. From the testimony of Dr. Horrocks on oath it transpired that the first intimation of the charge against him was a letter from the petitioner's solicitor. Further, that from the day that he received that letter until the hearing of the case he had no communication with either Dr. Crook or Mrs. Crook. Dr. G. H. Savage and Dr. G. E. Herman were called as expert witnesses. In the former's opinion Mrs. Crook's confession was the outcome of "nervous instability," in fact, on this point she was "under a delusion." Dr. Herman believed that the respondent's present statement was true and that her confession was false. To obtain a judgment against a co-respondent the law requires that the evidence of adultery, if tendered by one of the parties, must have corroboration. And rightly so, for otherwise the innocent would be at the mercy of the malicious accuser. In the case under consideration there was no such corroboration in any shape or form. There was simply the confession of the respondent, which was afterwards negatived by her. She did not deny that she made the confession; nay, more, she testified in court that she believed it when she made it. Dr. Crook had no grounds to suspect his wife's infidelity before she informed him of it, and Dr. Horrocks said that when she consulted him she behaved as a prudent and chaste woman.

Dr. Horrocks's counsel at the close of the petitioner's case raised the question of the dismissal of the co-respondent from the suit, there being no corroborative evidence. We take it that this was but an adroit move, for he instantly fell in with the judge's interposition and put his client in the witness-box, when a complete denial was given to every word of Mrs Crook's story. From first to last in this unhappy cause there was not a tittle of testimony implicating Dr. HORROCKS save the confession of the respondent which she subsequently declared to be false. The case against him was dismissed, the jury having found that he had not committed adultery, but the fact that they could not agree about the innocence of the respondent must be extremely galling to him. Dr. HORROCKS has our sincere sympathy. He has undergone great suffering, but he will derive consolation from the fact that his profession and the public will accord him the full meed of untarnished honour. We trust that many of our readers will hasten to give practical proof of their feelings by responding to the movement started in our columns by Dr. WILLIAM DUNCAN's letter, to which we refer them. One fact came out at the trial of the highest significance to the medical profession—viz., that Dr. HORROCKS, as was *frequently* his *practice when attending* female patients, saw Mrs. CROOK alone. We are aware that this course is pursued by many practitioners, and there are difficulties in the way of entirely superseding it. One patient may have a highly confidential statement to make to her medical man; whilst another, without sufficient grounds perhaps, prefers not to divulge, even to a friend, the nature of her ailment. Nevertheless, we are of opinion that whenever possible a medical man should insist on the presence of a third person when called upon to examine a female patient.

Annotations.

"Ne quid nimis"

THE COLONIES AND THE WAR.

IF the present war has called for great sacrifices in blood and treasure and has carried much suffering and sorrow into many households it has also had its consolations, if not its compensations, in that it has overthrown the social class barriers that tend to separate us one from another by the flood of common feeling and sympathy it has called forth. Some unexpected advantages have already sprung out of the war and these will probably be followed by others of which we now have but little conception. One of the results which promptly followed the publication of the ultimatum on the part of the Boer Government was the grand way in which our colonies rallied to the aid of the mother country and vied with one another in proffering their services on her behalf. The nation had every reason to regard their action with unfeigned pride and satisfaction and we are glad to say it has been almost universally recognised in terms of high appreciation not only by the press of the country, but also as a matter for congratulation among all sorts and conditions of men. The several parts of the empire have become unified and welded together by the present war into an organic whole The bonds of union are those of a common kinship in feeling and interest which have been sealed by mutual services and sacrifices on the battle fields of South Africa While this is all as it should be we should greatly regret if our indebtedness to our various colonies for the great services they have rendered in the aid and succour of the sick and wounded were allowed to pass unnoticed and were not as fully appreciated in fitting terms as they deserve to be. In addition to the splendid contingents of first class fighting men that have come from so many distant parts of the empire in order to stand beside our troops in South Africa, where they have already played such a prominent and worthy part, the medical service of the army in the field has received great accessions to its strength from the same sources. Canada, Australia, New South Wales, New Zealand, and Ceylon have sent very efficient medical aid and India has contributed an invaluable body of dhoolie bearers. In connexion with one of the recent engagements of the force fighting its way to Bloemfontein we read that the New South Wales ambulances, under Major Fiaschi, were out all night collecting the wounded. From the colonies there have come hospitals, hospital ships, and hospital *matériel* of all kinds, supplemented by a highly qualified medical *personnel* who have done very hard and excellent work during the campaign, often under circumstances of danger and more or less hardship to themselves. They were not, to borrow a phrase from Mr. Wyndham, fulfilling a contract but obeying the instincts of an Imperial race. We had the gratification of announcing last week that Sir Thomas Fitz-Gerald, F R C S. Irel., senior surgeon to the Melbourne Hospital, was proceeding to the scene of war. Sir Thomas Fitz-Gerald enjoys a high reputation for his professional attainments and operative skill and he temporarily relinquishes a large and lucrative practice in order to place his services at the disposal of the army in South Africa, and he is only a notable example, we are proud to say, of that patriotic spirit which has been so commonly manifested by members of the medical profession throughout the colonies We believe that we are right in saying that Sir Thomas FitzGerald will only be renewing an old acquaintance with the Army Medical Service, for a commission in which he was long ago a successful competitor, but had to leave Netley owing to an acute attack of illness, to recover from the effects of which he went to Australia, and happily did so. What the Royal Army Medical Corps lost the capital of Australia gained, for he has there had a most distinguished career as a hospital surgeon.

THE NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION.

THE first general meeting of members of this association was held on March 13th at the Royal Medical and Chirurgical Society's rooms, 20, Hanover-square, W., when there was a fair attendance. The Earl of Derby, who presided, said the first year of the society's existence had certainly been attended with very successful progress. He abstained from commenting on the report, which had been distributed among those present, but alluded to the fact that since the first meeting last year a contributory meeting of those who intended to take part in the International Congress which it was proposed to hold in 1901 had taken place. The congress at Berlin was attended with so much success that it was thought it would be useful to bring together again the great medical authorities and lights of science from various parts of Europe and the rest of the world. On that occasion the Prince of Wales, with his accustomed readiness, had accepted the office of President Lord Spencer, in a very short speech, moved the adoption of the report. The subject, he said, was one on which they all felt the very deepest interest, as it concerned the health of the population of England. Dr L H Bryson seconded the adoption of the report. He alluded to the narration by Lord Strathcona of a case of a patient suffering from phthisis who was rejected by all the insurance offices of Canada but who after a sojourn in the Rocky Mountains was accepted as a first class life. They could not hope to equal that in England, but he trusted that the knowledge which the association was spreading would result in a modification of the hard-and-fast rules binding insurance offices which were based on the knowledge of 30 or 40 years ago It was not too much to hope that the big life assurance offices, which were becoming symptoms were present. Referring to the question of female nurses he and those on the spot were fully convinced that they were out of place at the front. There were 1800 male nurses of a very high order at the front. A field hospital to be of any use must be perfectly mobile, and this was impossible with female nurses. He spoke very highly of the new departure to provide civil consulting surgeons of eminence. They were not only of the greatest use in the treatment of cases, but were also towers of strength in defence from adverse criticism. The toast of the President was proposed by Sir William Broadbent, and the speeches were interspersed with some excellent music by Dr. S. Henning Belfrage, Mr. C. Preston Wynne, Dr. Campbell Pope, and Dr. Frederick Roberts.

INQUESTS HELD BY THE CORONER OF LIVERPOOL IN 1899.

THE total number of cases of death reported to, and investigated by, the coroner of Liverpool during the year 1899 amounted to 1824. Inquest was deemed unnecessary in 782 instances. 1042 inquests were held, involving the deaths of 636 males and 406 females. Of these 78 were male infants (legitimate) and 77 were female infants (legitimate), under one year. There were 54 males (legitimate) and 64 females (legitimate) of one year and under seven years. Of illegitimate infants under one year there were four males and three females. Of children of seven years and under 16 years there were 39 males and 26 females Of youths of 16 years and under 25 years there were 46 males and 13 females. There were 331 male adults, and 156 female adults of 25 years and under 60 years. 84 males and 67 females were aged 60 years and upwards. Post-mortem examinations were made by order of the coroner in 93 cases. The verdicts of the juries comprised: murder, five females and two males; manslaughter, two males and two females; suicide while insane, 41 males and 10 females; accidental death, 260 males and 179 females; suffocated while in bed with parents, 72 male infants and 64 female infants; found drowned, 16 males and three females; excessive drinking, 144 males and 98 females; want, cold, and exposure, five males and four females; want of attention at birth, three males and three females; natural causes, 73 males and 35 females; injuries, cause unknown, 15 males; stillborn, three males and three females. Inquests were held on the bodies of five newly-born male infants and four newly-born female infants.

TYPHOID FEVER CAUSED BY CELERY.

TYPHOID fever has been attributed to many causes but probably the most novel one is that which is mentioned in a report published by the Springfield *Republican* of Dec. 14th, 1899, on an outbreak of the disease which occurred recently in the Insane Asylum, Northampton, Massachusetts, U S A. This report showed the disease to have been originated and spread by means of celery. It appears that up to Sept. 9th, 1899, the institution had been singularly free from typhoid fever, there having been only four cases in 10 years. But on and after that date cases occurred with alarming frequency, so much so that in about two weeks 40 inmates were stricken with the malady which, moreover, exhibited no signs of abating. Accordingly the services of Dr. Morse of the Massachusetts State Board of Health were requisitioned, and he was requested to make an investigation. The fact was then disclosed that patients, nurses, farm help, and kitchen help were affected, and, further, that the only patients attacked were those who paid for their care at the institution. Therefore it seemed probable that the cause of the epidemic was due to some article of food of which the patients, nurses, and servants partook and in which the non-paying patients had no share. The discovery was made that the paying patients were sometimes supplied with extra articles of food such as fruit and vegetables. At the time of the epidemic they received celery raised on the farm. This vegetable was ultimately decided to be the cause of the disease, and investigations were set on foot thoroughly to probe this theory. It happened that the sewage after being filtered was spread on the celery beds, and owing to the methods used in cultivating celery by banking the stalks of the plant with earth the vegetable provided a very favourable medium for the transmission of the disease. Celery was first used at the Massachusetts Asylum in August and became quite a common article of diet for the paying patients, the nurses, the house help, and the farm help. The most significant fact of all, however, is that one of the farm servants, not realising the danger of eating celery and disregarding the injunctions forbidding its use, ate some, and quickly contracted typhoid fever. After orders had been given to stop the further consumption of celery the epidemic immediately subsided.

"A QUESTION OF LUNACY FEES"

IN THE LANCET of Dec. 23rd, 1899, there appeared a letter under the above heading from Mr. J. L. A. Hope, M.R C S. Eng., regarding the behaviour of the Chertsey Guardians as to payment of fees for certifying lunatics. Mr. Hope is not the parish medical officer, but was asked in a private capacity by the relieving officer to attend at the workhouse and certify seven lunatics. He certified the cases and was offered half a guinea per case by the guardians. This sum he would not accept and demanded one guinea per case. The guardians refused, telling Mr. Hope that he had his remedy. The matter came up at a meeting of the board of guardians held on Feb. 6th, when a letter from Mr. Hope's solicitor was read informing the board that his client had instructed him to take proceedings against the board unless they paid seven guineas The clerk to the board said that the justices had certified for the amount claimed upon the certificate. The board determined to fight the case. They maintain that the law directs the guardians to pay the medical man "such reasonable remuneration as they shall think fit." Mr. Hope's legal advisers rely upon the amount certified on the certificates by the justices. So far as we know the matter is left entirely in the hands of the justices who are empowered to direct the guardians to pay such fee as they, the justices, shall think fit. The question, however, now rests in the hands of the judge who is to hear the case.

INTOXICATION FROM THE USE OF ESERINE DROPS.

THE use of eserine drops in ophthalmic practice is not as a rule attended by any inconvenience. In a recent work by Professor Cohn of Breslau it is stated that their prolonged use does not produce any symptoms. He only knew of one case: in that, spasms of the orbicularis palpebrarum and slight headache had resulted. At the meeting of the Société Médicale des Hôpitaux of Paris on Jan. 19th M. Roubinovitch related the following case. A healthy old man, aged 80 years, had chronic bilateral glaucoma with cupping of the discs and contraction of the visual fields. During three years two drops of a half per cent. solution of sulphate of eserine were instilled twice a day into each eye. For eight or ten months peculiar symptoms had followed each instillation. Sometimes the patient became drowsy and passed into a state of sleep with dreaming; sometimes he remained awake but seemed to lose a correct perception of his surroundings; occasionally attacks of vertigo occurred. The case was then investigated. Before instillation the rectal temperature was 97·7°F. and the pulse was 80 and regular.

Ten minutes after the instillation of four drops of the solution (representing about a milligramme of eserine) the temperature had risen $\frac{2}{5}$° and the pulse-rate had increased by 12 beats in the minute 35 minutes after instillation the temperature had fallen $\frac{9}{10}$°, the pulse had returned to 80, but the tension was increased. On auscultation intermittent action of the heart was found The patient was semi-conscious and had intellectual and sensory troubles. He insisted that he was tied to the ground with his arms suspended in the air, then he declared that he saw a hand in the air suspended before him opening and shutting the fingers. At the same time tonic jerks manifested themselves in the limbs. Three-quarters of an hour after instillation he slept with quasi-stertorous breathing. He awoke after about an hour still having illusions. He had arterio sclerosis and polyuria and, it was thought, a slight degree of granular kidney. Possibly defective elimination by the kidneys was the cause of the production of toxic symptoms by such a small quantity of eserine.

ACTION FOR MALPRAXIS AGAINST AN UNQUALIFIED MAN.

A CASE of some interest has recently been heard at the Brompton County Court in which the plaintiff claimed damages to the amount of £50 from the Sloane Pharmacy Stores, Limited, and also against one Rupert Albert Fyson, an assistant, for the removal of a wrong tooth. The plaintiff stated that the manager of the stores informed her that Fyson was a properly qualified dentist, and on the strength of that statement she had consulted him about a right lower molar tooth which was causing her pain Instead of removing this tooth he applied his forceps to a porcelain crown fixed on the root of an adjacent pre molar, broke the porcelain, and left the pin standing which held the crown on the root. In his evidence the defendant said he was not a registered dentist but had studied dentistry and practised the operation of extraction for about 11 years. He maintained that the fracture of the porcelain crown was due to the struggling of the patient. Expert evidence was called on both sides and the plaintiff eventually obtained damages of £10. This case is another glaring example of the insufficient manner in which the public are protected from unqualified men If the statement contained in the shorthand writer's report is correct, that the manager of the stores stated that Fyson was qualified, then the man was guilty of untruthfulness and should be held to be responsible for the statement

WHITE AND DARK MEATS IN MEDICAL DIETETICS

IN a series of articles recently published[1] Dr. Offer and Dr. Rosenquist deal with the opinion which has been generally accepted by many that white meats are more suitable as a dietary, owing to greater digestibility and the presence of less uric acid and nitrogenous extractives This popular belief has much to answer for in view of the fact that white meats are so generally prescribed for patients who are the subjects of gouty, renal, and allied troubles in particular. The analyses made by Dr. Offer and Dr. Rosenquist show that while the white meats such as poultry and fish do in certain cases—e g , fish and fresh venison—contain less extractives and nitrogenous derivatives, the average amount does not appreciably differ in the white and dark meats—e g , poultry, veal, beef, pork, mutton, &c.—to make either preferable. They point out that the only way of limiting the ingestion of these deleterious extractive and nitrogenous substances is by diminishing the amount of meat taken rather than by forbidding dark meats. They also assert that among the extractives present in meat the most important ones, such as sarcolactic acid and butyric acid, are by no means harmful if taken in small quantities as is ordinarily done, and the same holds good as regards the other organic extractives which are nitrogenous. The bad results which accrue from excessive meat-eating can be neutralised by diminishing the quantity of meat and increasing the amount of vegetables consumed during meals, and in this way disorders and ailments due to excess of uric acid in the blood may be gradually ameliorated. The practice of eating three heavy meat meals a day should be discouraged on the same grounds.

THREE GREAT METEOROLOGISTS.

WITHIN the short space of one week the Royal Meteorological Society has lost three of its most distinguished members, two of whom had filled the office of President. The Presidents were Dr. William Marcet, F.R S., who died on March 4th and who filled the chair (as we note in a fuller notice of his career which will be found in another column) during the term of office 1888–1889, and Mr G J. Symons, F.R S , who was President in 1880–1881. He was elected President a second time in 1900, but illness prevented him re-assuming office and he died on March 10th. The third meteorologist was Mr. E. J. Lowe, F.R S , who also died on March 10th. Dr. Marcet was principally interested in climatology, Mr. Symons's chief work was concerned with rainfall, and Mr. Lowe continued daily meteorological observations, it is said, without a break during nearly 60 years. All were Fellows of the Royal Society.

THE CONSUMPTION SANATORIA OF SCOTLAND.

THE Orphan Homes of Scotland and Consumption Sanatoria of Scotland form at the present time a group of 58 buildings on an extensive site near Bridge of Weir, a country place in Renfrewshire within easy access of Glasgow and Greenock The orphanages owe their origin, now many years ago, to the philanthropy of Mr. William Quarrier of Glasgow, who still continues to take an active part in their administration. At a comparatively recent period his attention was directed to the great need which existed for sanatoria in which phthisical patients belonging to the poorer classes might be treated, and a building, erected for this purpose at some distance from the Orphan Homes, was opened rather less than two years ago. It contains 30 beds, is for females only, and is full, while more than 40 suitable cases are waiting for admission. The quantity of butcher's meat consumed by each patient is about 3 lb. (weight before cooking) daily, to which there have to be added fish, ham, milk, butter, eggs, bread, fruit, &c , the cost per head being about £2 weekly, so that about £3000 per annum are required for maintenance alone. A second sanatorium will be ready for occupation next summer It will accommodate 40 patients and it also is to be for females. With an average residence of four months it will be possible to treat about 240 patients in the two buildings in a year. Admission is free and none but necessitous patients are eligible. An earnest appeal is therefore made for funds for carrying on the work. The medical advisory board consists of Sir William Gairdner, Professor J. G. McKendrick, Dr. D Yellowlees of the Glasgow Royal Lunatic Asylum, and Dr. Ebenezer Duncan. The first annual report of the medical officer (Dr Thompson Campbell) showed that on Nov. 1st, 1898, there were 25 patients in residence, and that during the year 56 were admitted, giving a total of 81 treated; of these 56 were discharged after an average residence of 156 days, and 25 remained on Oct. 31st, 1899. Of the 56 discharged 12

---

[1] Berliner Klinische Wochenschrift, Nos. 43, 44, and 45, 1899

(i.e., 21 per cent.) were cured; the tubercle bacillus had disappeared and further testing by inoculation had negative results. A description of the daily routine of life in the institution is given in the general report. The secretary is Mr. D. Hill Jack, Hebron, Bridge of Weir, Renfrewshire.

THE ENGLISH-SPEAKING PRACTITIONER IN ITALY.

OUR Rome correspondent writes under date March 13th: The Cabinet Council lately held to formulate the conditions under which foreign medical men may practise in Italy has approved the following "progetto di legge" (Bill) which the Premier, General Pelloux, who is also Minister of the Interior, has presented to the Chamber of Deputies: "For the last clause of Article 23 of the law on Public Health of Dec. 22nd, 1888, No. 5849, the following has been substituted. 'From the present prohibition are excepted, first, the foreign physicians and surgeons expressly called in for special cases or for exclusive attendance on a specified individual or family, and, secondly, those who, possessing a diploma of some university or medical school abroad, practise their profession among foreign visitors only, always, however, on the understanding that the said visitors belong to States which accord the same privilege to Italian physicians and surgeons.'" The Bill, so conceived and worded, is preceded by His Excellency's vindication of its distinctive provision—a vindication which amounts to this, that as, for instance in the British Islands, Italians are not allowed to practise even among their compatriots exclusively without possessing a British qualification the permission hitherto enjoyed by British practitioners to practise among their fellow countrymen exclusively in Italy must be withdrawn. Only under conditions of perfect reciprocity can the British practitioner attend patients in the Italian Kingdom. Such is the significance and *animus* of the Bill shortly to be discussed in the Italian Chamber. THE LANCET's view of the "reciprocity" argument is well known in Italy, and it will be interesting to see the consideration that will be accorded to it by the supporters and the opponents of the Bill respectively.

OPERATION FOR TUMOURS OF THE SPINAL CORD.

SCHULTZE[1] reports two successful cases of tumour of the spinal cord diagnosed and treated surgically, thus adding to the list of 20 similar cases published by Bruns in which beneficial results had been obtained only in six. The first patient, a woman, aged 49 years, suffered from hysterical and neurasthenic symptoms which were succeeded by signs of spinal disease, symptoms of compression of the spinal cord, and paraplegia. The localising symptoms pointed to the mid-dorsal region and on operation a tumour was discovered compressing the cord in the region of the fourth to the seventh dorsal segments and lying between the dura mater and the vertebræ. This was removed and for a week after the operation the symptoms grew worse, after which they steadily improved and in a few months the patient was able to walk and to get about freely. The second case was that of a man, aged 28 years, with symptoms of spastic paraplegia and with an area of anæsthesia extending up to the level of the mid-dorsal segment of the cord. On opening the spinal canal a tumour was found at the level of the sixth dorsal vertebra and was removed. The sensory and motor troubles temporarily grew worse during the few days succeeding the operation. After this the patient improved steadily and was able to walk about and to follow his occupation as a gardener. Schultze points out that these two cases throw a more favourable light on the statistics of operation for spinal tumours, and that in view of the utter hopelessness and futility of expectant and palliative treatment there is every reason why surgical operation should be resorted to when once the diagnosis of intra spinal tumour is confirmed.

THE INTERNATIONAL CONGRESS OF PROFESSIONAL MEDICINE AND MEDICAL DEONTOLOGY.

THE Committee of the International Congress of Professional Medicine and Medical Deontology, which will be held in Paris from July 23rd to July 28th, 1900, have sent us the following information concerning the Congress to which we desire to call the attention of our readers. All persons subscribing to the Congress before June 20th, 1900, will be able to obtain a reduction of 50 per cent. in the fares over the various railway systems of France and a reduction of 30 per cent. on board the steamers of the Compagnie Transatlantique. The necessary vouchers to obtain these reductions will be sent out at the same time as the card of membership of the Congress and the railway ticket will be available for a term of one month—namely, from July 20th to August 20th. With reference to the question of apartments in Paris the committee is at present in communication with various agencies to obtain special terms. Various circulars and information upon this subject are at the present time in the hands of the President and Secretaries of the French Committee of Patronage and the different national foreign committees, and members of the Congress desirous of information upon this subject are requested to apply to such committees. Membership of the Congress may be obtained by sending 15 francs for full members (*titulaires*) and 10 francs for other members (*participants*) with a visiting card to the treasurer of the Congress, M. Pierre Masson, 120, Boulevard St. Germain, Paris. "Other members" include medical students and the wives of members of the Congress. They can obtain the reduction in railway fares but are not entitled to the publications of the Congress.

A MEETING of the general committee and subscribers to the Hampstead Heath Extension Scheme will be held at the Vestry Hall, Haverstock-hill, N.W., on Wednesday, March 21st, at 5 30 P.M., for the purpose of receiving the report of the Executive Committee and considering the recommendation as to the disposal of the funds still in hand

Lieutenant-Colonel Arthur Thomas Sloggett, R.A.M.C., and Mr. Edmund Owen, F.R C.S. Eng., have been appointed Knights of Grace of the Order of the Hospital of St John of Jerusalem in England.

NEWTON ABBOT JOINT HOSPITAL.—At the meeting of the committee held on March 9th, Mr. Ley, F.R.C.S. Eng., the medical superintendent, reported that during 1899 there had been 13 cases of typhoid fever treated, all of which had recovered.

CARDIFF INFIRMARY.—The financial position of the infirmary is occupying a considerable amount of attention in Cardiff. In spite of the appeals made last year the total income of the institution was £105 less than in 1898. Through lack of funds the committee were obliged to close the women's ward last September and unless some scheme is devised for increasing the revenue it is feared that there may be some further curtailment of the work of this excellent charity. The total deficit balance of the infirmary is now £8946, the expenditure having been in excess of the income for some years. During the years 1897, 1898, and 1899 the expenditure of the institution was £7405, £8529, and £9051 respectively, whilst the income for the same periods was £6641, £7085, and £6980. Several means have been suggested for placing the infirmary in a sound financial position and it has been recommended to municipalise the institution and allow it to be supported out of the rates.

---

[1] Zeitschrift für Nervenheilkunde, Dec 7th, 1899.

CROOK v. CROOK AND HORROCKS

(BY A LEGAL CORRESPONDENT.)

THE recent divorce case in which the petitioner and co-respondent were medical men calls for more than passing comment. Stated briefly, the facts were that a wife suddenly told her husband that she had committed adultery. Her husband believed her and instituted proceedings, making the person she named co-respondent, with the result that as her confession was evidence against herself alone and as she did not substantiate it, but, on the contrary, denied the truth of it in the witness box, there was no evidence against the co-respondent, while the jury, after he had been dismissed from the case, were asked to consider whether the wife had or had not committed adultery. This illogical and absurd situation, arising through the strict application of the rules of evidence, is not a new one and was forced upon the public notice in 1886, when a prominent politician was found by a jury, under the judge's direction, not to have committed adultery, while the married woman on whose confession the petition was grounded was found to have committed adultery with him. The only possible way of preventing the return of verdicts which, though doubtless correct in theory, in fact suggest conditions beyond the grasp of human intelligence, would be to forbid the reception of such confessions in evidence without the way being first paved for them by the giving of such evidence as would materially *corroborate* them. In the proof of crime the evidence of one witness is sufficient at common law; but on the trial of certain charges, among which are some of those which women and young girls are prone to make, the prisoner by statute may not be convicted unless there be corroboration of the woman or girl's statement in some material particular, while no judge would allow a man to be convicted of any serious offence against a woman's chastity without the production of some evidence beside her own indicating his guilt, or at least pointing to the crime having been committed, while, again, the lunatic who from time to time gives himself up to the police as having committed murder is not so much as put upon his trial unless there are facts discovered which bear out his story, the first one necessary to be ascertained being that a death, which may have been murder, has taken place. Those who know the proneness of women in certain conditions of health to accuse themselves of unchastity and others of violating their persons will have read the trial of the divorce petition in which Dr. Peter Horrocks, obstetric physician at Guy's Hospital, was made co-respondent with little short of horror.

Amplifying the facts which we have given above as far as we have space to do so we find that they were as follows. Dr. H. E. Crook, a medical practitioner at Margate, who had been for some years married, finding that his wife was suffering from some uterine trouble sent her to consult Dr. Horrocks, with whom he was acquainted through having been a student under him at Guy's Hospital. Mrs. Crook visited Dr. Horrocks at his house in 1896, was attended by him subsequently at a private hospital, and went to see him with regard to her health on other occasions, the last of these being in 1898, shortly after she had been delivered of a child. It was given in evidence, apparently as bearing upon the suggestion of improper intimacy, that on one occasion Dr. Horrocks gave his patient a lift in his brougham to the railway station and bought her a book and a newspaper, that on another occasion he showed her over his house, and that on her asking him to be godfather to her baby he assented and wrote the child a letter, while on yet another day he sent the mother a Christmas card. If in these circumstances without anything further happening Mrs. Crook had accused Dr. Horrocks of improper familiarity with her it might have been said that either her statement was true or that her hallucination had little or nothing to account for it, not that it is always necessary to account for hallucinations. In 1899, however, a very singular event occurred. Dr. Crook went to consult, not an eminent physician or surgeon, but a person practising the cryptic science of palmistry. This lady, for the palmist was of the fair sex, seems to have made a deep impression upon Dr. Crook in some measure owing to her having told him that he ought to have been a barrister and not a medical man, in which she may or may not have been right, and also owing to her being mysteriously able to reveal to him matters connected with his past life. Dr. Crook does not seem to have told his wife all that the palmist said to him, but he imparted enough with regard to her, including her name and address, to send Mrs. Crook also in search of revelations. Put briefly, what the palmist said to Mrs. Crook was that she (Mrs. Crook) had committed adultery and would be divorced, occasioning great scandal thereby, and having first told her victim that she had a son, which was not the case, altered this to the prediction of the birth of a boy the father of whom was not to be her husband. It was some months after this astonishing interview that Mrs. Crook startled her husband by telling him that she had committed adultery "heaps of times" with Dr. Horrocks in his consulting room, subsequently amplifying her statement and reducing it to writing.

Nothing beyond this verbal and written statement was produced in evidence at the trial bearing directly on the question at issue, as before the case came on for hearing Mrs. Crook had been to see Dr. G. H. Savage. Dr. Savage was called and gave evidence that he found her feeble with a rather rapid pulse and a determined aspect almost amounting to sullenness. He appears to have suggested to her that her confession was the result of hallucination, which suggestion she accepted and maintained on oath at the hearing of the petition for divorce. Looking at the case from every point of view, and with the most anxious desire to treat the evidence on both sides with scrupulous fairness, it is impossible to believe that there is anything to be added to what Dr. Savage said. Those who read the evidence, which was fully reported in many newspapers, may have formed the view that the husband was sincere in his belief in his wife's guilt but a little unduly vehement in the expression of his opinion—a little too disinclined to admit the possibility that, with regard to his wife's temperament and condition, he might be in error. And all will admit that if charges of this kind can be made in the way recorded above and substantiated with no better evidence the position of the medical man, and particularly that of him who devotes himself to gynæcology, becomes one of grave difficulty and danger. The very examinations that he is daily compelled to make are suggestive of the offence which he may be accused of committing, while his patients are frequently those most predisposed to accept such suggestion. In the case of Dr. Horrocks the lady who accused him not only did not do so till after she had visited the palmist but apparently did not afterwards allege that she ever felt any conscientious scruples before that occasion, nor did the palmist apparently suggest them. As far as the evidence goes, it is entirely consistent with the view that the palmist simply told her victim that she had in fact committed adultery and would at some future time be divorced and the impression of guilt having been produced the feelings of bitter remorse followed naturally and developed rapidly.

How can a repetition of such terrible stories be prevented? Readers of THE LANCET are well aware that to treat all patients consistently as strangers is not always practicable, any more than it is to have a third party always present when a woman enters the consulting room. This last precaution, moreover, would be no unvarying protection, for it is almost as easy for a woman to say that adultery took place on some imaginary occasion as to assign it on a real one. To prove a negative where such charges are made is frequently impossible and particularly so where the date fixed is one long past. Wherefore, all that is possible for the medical man is to do his duty steadily and courageously, trusting that his fair fame may never be assailed but that if it ever should be the friends whose esteem he has earned will stand by him in his need. In an old number of *Punch* we light upon an apt summary of his destiny which includes:—

> "To face and brave the gossip and stuff
> That travels about through a country town,
> To be thrown in the way of hysterical girls
> And live all terrible scandals down."

Scandals take a good deal of "living down" and it is to be regretted that the law permits them to be made public except in cases where their truth is capable of being proved to the satisfaction of reasonable men.

THE WAR IN SOUTH AFRICA.

HISTORY is fast making itself in South Africa, where events are following one another with dramatic rapidity. The capital of the Orange Free State is now in the hands of Lord Roberts's advancing army. The existence of the South African Republics on their old basis is surely, if slowly, coming to an end, notwithstanding that they threaten to continue fighting for their independence and the maintenance of their existing political autonomy; but they must have been perfectly aware when they launched their ultimatum and promptly followed it up by the invasion of Her Majesty's dominions that the political independence of the Republics was at stake. Lord Salisbury's telegraphic despatch of March 11th in reply to one from the Presidents of the South African Republics puts the case as it is viewed in this country and leaves no possible room for doubt. The war is not over, but things are nevertheless nearing an end. The British military machine at the beginning of the campaign was neither sufficiently strong for the purpose nor was it in proper working order. It is both now, and under the direction and guidance of very able military leaders. What is wanted is the requisite time and patience for the continuance of its further operations and for the unfolding and evolution of the military schemes on the fulfilment of which Lord Roberts and his subordinate generals are now occupied.

It is gradually being borne in upon the public mind that when the history of this war comes to be written it will be found that the futile attempts of the Boers to take Mafeking, Kimberley, and Ladysmith have, after all, served our purpose far more effectually than critics in this country have believed. Sir George White's contention was probably quite correct. The occupation of Ladysmith frustrated the strategical schemes of the Boers, saved Natal from being ravaged, and Pietermaritzburg, and possibly Durban, from being invested, notwithstanding that it caused the division of our forces and delayed the execution of our own plans for the conduct of the campaign.

It is remarkable how little we have known about the losses in the Boer forces from wounds and sickness. Their returns of these have been quite unreliable and ridiculously low, probably with the object of concealing their losses in the field from relatives and friends in the Transvaal and the Free State. We may assume that the ratio of the wounded to the killed has been about five to one in their case, but we have no means of knowing the actual number of their killed in battle, for they always try to carry off as many of their dead as possible.

The total list of our own casualties from the commencement of the war up to a recent date is estimated at 15,849, of whom 2041 have been killed and 9356 wounded, while 930 have died from disease. The relatively small number of the latter says much for the care and forethought that have been taken in providing for the requirements of the campaign and for the sanitation of the camps that have been occupied by the troops. It is possible that the amount of disease will increase as the campaign goes on, but if we are to have no more troops shut up in besieged garrisons, which is happily likely to be the case now, one of the main causes for the prevalence of serious sickness will have been removed. Taking the losses as a whole they are, when compared with some of our former wars, less than might have been expected, especially considering the number and severity of the fights that have occurred. A considerable number of the wounded have recovered sufficiently to return to their regiments. The Mauser rifle is a merciful weapon on the whole. Shell-wounds are, however, as might be expected, as grave and fatal as ever they were. The surgical experience acquired during the campaign is likely to add to, and in some respects to revolutionise, our knowledge and ideas about gunshot injuries. Sir William MacCormac and Mr. Treves are on their way home, and their admirable notes on the surgery and diseases of the war, the condition of the hospitals, and the medical arrangements generally, will be much missed. Among the diseases contracted in the field the sufferers from dysentery are, perhaps, most to be pitied. The catarrhal form of this disease is happily the variety most prevalent in South Africa, for it is the mildest and most easily curable; but where the disease severe, attended with ulceration, and becomes chronic, is, as everyone knows, a very distressing malady, liable frequent recurrence from slight causes, and often attend with complications and followed by long-continued perio of ill-health and debility. The chief public anxiety at t

FIELD FORCE.—SERVICE ABROAD.

Medical Officers detailed for duty with Militia Infantry Battalions ordered to South Africa.

Unit and place of mobilisation.	Medical Officer.
4th Battalion Royal Lancaster Regiment (Lichfield)...	Civil Surgeon A. S Wells.
6th Battalion Royal Warwickshire Regiment (Colchester) ...	" " A. Young
3rd Battalion South Lancashire Regiment (Preston)	" " T H. Wells
4th Battalion Derbyshire Regiment (Manchester)	" " G. B. Buchanan
9th Battalion King's Royal Rifle Corps (Templemore)	(a) Surgeon-Major J. Creagh.
3rd Battalion Durham Light Infantry (Aldershot).	Civil Surgeon F E. Walker.
4th Battalion Argyll and Sutherland Highlanders (Dublin) ...	" " H. R Phillips.

(a) Regimental Medical Officer.

Medical Division, War Office, Jan. 8th, 1900.

Table showing Personnel of Medical Units on the Lines of Communication.

Unit and place of mobilisation.	Names.	Remarks.
No. 5 Stationary Hospital (Woolwich)	*Royal Army Medical Corps.* Lieutenant-Colonel W. W Kenny (a) Lieutenant G. J. S Archer. Quartermaster and Hon. Lieutenant (b) *Civil Surgeons.* Mr. R. Williams. " H. Moore.	One warra officer (e), non-comm sioned office and men (i cluding St. Joh Ambulan Brigade).
No 6 General Hospital (Portsmouth)	*Royal Army Medical Corps.* Lieutenant Colonel B W. Somerville Large (c) Major R. Jennings (c). " J Osburne Lieutenant H. C. R Hime (d) Quartermaster and Honorary Lieutenant (b) *Civil Surgeons.* Mr. H A. Ballance " J W. E Cole. " F. G. Engelbach. Dr. J. D Finlay. Mr P C P Ingram. Dr. V W Low. " R D. Maxwell. Mr. J Owen Dr. W M. Parham " E L Parry-Edwards. " R D Parker. " H J Starling Mr. J. O. Skevington " L T. Whelan *Army Nursing Service* Superintendent—Miss S E Oram. *Army Nursing Service Reserve.* Nursing Sister Miss L E V. Asman. " " " M. I. Burdett. " " " A E. Davidson. " " " R Lawless " " " M T Lightfoot. " " " L. B Peers " " " J E Skillman " " " A L Wilson. (Two female servants)	Two warra officers, 1 non-comm sioned office and men (i cluding 50 S John Amb lance Br gade)

(a) Officer in charge (b) Will join the unit on its arrival in Sou Africa (c) Registrar and secretary (d) In charge of x ray apparat (e) For duty with a unit in South Africa, unit to be decided locally.

War Office, London, S W , Jan 15th, 1900.

Table showing Personnel of Medical Units on the Lines of Communication.

Unit and place of mobilisation.	Names.	Remarks.
No. 7 General Hospital (Portsmouth).	*Royal Army Medical Corps.* Lieutenant-Colonel J. G. MacNeece (a). Major J. P. S. Hayes (b). " J. F. Burke. Captain W. W. O. Beveridge (c). Quartermaster and Honorary Lieutenant (d). *Militia Medical Staff Corps.* Surgeon-Captain W. Waring. " " T. W. G. Kelly. *Civil Surgeons.* Mr. H. Baylis. " G. W. K. Crosland. " H. Goodman. " H. F. N. Hine. " F. E. Ingall. Dr. W. J. Lindsay. Mr. B. A. Nicol. " P. J. O'Sullivan. " G. Park. Dr. A. Spong. " G. R. Thomson (e). Mr. W. Watkins-Pitchford. *Army Nursing Service.* Superintendent—Miss F. E. Addams-Williams. *Army Nursing Service Reserve.* Nursing Sister Miss L. Basan. " " " S. C. Chown. " " " A. N. Ferguson. " " " L. M. Fletcher. " " " E. M. Gardner. " " " M. L. Gordon. " " " M. O. McNeill. " " " E. H. Wilson. (Two female servants.)	Two warrant officers, 143 non-commissioned officers and men (including St. John Ambulance Brigade), and one special cook.

Table showing Personnel of Medical Units on the Lines of Communication.

Unit and place of mobilisation.	Names.	Remarks.
No. 5A General Hospital (Depôt, R.A.M.C., Aldershot). (The *personnel* for this unit has been mobilised on receipt of orders from the Field-Marshal commanding in South Africa and is despatched with a view to the re-establishment of No. 5 General Hospital, the *personnel* of which is reported to have been distributed to various stations.)	*Royal Army Medical Corps.* Lieutenant-Colonel J. F. Williamson (a). Major J. J. Russell (b). Major T. Archer. Lieutenant A. F. Carlyon (c). Quartermaster (d). *Militia Medical Staff Corps.* Surgeon-Captain J. T. Simpson. Surgeon-Lieutenant J. Clerke. *Civil Surgeons.* Mr. H. T. D. Acland. " W. O. Beddard. " C. L. Dunn. Dr. J. G. Green. Mr. P. W. James. " R. Lindsay. Dr. H. D. N. Mackenzie. Mr. C. B. Parsley. " C. A. Peters. " R. W. E Roe. " H. S. Thomas. Dr. J. S. Warrack. *Army Nursing Service.* Acting Superintendent—Miss L. W. Tulloh. *Army Nursing Service Reserve.* Nursing Sisters— Miss R. I. Briggs. " E. M. Chamberlain. " E. M. M. Howard. " I. Lovett. " M. B. Pertwee. " E. M. Rowley. " G. G. Styles. " H. Whiteford. (Two female servants.)	Two warrant officers (one to join the unit in South Africa), 144 non-commissioned officers and men (e) (including 35 men St. John Ambulance Brigade).

(a) Officer in charge. (b) Secretary and registrar. (c) In charge of x ray apparatus. (d) Will join the unit on its arrival in South Africa. (e) Includes one rank and file to allow for the warrant officer joining the unit in South Africa.

Medical Division, War Office, Feb. 20th, 1900.

present moment is in regard to the relief of Mafeking, which is said to be hard pressed and to be suffering considerably from diseases brought about by the hardships and conditions of the siege. This little garrison has held out so long and pluckily under its gallant, vivacious, and resourceful commander that it has throughout attracted keen interest and all are anxiously waiting for its speedy relief.

(NOTES FROM SIR WILLIAM MAC CORMAC.)

(*Continued from p. 614.*)

On Feb. 5th I visited the hospital at Estcourt under the command of Major W. Dowman, R.A.M.C. This is a most comfortable little hospital occupying the chapel, school, and convent school, a few beds also being placed in marquees and bell tents. The authorities of the Roman Catholic convent have very kindly placed their premises at the disposal of the Royal Army Medical Corps and the sisters most effectually carry on the nursing duties of the hospital. They are the Mother Superior and seven nuns of the order of St. Augustine, superintended by Father Follis, and they are most attentive and efficient in their nursing duties. This hospital was organised on Nov. 4th. It consists of 100 beds, which can be increased to 130. A gentleman of Durban has presented 50 spring bedsteads of a very comfortable variety, the remainder of the beds being of the ordinary spring hospital pattern. A very suitable operating room has been equipped in a room off the chapel. The remainder of this building also contains beds. The convent schoolhouse next door is occupied by 14 beds on the ground floor and 14 upstairs. Across a small valley at the other side of the town is situated the town schoolhouse in which 40 beds are placed, whilst two marquees near at hand take eight beds each. There are suitable bathrooms on the premises and the Royal Engineers have erected a cookhouse and good latrines in convenient situations. This hospital did most excellent work during the earlier period of the campaign before the medical organisation had assumed such vast proportions as at present. It was the place of refuge for the wounded after the battle of Willow Grange which was fought only a few miles away between Estcourt and Mooi river. The wounded were attended to on that occasion by Major Dowman and his small staff, assisted by one civilian surgeon, and on their convalescence or fitness for removal were transferred to Pietermaritzburg. I consider the work done at this hospital to be very satisfactory. Amongst the cases treated was that of a sergeant of the Border Regiment who was shot in the abdomen by a sentry for failing to respond to his challenge. Dr. Neal, a civilian surgeon, operated upon him. He found it necessary to remove 15 inches of small intestine which had been perforated in several places by the bullet. This man fortunately made a perfect recovery.

Frere, Feb. 10th, 1900.

I and my secretary arrived here yesterday afternoon and took up our quarters with Major F. A. B. Daly, R.A.M.C. This officer is in charge of No. 1 Stationary Field Hospital, No. 4, which was originally here (on my last visit in December), having gone 26 miles away to Spearman's Farm on the left flank of our position. Major Daly was captured by the Boers after the battle of Dundee and was a prisoner in their hands for nearly three months. He relates many interesting details concerning the Boer medical arrangements and did much during his captivity towards alleviating the sufferings of the enemy's wounded in addition to his duties with our own wounded prisoners. He eventually excited so much jealous feeling on the part of the Boer doctors that it was decided to send him back and so he was despatched to Durban, *viâ* Delagoa Bay, last month. The Boer wounded thanked him in generous terms for his kindness to them through the medium of the *Diggers' News.* This hospital at present is almost entirely used as a resting place and dressing station for the wounded on their long journey from Spearman's Camp to Mooi river, Pietermaritzburg, and Durban. The hospital was started on Jan. 11th on the ground close to the railway line vacated by No. 4 Stationary Field Hospital (*vide* my letter in THE LANCET of Jan. 13th). The sick and wounded arrive here by hand stretchers and ambulance waggons from Spearman's Camp (24 miles away) and the ambulance trains are loaded at the siding emptying the hospital as rapidly as possible. Unfortunately, the number of wounded has been lately so great that the trains cannot get them away fast enough to prevent accumulation. The fighting having now ceased for a season the accumulation will be cleared off and affairs will soon right themselves. The hospital on its arrival here on Jan. 11th consisted of only one-half of an ordinary field hospital—viz., 50 beds—but shortly after the second half arrived, and it then consisted of a well-equipped and comfortable resting place of 100 beds. This latter accommodation was soon found to be quite inadequate for the large convoys of wounded constantly arriving from Spearman's Camp. No. 4 Stationary Hospital there consisted of 400 beds, and the hospital here was consequently increased to 260 beds. This was accomplished by adding 16 marquees and 15 more bell tents. At present, therefore, the hospital consists of 16 marquees (each containing six or eight beds) and 40 bell tents (equipped with rubber sheets and blankets only for the less serious cases). Two marquees are reserved for officers. The marquees in which serious cases are accommodated are equipped with spring bedsteads, sheets, quilts, and blankets, also mosquito curtains, fans, tarpaulins on the floor, and, in fact, everything which can be thought of to lessen the sufferings of the wounded who must of necessity remain for a time in this hot, dusty, and fly-stricken place. A night-stool is placed outside each marquee for serious cases and the trivially wounded are provided with latrine pits outside the hospital lines. Enteric stools are carried away by Indian natives who disinfect the contents with perchloride of mercury and then bury them. The drinking water is obtained from the little stream near at hand known as Frere river. It is pumped up by a pumping engine and put into precipitating tanks. At its best it is very muddy and unpleasant. The hospital is well supplied with ice, which can be kept for eight days after its arrival by employing a simple device used by Major Daly. A deep hole has been dug in the ground, in which a false bottom of wood has been placed, this latter having been pierced with holes. The ice is placed in this hole and the melted portion runs through the holes in the flooring into the space beneath. This method is found very serviceable, and soda-water bottles can be placed on top. The strength of officials consists, in addition to Major Daly, of two civilian surgeons (one of whom is ill), one quartermaster of the Royal Army Medical Corps, and one assistant surgeon of the Indian Subordinate Medical Establishment. I consider that this hospital is very carefully managed and is suitably and comfortably equipped for the purposes for which it is used.

On my arrival I was informed that our whole army, with the exception of General Warren's brigade, was on its way in from Spearman's Camp to Frere and Chieveley and that in consequence the hospital at Spearman's Camp had been entirely vacated by the sick and wounded, the convoy bringing them along being expected to arrive before dark. It appears that on the decision having been arrived at that the army must retire the question was put to the seriously wounded officers and men as to whether they would rather remain behind and fall into the Boer hands or suffer the pain and risk necessarily incurred by being carried over a rough road across country a distance of 24 miles. These wounded—although many were very severely and many dangerously wounded—all stated their wish to remain with their own people and to be conveyed on, and so the hospital was struck and the patients were despatched at once by stretchers and wagons. Each stretcher was carried by Indian coolies, four being at work at a time and 12 coolies being attached to each stretcher. This method of transport has been in use ever since Spearman's Camp was started, but up to the present the serious cases could always remain in hospital until it became safe to move them. The wagons have been also in use for trivial cases not requiring hand carriage. This system of employing coolies is a continuation of the idea of using civilian accessory bearers at the battle of Colenso and subsequent battles across the Tugela (mentioned in my letter descriptive of the Colenso battle of Dec. 15th, 1899). The hand carriage greatly minimises the misery of the wounded and the present scheme in use is very good.

The long, dusty, rough road, if it deserves that name at all, is a track running from Frere to Spearman's Camp made by the tremendous traffic of baggage wagons and ammunition carts which have passed over the undulating, grassy country to the west of Frere during the last month. It is very rough and uneven. As we sat last evening gazing at the rapidly setting sun we overlooked a long stretch of road reaching as far as the eye could distinguish. About seven o'clock, just on the approaching sudden darkness of the tropics, a barely distinguishable moving mass of men could be seen coming over a distant hillock. This was the leading stretcher of the convoy and it had reached us before the end of the train of stretchers and wagons came into view. Hot bovril and stimulants had already been prepared by the men of the Royal Army Medical Corps, great pots of the former resting in the kitchen.

The hospital is surrounded by barbed wire fencing to prevent confusion and the entrance of unauthorised persons. There is an opening at one side at which Major Daly immediately stationed himself, accompanied by his staff sergeant. Each stretcher was lowered at this entrance, the nature of the wound was inquired into, and the patient after identification was conveyed by the men of the Royal Army Medical Corps to the vacant beds, a list of which was kept by the staff sergeant (each tent being numbered). Confusion was thereby greatly diminished and none of the native stretcher bearers were allowed to enter the enclosure; 43 stretchers and 12 wagon loads (100 cases) completed this convoy and most of the cases were serious. I was informed that there were still another 150 to arrive on the morrow. This terribly long line of brave fellows lying helpless, arriving one by one in the dusky light, coming over the horizon, accompanied by the moving shadows of the bearers, silently advancing in their bare feet, or singing a peculiar chant of their own as they wearily sped beneath the weight upon their shoulders, presented one of the most impressive and saddest sights imaginable, and every few moments the sad scene was lighted up by bright lightning flashes, making it still more pitiable. For 14 hours, with the exception of a short halt at midday, had this weary body of sufferers, sick with their wounds and sad at heart with their defeat, wended its way across the hot and dusty veldt. The day happened to be a terribly hot one. The lanterns of the hospital attendants flitted hither and thither among the tents. Wounds had to be rebandaged, splints readjusted, morphia injected, and in some cases operations to be performed at once. The orderlies moved about as rapidly as possible from tent to tent, the similarity of the tents in the darkness causing confusion in anyone unfamiliar with the exact location of the different patients. I was immediately consulted concerning the advisability of re-amputation in a case of secondary hæmorrhage following amputation in the upper third of the leg; the poor fellow was, however, too ill for operative interference and died about two hours after his arrival. Such a sight as No. 1 Stationary Field Hospital presented on the night of my arrival brings home in a most vivid and distressing manner the awful realities of war. One's feelings are very different from those experienced by merely reading about or hearing of such things. This scene was only one of many similar ones at this hospital; the convoys of wounded have been arriving at short intervals ever since Jan. 1st. I am informed that No. 4 Stationary Field Hospital, which consisted of 400 beds at Spearman's Camp two days ago, bivouacked last night in the open veldt on their way to Chieveley. The brigade field hospitals are still at Springfield (beyond Spearman's) with Warren's Brigade and contain 100 wounded between them; all of these will come in to-morrow.

Chieveley, Feb. 10th

We arrived here early this morning from Frere. Since the battle of Colenso there has been very little change here in the arrangement of things. The naval guns are booming today from the position of the old battlefield. These guns continually shell the Boer positions overlooking Colenso town, and beneath their fire and also that of the Boer shells lies the body of poor Captain Hughes, R.A.M.C., in the grave constructed by his brother officers after the Colenso battle. The station-master's house here (the only house) has been surrounded by iron plates taken from the armoured train and also by a network of ropes, these latter being for the purpose of stopping fragments of shells Small earthworks have also been erected in the near vicinity of the house and barbed wire laid down in suitable places as a stumbling-block for the enemy. A little collection of the graves of those who died in the hospital here after the Colenso battle tells its own tale. These graves have been neatly arranged by the soldiers themselves and alongside those of the men lie the remains of two officers, one of whom was the only son of

Lord Roberts. A tombstone has been erected upon which is recorded the fact that Lieutenant Roberts was killed whilst performing an act of conspicuous gallantry which earned for him the Victoria Cross. At present the medical arrangements here consist of one bearer company and a field hospital under the command of Major C. W. Thiele, R.A.M.C. The hospital contains very few patients, and these few are mostly of a medical nature. No. 4 Stationary Field Hospital is arriving here to day, as are also most of General Buller's force. Sir Redvers Buller himself is expected to take up his quarters this evening in the station-master's house.

The army having retired with no apparent hope of relieving Ladysmith in the near future, and I having received a telegram from Lord Roberts to the effect that he would like me to be with him at the front at Modder river, I purpose starting immediately for Durban *en route* for Port Elizabeth and Modder river.

WILLIAM MAC CORMAC.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

(Continued from p. 643.)

THE parts of Lord Llandaff's report which have not been summarised in the previous articles have reference to (1) the purchase of provincial water undertakings by local authorities; (2) the consideration of the present and prospective requirements of London with regard to the quantity and quality of the water-supply; (3) a statement of the reasons which lead the Commissioners to advise that a new Water Board should be constituted to purchase the present undertakings and to be responsible for the supply of the whole of Water London; and (4) suggestions as to the composition of the proposed Water Board and as to the powers with which it should be invested.

The Commissioners hoped to be able to get some valuable assistance from a consideration of the cases of purchase of provincial water undertakings by local authorities, but they found that no certain conclusions could be drawn from the accounts received from county boroughs. To arrive at definite conclusions it would have been necessary to examine each case separately and to know the capital, the income, and the rates of charges of the company which was bought by the corporation, and to obtain full information as to the income, and the charges after purchase by the cor- n. It would have been necessary also to know defi- he area supplied and the changes which had occurred rateable value of the area. From the information hey received the Commissioners think, however, that ppears to be no superior economy in corporation ment or that the charges for water are as a whole d by it. Corporations, however, have the advan- being able to distribute the burden of the charges water-supply between the consumers and the rate- , and also of charging at higher rates in districts the area of their boroughs. In one case the Com- ers were able to obtain particulars with regard to se by arbitration.

he year 1878 the Stockton and Middlesbrough Corporations bought the water company which supplied those places. The share capital amounted to £250,388 and the company were paying their maximum dividends. The purchase of the undertakings was authorised by the Stockton and Middlesbrough Act of 1876 By this Act, it was directed that £18,647 (their maximum statutory dividends) should be paid in perpetual annuities, or that a gross sum calculated on 25 years' purchase of that amount should be paid together with any further sum which an arbitrator might direct to be given for compulsory sale and for the prospective value of the undertaking. The debts of the company, £126,073, were taken over by the corporations. The capital value of the annuities was £466 175, and £213,803 were awarded by the arbitrator for "compulsory sale and prospective value." Thus altogether the corporation paid £679,977 for a business of which the share capital was £250,388. After the purchase of the undertaking the water trust expended £997,341 in obtaining a new supply of water. The result was that in 1897 there was a deficit on the water income amounting to £26,629 This was met out of the borough rates of the purchasing boroughs and the rate amounted to 11 6*d* in the pound.

Of all the cases examined that of the purchase by the Glasgow Corporation was the most favourable from the point of view of the water consumers. In the year 1855 the corporation bought two companies' undertakings paying perpetual annuities at the rate of 5·13 per cent. on the capital of the companies which were at the time paying 6 per cent. The corporation obtained Parliamentary sanction for the supply of water to outlying boroughs and were allowed to fix themselves the rates which were to be paid provided that they did not exceed those previously charged by the companies. In 1859 a new supply of water was obtained by gravitation from Loch Katrine. For a few years there was a deficit and for two years increased rates and then the corporation were able to reduce the water rates from 1*s*. 2*d*. to 1*s*. and later to 6*d*. in the pound rental. The Commissioners were not able to obtain information as to the growth of the rateable value in the district supplied and that they consider a material circumstance in estimating the financial results of the purchase.

The Commissioners proceed to consider what the legitimate requirements of the inhabitants of Water London now are, what the requirements are likely to be in the future, and what bearing those requirements have on the expediency of purchase. The requirements are, they report, a supply of pure and wholesome water constantly laid on at such pressure as will make the water reach the top storeys of the highest houses and in quantity an amount sufficient to meet for some time the growing needs of the inhabitants. London is mainly supplied from the rivers Thames and Lee, which are liable to pollution, and therefore in order to ensure the purity of the water vigilance and careful treatment are necessary. *The Duke of Richmond's Commission* in 1869 and Lord Balfour's Commission in 1893 recommended improved conservancy and efficient filtration. Increased powers have been given to the Thames Conservators and much improvement has been effected by them. The Metropolis Water Act of 1852 places the companies under the obligation of "effectually filtering all river water before it is distributed." Efficient filtration was formerly judged by the clearness and limpidity of the filtered water effluent and if this was found to be clear when viewed through a tube 2ft. in length it was supposed to be efficiently filtered. A new test of efficient filtration has more recently been introduced by Dr. Koch of Berlin, who by means of cultivating bacteria and counting their number in samples of water found that their number was decreased by filtration. He considered that efficient filtration is secured if the effluent does not show more than 100 microbes per cubic centimetre after a period of incubation lasting for 48 hours. The late Sir Edward Frankland adopted Koch's standard of efficient filtration, but he stated in his evidence that it was a purely arbitrary one, sufficient though not unduly severe when applied to the filtered river water, from which are derived the chief supplies of the London water companies, yet he desired it to be understood that the infraction of this standard does not throw suspicion on the wholesomeness of the water. The Commissioners point out that in the tables they have examined, which show the number of microbes in the water supplied by the companies, the microbial excess is in some very large, and unless it should be found that Sir Edward Frankland's standard is too high it seems to follow that the companies' works and processes require to be enlarged and improved. They think, however, that neither the cause of bacterial excess in samples of filtered water nor the methods of filtration best adopted to reduce that excess can be laid down and defined with any certainty. It would, they observe, doubtless be possible to throw on the companies the task of carrying out more systematic and frequent examination of the samples of water and to make the works necessary to obtain a bacterial standard of purity which would be practically safe and satisfactory. They, however, are "disposed to adopt the view" that the work of scientifically treating river derived water should be entrusted to the hands of a public authority, and that it would be an advantage to obtain a unity of management and a uniformity of arrangement which are now absent.

A constant supply of water, the Commissioners point out, is not at present given to all the houses in Water London. About 72,000 are intermittently supplied. The obligation under which the water companies are placed with regard to height above the ground at which they must supply water varies in the different companies. Of late public institutions and other buildings have been raised above the statutory limits of supply, and if the upper storeys receive water it must at present be given as "a matter of grace and not of right. A change in the vertical limits of supply could not be effected without legislation nor could the additional obligations be imposed on the companies without their consent or without compensation." If some public authority purchased the undertakings water would doubtless be supplied under constant pressure to the highest houses.

With regard to the adequacy of the present available sources of water the Commissioners report that in their opinion unification of the water undertakings by purchase would tend to secure a sufficiency by a more rational and economical system of distribution and would lead to a further increase of the intercommunication between the present separate supplies. The existing arrangements have partitioned Water London "in a fortuitous manner" and the arrangements for pumping, service reservoirs, and distributing pipes have been arranged on arbitrary lines of demarcation which are accepted by the companies and which are perpetual barriers to the passage of water from one district to another in spite of the fact that physical circumstances call for a different arrangement. As an example of this the Commissioners refer to the evidence of the engineer to the East London Company who thought that if the undertakings were in the hands of one authority the supply derived by the New River from the Lee would be used for the East London district and that the western parts of the New River district would be supplied by water derived from the Thames. All problems which present themselves in connexion with extension and enlargement of the water supply would be simplified if conventional barriers against the free passage of water from one district to another were swept away, and this would happen if the water undertakings were acquired and managed by a single public authority. The prevention of waste of water would also be more easily controlled by a public authority than by the present water companies. Parliament and the public have been opposed to giving to trade companies a power of entry into dwellings, of regulating fittings, and of cutting off water supplies; but these powers are exercised without "cavil" by public authorities. At the present time the companies do not obtain "the sympathy and assistance" of the public, because efforts for the prevention of waste result in profit to the shareholders of the companies. But the assistance of the water consumers would be of great value to the supplying authority because under a system of constant supply the consumption of water is practically in the hands of the consumers, and the Commissioners believe that a properly constituted authority would receive general assistance from the public in preventing wilful waste.

With respect to the amount of water which will be necessary in the future the Commissioners think it sufficient to look forward to the year 1941, and they adopt Lord Balfour's estimate which they think errs, if at all, on the safe side. The Balfour Commission estimated the amount of water required per head at 35 gallons a day, and applying these figures to the estimated population of Water London the daily supply required for 12,000,000 of people would be 423,000,000 gallons a day. The Balfour Commission estimated the available supplies as follows: from the Lee, 52,500,000 gallons; from wells in the Lee valley, 40,000,000 gallons; from wells in the Kent Company's district, 27,500,000 gallons; and from the Thames, 300,000,000 gallons, making a total of 420,000,000 gallons. The cost of obtaining this supply and the possibility of obtaining the estimated amount from the Thames depend, the Commissioners say, on various conditions, some of which have been presented in a new light by the experience of three years of drought—the years 1893, 1898, and 1899.

UNIVERSITY COLLEGE, CARDIFF.—At the meeting of the council of University College, Cardiff, held on March 2nd (under the presidency of Dr. W. T. Edwards), Dr. E. Walford, medical officer of health of the county borough of Cardiff, and Dr. William Williams, medical officer of health of Glamorganshire, were appointed lecturers on Public Health and Hygiene in connexion with the department of public health recently established in the college. A vote of thanks was awarded to Mr. H. Hughes for presenting to the medical school the medical library of the late Mr. John Hughes, F.R.C.S. Eng., of Carmarthen.

THE MIDWIVES BILL.

THE DIVISION ON THE SECOND READING.

ON Mr. Heywood Johnstone bringing forward a motion for the Second Reading of this Bill on Friday, March 9th, Mr. T. P. O'Connor unsuccessfully moved the adjournment of the debate. The original question was then put that the Bill be read a second time, when the Ayes were 124, and the Noes 34. The following are the names of the Members who voted:—

AYES.

Name.	Constituency.	Politics.
Arrol, Sir William	Ayrshire, South ...	Liberal Unionist.
Ashton, Thomas Gair ...	Bedfordshire, Luton ...	Liberal.
Baker, Sir John	Portsmouth	Liberal.
Bayley, Thomas	Derbyshire, Chesterfield	Liberal.
Beach, Right Hon. Sir M. H.	Bristol, W.	Conservative.
Begg, Ferdinand Faithfull	Glasgow, St. Rollox ...	Conservative.
Bolton, Thomas Dolling	Derbyshire, N.E.	Liberal.
Buchanan, Thomas Ryburn	Aberdeenshire, E. ...	Liberal.
Burns, John	Battersea and Clapham	Liberal.
Burt, Thomas	Morpeth	Liberal.
Cameron, Robert ...	Durham, Houghton-le-Spring	Liberal.
Campbell-Bannerman, Sir H.	Stirling	Liberal.
Cavendish, V. C. W. ...	Derbyshire, W.	Liberal Unionist
Cawley, Frederick ..	Lancashire, Prestwich	Liberal.
Channing, Francis Allston	Northamptonshire, E ...	Liberal.
Charrington, Spencer ..	Tower Hamlets, Mile End	Conservative.
Colomb, Sir John Charles Ready	Great Yarmouth	Conservative.
Colville, John	Lanarkshire, N.E. ...	Liberal.
Cooke, C. W. Radcliffe ...	Hereford	Conservative.
Corbett, A Cameron ...	Glasgow, Tradeston ...	Liberal Unionist
Cornwallis, Fiennes Stanley W.	Maidstone	Conservative.
Courtney, Right Hon. Leonard H.	Cornwall, Bodmin ...	Liberal Unionist.
Crombie, John William ..	Kincardineshire	Liberal.
Curran, Thomas B.	Donegal, N.	Nationalist.
Dalkeith, Earl of	Roxburghshire	Conservative.
Davies, M. Vaughan ...	Cardiganshire	Liberal.
Dixon-Hartland, Sir Frederick Dixon ...	Middlesex, Uxbridge ...	Conservative.
Dunn, Sir William	Paisley	Liberal.
Emmott, Alfred...	Oldham	Liberal.
Evans, Samuel T.	Glamorganshire, Mid....	Liberal.
Fenwick, Charles	Northumberland, Wansbeck	Liberal.
Fergusson, Right Hon Sir J.	Manchester, N E.	Conservative.
Field, Admiral	Sussex, Eastbourne ...	Conservative
Finlay, Sir Robert Bannatyne	Inverness Burghs... ...	Liberal Unionist
Fisher, William Hayes ...	Fulham	Conservative
Flannery, Sir Fortescue ..	Yorkshire Shipley... ...	Liberal Unionist.
Foster, Harry S.	Suffolk, N.	Conservative.
Gedge, Sydney ...	Walsall	Conservative
Gibbs, Hon. Vicary	Hertfordshire, Mid. ...	Conservative.
Gilliat, John Saunders	Lancashire, Widnes ...	Conservative.
Gorst, Right Hon. Sir John Eldon	Cambridge University	Conservative.
Greene, Henry D. ..	Shrewsbury	Conservative.
Gurdon, Sir William Brampton	Norfolk, N.	Liberal.
Haldane, Richard Burdon	Haddingtonshire	Liberal.
Hardy, Laurence	Kent, S.	Conservative
Hazell, Walter	Leicester	Liberal.
Henderson, Alexander	Staffordshire, W ...	Liberal Unionist
Hobhouse, Henry	Somerset, E ..	Liberal Unionist
Houldsworth, Sir William Henry ...	Manchester, N W. ...	Conservative
Hubbard, Hon, Evelyn .	Lambeth, Brixton ..	Conservative.
Hutton, Alfred E	Yorkshire, Morley ..	Liberal,
Jacoby, James Alfred ..	Derbyshire, Mid.	Liberal.
Johnston, William ..	Belfast, South	Conservative
Joicey, Sir James ...	Durham, Chester-le-Street	Liberal.
Jones, William	Carnarvonshire, N. ...	Liberal.
Kenyon-Slaney, Colonel William	Shropshire, N. ...	Conservative
Kimber, Henry .	Wandsworth	Conservative
Lawrence, Sir E Durning	Cornwall, Truro	Liberal Unionist.

Lawson, Sir Wilfrid... ...	Cumberland, Cockermouth...	Liberal.
Leese, Sir Joseph F. ...	Lancashire, Accrington	Liberal.
Leng, Sir John	Dundee	Liberal.
Llewelyn, Sir J. T. Dillwyn	Swansea, Town	Conservative.
Loder, Gerald Walter Erskine	Brighton	Conservative
Lonsdale, John Brownlee	Mid Armagh	Conservative.
Lopes, Henry Yarde Buller	Grantham	Conservative.
Lowe, Francis William ...	Birmingham, Edgbaston	Conservative.
Lowles, John	Shoreditch, Haggerston	Conservative.
Loyd, Archie Kirkman ...	Berkshire, Abingdon ..	Conservative.
Lyttelton, Hon. Alfred ...	Warwick and Leamington	Liberal Unionist.
Macdona, John Cumming	Southwark, Rotherhithe	Conservative.
M'Kenna, Reginald... ..	Monmouthshire, N. ...	Liberal.
M'Killop, James	Stirlingshire	Conservative.
Maddison, Fred.	Sheffield, Brightside ...	Liberal.
Martin, Richard Biddulph	Worcestershire, Mid. ...	Liberal Unionist.
Melville, Beresford Valentine	Stockport	Conservative.
Milward, Colonel Victor .	Warwickshire, Stratford-on-Avon	Conservative.
Molloy, Bernard Charles	King's County, Birr ...	Liberal.
Monckton, Edward Philip	Northamptonshire, N. .	Conservative
Monk, Charles James ..	Gloucester	Liberal Unionist.
Moore, Arthur	Londonderry City	Nationalist.
Moore, William	Antrim, N.	Conservative.
More, Robert Jasper ...	Shropshire, Ludlow ..	Liberal Unionist.
Morrell, George Herbert .	Oxfordshire, Woodstock	Conservative.
Murray, Charles J.	Coventry	Conservative.
Norton, Captain Cecil William	Newington, W.	Liberal.
O'Connor, Arthur	Donegal, E.	Nationalist.
Oldroyd, Mark	Dewsbury	Liberal.
Orr-Ewing, Charles Lindsay	Ayr Burghs	Conservative.
Phillpotts, Captain Arthur	Devon, Torquay	Conservative.
Pickersgill, Edward Hare	Bethnal-green, S.W. ...	Liberal.
Powell, Sir Francis Sharp	Wigan	Conservative.
Pryce-Jones, Lieutenant-Colonel Edward	Montgomery District ...	Conservative.
Quilter, Sir Cuthbert ...	Suffolk, Sudbury	Liberal Unionist.
Reid, Sir Robert Threshie	Dumfries District	Liberal.
Renshaw, Charles Bine ...	Renfrewshire, W.	Liberal.
Roberts, John H.	Denbighshire, W.	Liberal.
Russell, T. W.	Tyrone, S	Liberal Unionist.
Rutherford, John	Lancashire, Darwen ...	Conservative.
Ryder, John Herbert Dudley	Gravesend	Conservative.
Schwann, Charles E. ...	Manchester, N.	Liberal.
Scott, Charles Prestwich	Lancashire, Leigh ...	Liberal.
Shaw, Thomas	Hawick District	Liberal.
Sinclair, Captain John ...	Forfarshire	Liberal.
Smith, James Parker ...	Lanarkshire, Partick ...	Liberal Unionist.
Smith, Hon. W. F. D. ...	Strand	Conservative.
Souttar, Robinson	Dumfriesshire	Liberal.
Steadman, William Charles	Tower Hamlets, Stepney	Liberal.
Sullivan, Donal	Westmeath, S	Nationalist.
Talbot, Right Hon. J. G.	Oxford University ...	Conservative.
Thornton, Percy M. ..	Battersea and Clapham, Clapham	Conservative.
Trevelyan, Charles Philips	Yorkshire, Elland	Liberal.
Ure, Alexander	Linlithgowshire, West Lothian	Liberal.
Wallace, Robert	Perth	Liberal.
Walton, John Lawson ...	Leeds, S.	Liberal.
Warner, Thomas Courtenay T.	Staffordshire, Lichfield	Liberal.
Wason, Eugene	Clackmannan and Kinross	Liberal.
Wedderburn, Sir William	Banffshire	Liberal
Whiteley, George	Stockport	Liberal.
Williams, John Carvel ...	Nottinghamshire, Mansfield	Liberal.
Wilson, John	Durham, Mid	Liberal.
Wilson, John	Falkirk	Liberal Unionist.
Wilson, John	Lanarkshire, Govan ...	Liberal.
Wilson, J. W.	Worcestershire, N. ...	Liberal Unionist.
Wortley, Right Hon. C. B. Stuart-	Sheffield, Hallam	Conservative.

Tellers for the Ayes, Mr. Heywood Johnstone and Mr. Tennant.

NOES.

Name.	Constituency.	Politics.
Abraham, William	Cork, N.E.	Nationalist.
Allsopp, Hon. George ...	Worcester	Conservative.
Austin, M.	Limerick, W.	Nationalist.
Blundell, Colonel Henry .	Lancashire, Ince	Conservative.
Caldwell, James	Lanarkshire Mid.	Liberal.
Collings, Right Hon. Jesse	Birmingham, Bordesley	Liberal Unionist.
Donelan, Captain A. ...	Cork, E.	Nationalist.
Doogan, P. C.	Tyrone, E.	Nationalist.
Douglas, Right Hon. Akers-	Kent, E.	Conservative.
Galloway, William Johnson	Manchester, S.W.... ...	Conservative.
Giles, Charles Tyrrell ...	Cambridgeshire, Wisbech	Conservative.
Goldsworthy, Major-General	Hammersmith	Conservative.
Goulding, Edward Alfred	Wiltshire, Devizes ...	Conservative.
Greville, Hon. Ronald ...	Bradford, E.	Conservative.
Hayne, Right Hon. Charles Seale-	Devon, Ashburton ...	Liberal.
Hemphill, Right Hon. Charles H.	Tyrone, N.	Liberal.
Hogan, James Francis ...	Tipperary, Mid.	Nationalist.
Kenyon, James...	Bury, Lancashire	Conservative.
Kilbride, Denis	Galway, N.	Nationalist.
Lawson, John Grant ...	Yorks, Thirsk	Conservative.
Leigh-Bennett, Henry Currie	Surrey, Chertsey	Conservative.
MacAleese, Daniel	Monaghan, N.	Nationalist.
McDermott, Patrick ..	Kilkenny, N.	Nationalist.
Nicol, Donald Ninian ...	Argyllshire	Conservative.
O'Brien, James F. X. ...	Cork, City	Nationalist.
O'Brien, Patrick	Kilkenny, City	Nationalist.
Pierpoint, Robert	Warrington	Conservative.
Purvis, Robert	Peterborough	Liberal Unionist.
Rentoul, James Alexander	Down, E.	Conservative.
Strauss, Arthur...	Cornwall, Camborne ...	Liberal Unionist.
Tanner, Charles Kearns .	Cork, Mid.	Nationalist.
Walrond, Right Hon. Sir William H.	Devon, Tiverton	Conservative.
Wilson-Todd, Wm. H. ...	Yorks, Howdenshire ...	Conservative.
Wyvill, Marmaduke D'Arcy	Yorks, Otley	Conservative.

Tellers for the Noes, Mr. T. P. O'Connor and Mr. Robert Ambrose.

THE STANDING COMMITTEE ON LAW.

On Feb. 23rd the chairman of the Committee of Selection (Mr. Halsey) reported to the House that they had nominated the following Members to serve on the Standing Committee for the consideration of all Bills relating to law and courts of justice and legal procedure which may by order of the House be committed to such Standing Committee:—Mr. Asquith, Mr. Atherley-Jones, Mr. Atkinson, Mr. Barlow, Mr. Bartley, Mr. Beach, Mr. Butcher, Mr. Carew, Mr. Coghill, Dr. Commins, Mr. Radcliffe Cooke, Viscount Cranborne, Mr. Cripps, Mr. T. B. Curren, Mr. Bromley-Davenport, Sir Charles Dilke, Mr. Dillon, Mr. Tatton Egerton, Mr. Arthur Elliot, Mr. Samuel Evans, Sir George Fardell, Sir Robert Finlay, Mr. Flynn, Mr. Lewis Fry, Mr. Sydney Gedge, Sir Frederick Godson, Mr. Goulding, Mr. Graham, Mr. H. D. Greene, Mr. Haldane, Mr. Harwood, Mr. T. M. Healy, Mr. Helder, Mr. Hemphill, Mr. Staveley Hill, Mr. Hobhouse, Sir John Jenkins, Mr. Johnson-Ferguson, Mr. Lees Knowles, Mr. W. F. Lawrence, Sir Joseph Leese, Mr. Loder, Mr. A. K. Loyd, Mr. MacNeill, Sir Henry Meysey-Thompson, Colonel Milward, Mr. Monk, Mr. Lloyd Morgan, Mr. Mount, Mr. Graham Murray, Captain Norton, Mr. Pickersgill, Sir Francis Powell, Colonel Pryce-Jones, Sir Robert Reid, Mr. Rentoul, Sir Matthew White Ridley, Mr. Bryn Roberts, Sir Andrew Scoble, Mr. Parker Smith, Mr. Ernest Spencer, Mr. Stevenson, Mr. Ure, Sir Howard Vincent, Mr. Robert Wallace (Perth), Mr. Warr, Sir James Woodhouse, and Mr. Woods.

The following Members of Parliament have been specially added to the Standing Committee on Law in respect of the Midwives' Bill:—Mr. Ambrose, Mr. Cosmo Bonsor, Mr. Flower, Mr. Gibbs, Mr. Hazell, Mr. J. Howard, Mr. Humphreys Owen, Mr. Heywood Johnstone, Sir P. Milbank, Mr. T. P. O'Connor, Sir George Pilkington, Mr. Schwann, Mr. Tennant, Mr. Thornton, and Mr. Tritton.

COCKLES AND TYPHOID FEVER.—Dr. W. H. Webb, the medical officer of health of Kingsbridge, Devon, states that the death-rate for 1899 was 12 8 per 1000 and the birth-rate 19 2 per 1000. The only case of typhoid fever was clearly due to eating raw cockles from the estuary of the river where the sewage of the town has its outfall.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on March 8th, the Senior Vice-President, Mr. H. G. HOWSE, being in the chair.

Mr. W. H. A. JACOBSON was introduced, and having made a declaration in the terms of the oath prescribed by the Charter of 1800, was admitted a member of the Court of Examiners.

The Chairman of the Board of Examiners in Dental Surgery reported that at a meeting on Feb. 21st the Board, with the object of carrying out the decision arrived at by the Council on Feb. 8th, adopted the following resolution, viz.:—

> That time spent in the capacity of assistant to a dental surgeon in one of the hospitals attached to the army in South Africa, not exceeding a period of six months, be allowed to count in lieu of the completion of any courses of dental or general professional study which such students were undergoing during this present winter session, and in lieu of any dental or general courses which such students would ordinarily be required to attend during the ensuing summer session, on the understanding that allowance will only be made for the number of months, not exceeding six, during which such students shall be in the service of the hospital, and for which a satisfactory certificate from the dental surgeon can be produced.

Proposals for alterations of several by-laws were submitted to the Council; these alterations are chiefly connected with admitting to the Fellowship examinations, under certain conditions, candidates with qualifications especially recognised by the Council without requiring them to pass the examinations of the Conjoint Examining Board. The proposals were approved and were referred to a committee.

A report from the Committee on the Midwives Bill was read and adopted; it contained *inter alia* the following clause:—

> No provision has been made that the licensed midwife should "apply for qualified medical assistance in every case attended by a midwife which presents symptoms of difficulty, abnormality, danger, or disease on the part of the mother or the new-born child." The addition of a clause to this effect was recommended by the General Medical Council and supported by the Council of this College. The committee understand from their chairman, the representative of the College on the General Medical Council, that the Executive Committee of that Council have again represented to the Privy Council the necessity of such a provision, and they are of opinion that this further action of the General Medical Council should receive the support of the Council of this College.

It was resolved to send a copy of the report of the Committee to the General Medical Council and to the honorary secretary of the Midwives Bill Committee.

A committee was appointed to consider the award of the Walker prize. This is a prize which was founded by Mr. Charles Clement Walker with the object of encouraging the investigation of the pathology and therapeutics of cancer. Although it is not intended that essays should be submitted in competition for the prize or that those who are anxious to obtain it should be called upon to submit their names as candidates, yet it is hoped that the knowledge of the reward which may be obtained and the distinction which it will confer on its recipient will prove an incentive to those who are occupied in the study of this disease. The prize is open to persons of all nationalities, and the Council will be glad for information from time to time of investigations that are being pursued in relation to this disease, so that they may be furnished with all that is necessary to guide them in selecting the fittest recipient for the prize. The prize is awarded every five years and amounts to £100.

The next meeting of the Council will be held on April 5th.

THE MEDICAL DEFENCE UNION.

THE annual general meeting of the Medical Defence Union was held at St. Martin's Town Hall on March 13th, Dr. W. S. A. GRIFFITH, the President, being in the chair.

The CHAIRMAN moved the adoption of the report which is dealt with in a leading article and referred to the honorarium of 100 guineas which had been voted to the treasurer. Thanks were due to the members of the council for the great sacrifices which they made in time whilst travelling to and from the council meetings. He mentioned the solicitor to the Union, Mr. Hempson, as having the entire confidence of the council and acknowledged the services of the general secretary, Dr. A. G. Bateman.—The motion was seconded by Dr. BRIDGWATER and was ultimately carried after a discussion on the subject of the proposed amalgamation with the London and Counties Medical Protection Society.—The CHAIRMAN said it was a difficult matter and any discussion might cause misunderstandings to arise.—Mr. M. HOUGHTON said he understood that the London and Counties Medical Protection Society offered to accept the Union's terms, but this was loudly denied by the members present and the CHAIRMAN said that the council had decided not to amalgamate.

On Dr. J. A. MASTERS proposing that the accounts be received, adopted, and entered upon the minutes a long discussion took place as to how and when annual subscriptions were to be paid, when and how long a member was "out of benefit" of the society, and when membership ceased.—Mr. HOUGHTON'S idea was that on the notice convening the meeting there should be a reminder to those who had not paid their subscription.—A Member supported this view, and the CHAIRMAN having accepted it, Dr. ELLISTON seconded the adoption of the accounts, which was passed, but not before Dr. ROSE had initiated another long debate concerning the *amount of money received* by the Union for costs allowed in successful actions.—Mr. HEMPSON explained the position, how when members of the Union were attacked by people earning a few shillings a week, upon the costs for the defence being awarded, it was useless and waste of money to proceed against men of straw.

The sum of £100 was voted for payment of travelling expenses of members attending the council meetings.

Dr. DANFORD THOMAS proposed and Dr. F. A. PURCELL seconded for election as members of council: Mr. T. G. Alderton, Dr. W. Rigden, and Dr. Arthur Jones.—Speaking on the principle of how members should be chosen for election Dr. COLLIE went in some detail into the particular methods adopted and he was supported by Dr. ROSE in objection to the council nominating members for election, the latter gentleman also remarking that an introduction of fresh blood on the council was desirable.—Dr. LOVELL DRAGE interposed to say that the council merely put forward the names of suitable candidates and it was perfectly open to other gentlemen to nominate their own "cocks" to fight on the other side. It ended in Dr. Rose and Dr. Collie contesting with the three gentlemen already named for the places on the council, but Dr. Alderton, Dr. Rigden, and Dr. Jones were declared elected.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 7297 births and 4553 deaths were registered during the week ending March 10th. The annual rate of mortality in these towns, which had been 25·8, 24·2, and 21·2 per 1000 in the three preceding weeks, further declined last week to 20·4. In London the rate was 18·8 per 1000, while it averaged 21·5 in the 32 provincial towns. The lowest death-rates in these towns were 14·3 in Brighton and in Swansea, 14·9 in West Ham, 15·1 in Birkenhead, and 15·5 in Croydon; the highest rates were 28·9 in Preston, 29·1 in Liverpool, 31·4 in Wolverhampton, and 32·4 in Salford. The 4553 deaths in these towns included 424 which were referred to the principal zymotic diseases, against 469, 445, and 424 in the three preceding weeks; of these 131 resulted from whooping-cough, 120 from measles, 85 from diphtheria, 33 from scarlet fever, 32 from "fever" (principally enteric), and 23 from diarrhœa. No death from any of these diseases occurred in Brighton, Birkenhead, or Gateshead; in the other towns they caused the lowest death-rates in Swansea, Huddersfield, and Halifax, and the highest rates in Wolverhampton, Leicester, Salford, and Preston. The greatest mortality from measles occurred in Plymouth, Cardiff, Wolverhampton, Leicester, Salford, and Preston; and from whooping-cough in Wolverhampton, Liverpool, Bolton, Salford, Oldham, and Preston. The mortality both from scarlet fever and from "fever" showed no marked excess in any of the 33 towns. The 85 deaths from diphtheria included

41 in London, eight in Leicester, six in Leeds, five in Sheffield, and five in West Ham No fatal case of small pox was registered last week in any of the 33 large towns There were seven cases of small pox under treatment in the Metropolitan Asylums Hospitals on Saturday last, March 10th, against eight, 11, and seven in the three preceding weeks, one new case was admitted during the week, against none, three and two in the three preceding weeks The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1777, against numbers decreasing from 3578 to 1868 on the 16 preceding Saturdays, 147 new cases were admitted during the week, against 159 160, and 154 in the three preceding weeks Influenza was certified as the primary cause of 37 deaths in London The deaths referred to diseases of the respiratory organs in London, which had been 527, 485 and 380 in the three preceding weeks, further declined to 378 last week, and were 193 below the corrected average The causes of 70, or 1 5 per cent, of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in Croydon Bristol, Oldham, Leeds, and in seven other smaller towns, the largest proportions of uncertified deaths were registered in Birmingham, Leicester, Liverpool, and Sheffield

HEALTH OF SCOTCH TOWNS

The annual rate of mortality in the eight Scotch towns, which had been 31 7 and 29 0 per 1000 in the two preceding weeks, further declined to 27 7 during the week ending March 10th but exceeded by 7 3 per 1000 the mean rate during the same period in the 33 large English towns The rates in the eight Scotch towns ranged from 13 2 in Leith and 22 4 in Edinburgh to 31 9 in Paisley and 32 0 in Perth The 857 deaths in these towns included 25 which were referred to diarrhœa, 24 to whooping cough, 17 to measles, 10 to scarlet fever, nine to "fever," and seven to diphtheria In all 92 deaths resulted from these principal zymotic diseases, against 69 and 74 in the two preceding weeks These 92 deaths were equal to an annual rate of 3 0 per 1000 which was 1 1 above the mean rate last week from the same diseases in the 33 large English towns The fatal cases of diarrhœa which had declined from 20 to 18 in the three preceding weeks, rose again last week to 25 of which 14 occurred in Glasgow, three in Edinburgh three in Dundee and three in Greenock The deaths from whooping cough which had been 18, 17, and 15 in the three preceding weeks rose again to 24 last week, and included 11 in Glasgow, four in Aberdeen three in Edinburgh, and three in Paisley The fatal cases of measles which had been 17 and 20 in the two preceding weeks declined again last week to 17, of which 12 were registered in Glasgow and three in Paisley The deaths referred to scarlet fever, which had been 11, nine, and 10 in the three preceding weeks, were again 10 last week, and included five in Glasgow, three in Edinburgh, and two in Greenock The fatal cases of "fever," which had increased from two to six in the three preceding weeks, further rose last week to nine of which five occurred in Glasgow and three in Edinburgh The deaths from diphtheria which had been five in each of the two preceding weeks rose to seven last week, and included five in Glasgow The deaths referred to diseases of the respiratory organs in these towns, which had been 382 and 324 in the two preceding weeks further declined to 259 last week, but exceeded by 87 the number in the corresponding period of last year The causes of 28, or more than 3 per cent, of the deaths in these eight towns last week were not certified

HEALTH OF DUBLIN

The death rate in Dublin, which had been 51 0 and 34 3 per 1000 in the two preceding weeks rose again to 36 8 during the week ending March 10th During the past four weeks the death rate in the city has averaged 41 1 per 1000 the rate during the same period being 20 6 in London and 24 3 in Edinburgh The 247 deaths registered in Dublin during the week under notice were 17 in excess of the number in the preceding week, and included 10 which were referred to the principal zymotic diseases against 11 and 12 in the two preceding weeks, of these three resulted from diarrhœa two from measles, two from diphtheria two from "fever," and one from scarlet fever These 10 deaths were equal to an annual rate of 1 5 per 1000, the zymotic death rate during the same period being 1 6 in London and 2 2 in Edinburgh The deaths referred to diarrhœa which had been two four, and five in the three preceding weeks, declined again to three last week The fatal cases of measles, which had been five and one in the two preceding weeks, rose to two last week The deaths referred to different forms of "fever" which had been three, one, and four in the three preceding weeks declined again last week to two The mortality from diphtheria slightly exceeded that in the preceding week The 247 deaths in Dublin last week included 40 of infants under one year of age and 64 of persons aged upwards of 60 years, the deaths of infants slightly exceeded the number in the preceding week while those of elderly persons showed a decline Six inquest cases and two deaths from violence were registered, and 84, or more than a third, of the deaths occurred in public institutions The causes of 13 or more than 5 per cent, of the deaths in the city last week were not certified

VITAL STATISTICS OF LONDON DURING FEBRUARY, 1900

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality during February in each of the 43 sanitary areas of London With regard to the notified cases of infectious diseases in the metropolis, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 7 0 per 1000 of the population, estimated at 4 589 129 persons in the middle of this year In the three preceding months the rates had been 12 6 8 8 and 8 0 respectively The rates were considerably below the average in Chelsea St James Westminster, St Giles, St Martin in the Fields, Strand and St Olave Southwark sanitary areas, while they showed the largest excess in Limehouse St Saviour Southwark, Rotherhithe Greenwich Woolwich and Lee Four cases of small pox were notified during February, of which two belonged to Woolwich one to Fulham, and one to Poplar sanitary areas, six small pox patients were admitted into the Metropolitan Asylums Hospitals during the month and seven remained under treatment on Saturday, March 3rd The prevalence of scarlet fever showed a further decline from that recorded in recent months among the various sanitary areas this disease showed the highest proportional prevalence in Stoke Newington St Olave Southwark, Wandsworth, Lewisham Lee, and Plumstead The Metropolitan Asylums Hospitals contained 1827 scarlet fever patients at the end of February, against 3343, 2797, and 2126 at the end of the three preceding months, the weekly admissions averaged 152 against 304, 197, and 180 in the three preceding months The prevalence of diphtheria showed a continued decrease from that recorded in recent months, this disease was proportionally most prevalent in Fulham Limehouse, St Saviour Southwark, Bermondsey, Camberwell and Lee sanitary areas There were 1402 diphtheria patients in the Metropolitan Asylums Hospitals at the end of February, against 1718, 1679, and 1572 at the end of the three preceding months, the weekly admissions averaged 165, against 227 184, and 189 in the three preceding months The prevalence of enteric fever in London showed a further considerable decline from that in recent months, among the various sanitary areas this disease showed the highest proportional prevalence in St Luke, St George in the East Mile End Old Town, Poplar, Rotherhithe and Battersea The Metropolitan Asylums Hospitals contained 274 enteric fever patients at the end of February against 460 406, and 289 at the end of the three preceding months, the weekly admissions averaged 40 against 76, 52 and 40 in the three preceding months Erysipelas was proportionally most prevalent in Bethnal Green Limehouse, Newington Rotherhithe, and Plumstead sanitary areas The 23 cases of puerperal fever included four in Lambeth and two each in Paddington, Chelsea St Pancras Shoreditch, Newington, Camberwell and Greenwich sanitary areas

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the public institutions of London having been distributed among the sanitary areas in which the patients had previously resided During the four weeks ending March 3rd the deaths of 7185 persons belonging to London were registered, equal to an

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING FEBRUARY, 1900.

(*Specially compiled for* THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1900.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,589,129	4	818	912	1	310	3	23	379	—	2450	7·0	1	166	25	157	171	—	71	—	35	626	1·8	7165	20·4	133
West Districts.																										
Paddington	130,104	—	20	10	—	3	—	2	8	—	43	4·3	—	2	1	1	1	—	—	—	—	5	0·5	179	17·9	124
Kensington	173,603	—	35	24	—	5	2	—	17	—	83	6·2	—	12	—	1	1	—	—	—	1	15	1·1	240	18·0	124
Hammersmith	110,203	—	22	27	—	2	—	—	10	—	61	7·2	—	14	—	5	1	—	—	—	2	22	2·6	189	22·4	144
Fulham	136,383	1	34	44	—	7	—	—	11	—	97	9·3	—	13	1	5	6	—	4	—	4	33	3·2	207	19·8	144
Chelsea	96,715	—	14	9	—	1	—	2	5	—	31	4·2	—	5	1	1	—	—	—	—	1	8	1·1	167	22·5	162
St. George Hanover-square	81,133	—	12	6	—	5	—	—	7	—	30	4·8	—	1	—	1	1	—	2	—	1	6	1·0	107	17·2	83
Westminster	51,657	—	5	8	—	—	—	—	4	—	17	4·3	—	1	—	—	2	—	—	—	—	3	0·8	97	24·5	200
St. James Westminster	21,457	—	1	2	—	—	—	—	3	—	6	3·6	—	3	—	—	—	—	—	—	—	3	1·8	34	20·7	115
North Districts.																										
Marylebone	139,777	—	21	15	—	6	—	—	15	—	57	5·3	—	4	1	5	—	—	—	—	1	11	1·0	218	20·3	117
Hampstead	81,766	—	12	10	—	4	—	—	3	—	29	4·6	—	—	1	4	1	—	—	—	1	7	1·1	73	11·6	102
St. Pancras	246,651	—	20	38	—	22	—	2	15	—	97	5·1	—	3	1	8	11	—	4	—	—	27	1·4	389	20·6	135
Islington	351,541	—	67	40	—	12	—	1	17	—	137	5·1	—	15	2	8	8	—	—	—	—	33	1·2	504	18·7	125
Stoke Newington	35,718	—	9	4	—	—	—	1	1	—	15	5·5	—	—	—	—	—	—	1	—	—	1	0·4	36	13·1	60
Hackney	225,519	—	47	39	—	22	—	—	20	—	128	7·4	—	2	3	6	11	—	6	—	2	30	1·7	314	18·2	121
Central Districts.																										
St. Giles	36,870	—	4	3	—	3	—	—	—	—	10	3·5	—	—	—	—	—	—	—	—	1	1	0·4	55	19·4	72
St. Martin-in-the-Fields	11,865	—	—	—	—	—	—	—	1	—	1	1·1	—	—	—	—	—	—	—	—	—	—	—	16	17·6	71
Strand	22,748	—	1	2	—	—	—	—	1	—	4	2·3	—	—	—	—	—	—	—	—	—	—	—	47	26·9	77
Holborn	29,188	—	3	5	—	—	—	—	3	—	11	4·9	—	1	—	—	1	—	1	—	1	4	1·8	73	32·6	270
Clerkenwell	66,007	—	6	14	—	3	—	—	5	—	28	5·5	—	2	1	1	12	—	1	—	2	19	3·8	125	24·7	156
St. Luke	40,655	—	2	6	—	5	—	—	5	—	18	5·8	—	2	—	—	12	—	1	—	—	15	4·8	98	31·4	155
City of London	26,922	—	1	8	—	2	—	—	1	—	12	5·8	—	—	—	1	—	—	—	—	—	1	0·5	60	29·1	323
East Districts.																										
Shoreditch	120,641	—	17	15	—	12	—	2	11	—	57	6·2	—	10	1	5	4	—	2	—	1	23	2·5	233	25·2	166
Bethnal Green	128,831	—	13	23	—	11	—	—	22	—	69	7·0	—	2	—	4	19	—	2	—	1	28	2·8	260	26·3	153
Whitechapel	82,220	—	13	13	1	5	—	—	8	—	40	6·3	—	2	1	2	2	—	2	—	1	10	1·6	131	20·8	121
St. George-in-the-East	48,875	—	4	7	—	6	—	1	3	—	21	6·6	—	1	—	—	—	—	2	—	—	3	0·8	78	20·8	101
Limehouse	58,944	—	6	22	—	7	—	—	9	—	44	9·7	—	3	—	1	3	—	—	—	—	7	1·5	116	25·7	189
Mile End Old Town	113,781	—	17	16	—	13	—	—	11	—	57	6·5	—	4	—	2	12	—	4	—	—	22	2·5	200	22·9	133
Poplar	170,968	1	23	35	—	23	—	—	15	—	97	7·4	—	4	—	14	9	—	12	—	1	40	3·0	295	22·5	146
South Districts.																										
St. Saviour Southwark	23,854	—	2	17	—	—	—	—	2	—	21	11·5	—	—	—	2	1	—	1	—	—	4	2·2	50	27·3	133
St. George Southwark	60,697	—	12	20	—	4	—	—	5	—	41	8·8	—	1	—	5	—	—	—	—	3	9	1·9	129	27·7	146
Newington	125,138	—	20	34	—	6	—	2	17	—	79	8·2	—	10	—	5	4	—	1	—	—	20	2·1	234	24·4	125
St. Olave Southwark	10,909	—	3	—	—	—	—	—	—	—	3	3·6	—	5	—	—	1	—	—	—	—	6	7·2	30	35·8	135
Bermondsey	85,920	—	15	31	—	5	—	—	7	—	58	8·8	—	1	1	8	7	—	2	—	2	21	3·2	172	26·1	238
Rotherhithe	41,246	—	6	11	—	6	—	—	9	—	32	10·1	—	3	—	4	—	—	1	—	—	8	2·5	77	24·3	231
Lambeth	312,152	—	59	83	—	26	1	4	16	—	189	7·9	—	6	2	18	9	—	7	—	1	43	1·8	472	19·7	128
Battersea	178,100	—	40	29	—	22	—	—	10	—	101	7·4	—	10	1	2	11	—	5	—	—	29	2·1	243	17·8	118
Wandsworth	217,004	—	56	36	—	13	—	—	22	—	127	7·6	—	7	2	7	5	—	1	—	—	22	1·3	250	15·0	121
Camberwell	268,457	—	57	91	—	17	—	2	12	—	179	8·7	—	8	1	15	2	—	4	—	—	30	1·5	366	17·8	116
Greenwich	184,582	—	43	56	—	20	—	2	24	—	145	10·2	—	3	1	10	6	—	3	—	4	27	1·9	274	19·4	113
Lewisham (excluding Penge)	93,548	—	27	24	—	4	—	1	6	—	62	8·6	—	3	1	2	4	—	1	—	3	14	2·0	125	17·4	130
Woolwich	41,600	2	18	7	—	—	—	—	4	—	31	9·9	1	2	2	—	3	—	—	—	—	8	2·6	83	26·6	98
Lee	40,722	—	14	15	—	3	—	1	4	—	37	11·6	—	—	—	3	—	—	—	—	1	4	1·3	49	15·4	86
Plumstead	65,558	—	17	13	—	3	—	—	10	—	43	8·6	—	1	—	1	1	—	1	—	—	4	0·8	90	17·9	129
Port of London	—	—	—	—	—	2	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 17 cases of membranous croup.

† Including deaths from membranous croup.

annual rate of 20·4 per 1000, against 17·6, 27·3, and 27·3 in the three preceding months. The lowest death-rates last month in the various sanitary areas were 11·6 in Hampstead, 13·1 in Stoke Newington, 15·0 in Wandsworth, 15·4 in Lee, 17·2 in St. George Hanover-square, and 17·4 in Lewisham; the highest rates were 27·3 in St. Saviour Southwark, 27·7 in St. George Southwark, 29·1 in City of London, 31·4 in St. Luke, 32·6 in Holborn, and 35·8 in St. Olave Southwark. During the four weeks of February 626 deaths were referred to the principal zymotic diseases in London; of these, one resulted from small-pox, 166 from measles, 25 from scarlet fever, 157 from diphtheria, 171 from whooping-cough, 71 from enteric fever, 35 from diarrhœa, and not one either from typhus or from any ill-defined form of continued fever. These 626 deaths were equal to an annual rate of 1·8 per 1000, against 1·9, 2·1, and 1·9 in the three preceding months. No death from any of these diseases was recorded last month either in St. Martin-in-the-Fields or in Strand sanitary areas; in the other sanitary areas they caused the lowest death rates in Paddington, Stoke Newington, St. Giles, and City of London, and the highest rates in Fulham, Clerkenwell, St. Luke, Poplar, St. Olave Southwark, and Bermondsey. The fatal case of small-pox belonged to Woolwich sanitary area. The 166 deaths referred to measles were slightly below the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Hammersmith, Fulham, St. James Westminster, Shoreditch, Newington, and St. Olave Southwark sanitary areas. The 25 fatal cases of scarlet fever showed a decline of 35 from the corrected average; the greatest proportional fatality from this disease occurred in Hampstead, Hackney, Clerkenwell, Whitechapel, Woolwich, and Plumstead sanitary areas. The 157 deaths from diphtheria showed a slight decline from the average number in the corresponding periods of the ten preceding years; among the various sanitary areas this disease was proportionally most fatal in Poplar, St. Saviour Southwark, St. George Southwark, Bermondsey, Rotherhithe, and Lee. The 171 fatal cases of whooping-cough were 89 below the corrected average number; this disease showed the highest proportional fatality in Clerkenwell, St. Luke, Bethnal Green, Mile End Old Town, Bermondsey, and Woolwich sanitary areas. The 71 deaths referred to enteric fever were nearly double the average number in the corresponding periods of the ten preceding years; among the various sanitary areas the highest proportional mortality from "fever" occurred in Fulham, Holborn, Mile End Old Town, St. George-in-the-East, Poplar, and St. Saviour Southwark. The 35 fatal cases of diarrhœa were considerably below the corrected average; this disease was proportionally most fatal in Fulham, Clerkenwell, Holborn, St Saviour Southwark, and Lewisham sanitary areas. In conclusion, it may be stated that the aggregate mortality from these principal zymotic diseases in London during February was nearly 17 per cent. below the average.

Infant mortality in London last month, measured by the proportion of deaths of children under one year of age to registered births, was equal to 133 per 1000. The lowest rates of infant mortality were recorded in St. George Hanover-square, Stoke Newington, St. Giles, St. Martin-in-the-Fields, Strand, and Lee; and the highest rates in Westminster, Holborn, City of London, Limehouse, Bermondsey, and Rotherhithe sanitary areas.

THE SERVICES.

"BLACKWOOD" AND THE ROYAL ARMY MEDICAL CORPS.

Blackwood's Magazine for the present month has a long and interesting article on the Royal Army Medical Corps and the grand work which it has done on the battlefields and in the army hospitals of South Africa. In December, 1895, "Maga," it will be remembered, took up the cudgels on behalf of the Army Medical Department and summed up its history, more especially with reference to the anomalous condition in which it had been left by the country's Government, despite the fact that it had always proved itself to be an admirable and deserving service. In the article of that date, the writer now tells us with justifiable satisfaction, the subject was treated "in a manner, which she *is* proud to believe, gained the gratitude of the department and had some influence in moving the authorities to make necessary reforms." The contribution to the present number of *Blackwood* is written in a highly appreciative and eulogistic spirit in connexion with the admirable work done by the Royal Army Medical Corps in the present war, and it adds to the sum of the medical officers' indebtedness to the writer for her advocacy of their claims to the grateful consideration of the army and the nation. The present Secretary for War, as we all know, most wisely granted the medical officers what they rightly desired and for what we many years ago contended—namely, that they should be formed into a special corps bearing the distinction of "Royal." This was done and due military rank was also conferred upon its officers. They were consequently put upon their mettle and went out to the present war with the full determination to do their best under the new order of things, to fulfil all that was expected of them, and it is indisputable that they have been amply justified by the results obtained in South Africa. The writer in *Blackwood* assures us that the medical service of the army there has attracted the cordial admiration of continental—and particularly Russian—military surgeons by its performance of duty in the field and the completeness of its arrangements. Of the medical arrangements as a whole and of the nature and variety of the work done by the officers of the Royal Army Medical Corps in South Africa there is now no need to tell. It is admitted on all sides to have been admirable. For probably the first time in war the medical service has had power in proportion to its responsibility and it has exercised its powers aright. It is only due to Lord Lansdowne to say that never before have the medical and hospital requirements been provided on so liberal a scale or been better adapted and applied for the comfort and benefit of the sick and wounded. Nor has attention to practical army hygiene in the field been neglected, for great care seems to have been exercised in this direction. The medical service has well indicated its claims to public confidence.

ROYAL NAVY MEDICAL SERVICE.

The following appointments are notified:—Fleet Surgeon W. H. Patterson to the *Victorious*. Staff Surgeons: J. C. Ferguson to the *Wallaroo*, lent to the *Europa*; G. Hewlett to the *Charybdis*, undated; and W. E. Home to the *Boscawen* for the *Minotaur*. Surgeons: L. Kilroy to the *Hibernia*: L. E. Dartnell to the *Ganges*; C. J. E. Cock to the *Victorious*, D. W. Hewitt to the *Goliath*; J. Stoddart and H. B. Hall to the *Vernon*; R. St. G. S. Bond, lent to Yarmouth Hospital; and A. G. Eastment to the *Cossack*.

THE IMPERIAL YEOMANRY.

To be Medical Officers, with the temporary rank of Captain: A. E. Vidler, Lieutenant, 1st Cinque Ports Volunteer Rifle Corps, and E. T. Shorland.

ROYAL ARMY MEDICAL CORPS.

The undermentioned officers are granted the temporary rank of Captain while serving in South Africa:—Surgeon Captain Charles Edward Douglas, 6th Volunteer Battalion the Black Watch (Royal Highlanders); Surgeon-Captain George G. Oakley, 1st Volunteer Battalion the Duke of Wellington's (West Riding Regiment). The undermentioned officers are granted the temporary rank of Lieutenant whilst serving in South Africa:—Surgeon-Lieutenant Robert W. Michell, 4th Volunteer Battalion the Suffolk Regiment; Surgeon-Lieutenant James C. Taylor, 9th Lanarkshire Volunteer Rifle Corps. Surgeon-Captain C. Stonham, Middlesex Yeomanry Cavalry, Officer in command and Chief Surgeon, Imperial Yeomanry Field Hospital, is granted the temporary rank of Major whilst serving in South Africa. The undermentioned Surgeon-Captains are granted the temporary rank of Captain whilst employed in South Africa:—Andrew A. Watson, 2nd Volunteer Battalion the East Lancashire Regiment; C. A. MacMunn, 3rd Volunteer Battalion the South Staffordshire Regiment; J. K. Butter, 2nd Volunteer Battalion the South Staffordshire Regiment. The undermentioned Surgeon-Lieutenants are granted the temporary rank of Lieutenant whilst serving in South Africa:—George Black, 2nd Volunteer Battalion the Royal Sussex Regiment; James R. Atkinson, 2nd Cheshire Royal Engineers (Volunteers); Albert E. Morison, 1st Volunteer Battalion the Durham Light Infantry.

ARMY MEDICAL RESERVE OF OFFICERS.

The undermentioned Surgeon Captains to be Surgeon-Majors: J. W. Cook and James Mill.

any of its powers of supervising the conduct, &c., of midwives to a district council. This should be opposed. There are 139 county and borough councils in England and Wales, and 1491 urban and rural district councils. What is the good of appointing 1491 "supervising authorities?" Besides, the members, especially of rural district councils are not those who should be entrusted with the chief administrative *duties in the Bill. The county councils should themselves* act.

6. No penalty is provided if a midwife attend other than "natural labours," or if she give a certificate of stillbirth.

7. The Bill neglects to provide that "any person" may prosecute; Clause 14 puts it upon a district council, this being placed upon the district councils, and this authority will always refuse to prosecute.

8. The Bill excludes Scotland and Ireland, although midwives registered in England can act as midwives in Scotland and Ireland, and no provision is made to supervise them there.

9. No provision is made for the punishment of practitioners or midwives—other than those appointed by the Bill—if they examine or grant documents to intending midwives.

10. Clause 17 provides that the English Branch Council "shall" act for and in the name of the General Medical Council. This is a very dangerous precedent.

11. A clause should be inserted making it penal on both parties if a practitioner employ a midwife as his midwifery assistant.

12. In Clause 18 the term "midwife" should mean a midwifery nurse who undertakes to act only as a nurse to women in childbirth.

If those practitioners who know that their M P.'s will support a good Bill, and one which will place midwives under close police supervision (as a good number of M.P.'s support a Bill for the latter purpose only) will send the above proposed amendments to them, perhaps good will follow. Practitioners must not think that because the Bill has been read a second time it is certain to pass. Every Government since 1890 has refused to adopt the Bill. So if only each practitioner and his friends will oppose the Bill it is not likely to pass.

I am, Sirs, yours faithfully,

Liverpool, March 10th, 1900. R. R. RENTOUL.

HERNIA OF THE URINARY BLADDER.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 3rd Mr. Moynihan, in his third Arris and Gale Lecture, gives an exhaustive account of the above condition. I am surprised to find no reference, in those cases where a cyst has been opened and found to contain fluid resembling urine, to testing the reaction of the escaping fluid with litmus paper. In those cases where the urine has decomposed this method is, of course, useless, but in a large number of cases where the urine is fairly normal it will be found to be acid. This acidity has, so far as I know, only been found in cyst contents in the inguinal region in the case of urine. Therefore, excluding the very remote chance of a hernia of kidney or ureter or an extravasation of urine, the cyst containing the clear yellow fluid must be bladder. I have been in the habit of employing this test for some years and am so impressed by its practical utility that I always carry litmus paper in my operation bag. The time saved by this simple test will be appreciated by those surgeons who have been unfortunate enough to accidentally open the bladder when operating for hernia or performing cœliotomy, as the time taken in repairing the bladder is quite long enough without spending a further period in injecting the bladder or in passing sounds.

I am, Sirs, yours faithfully,

Plymouth, March 11th, 1900. C. HAMILTON WHITEFORD.

A NEW MINERAL SPRING AT NAUHEIM.

To the Editors of THE LANCET.

SIRS,—A boring has been in progress here for four months under the direction of Geheime Bergrat Dr. Lepsius, Professor of Geology at the Hessian Grand Ducal Polytechnic College of Darmstadt, and yesterday a new effervescing thermal brine spring rose from a depth of 207 metres. The present temperature of the water is 89° F., but will probably after complete development of the spring rise to 95°, the temperature which exists at some depth below the surface. The quantity of carbonic acid gas is to all appearance so abundant that analysis will probably show a percentage of this gas even higher than that of the two similar springs, No. 7 and No. 12, at Nauheim which have up to now been considered the most strongly effervescing thermal springs in Europe. Thanks to this new spring there will be such an abundance of mineral water for bathing purposes that for a long time to come any demand in this respect will be amply satisfied. Nauheim has thus obtained a valuable and ample increase of its curative resources. I am, Sirs, yours faithfully,

Bad Nauheim, March 8th, 1900. PROFESSOR SCHOTT, M.D.

"PULSATING EMPYEMA."

To the Editors of THE LANCET.

SIRS,—In an annotation on pulsating empyema on page 719 of THE LANCET of March 10th reference is made to *Comby's description of the disease which appeared in 1891 in* the *Archives de Médecine* as the most complete study of the disease. In justice to an Irish writer, the late Dr. Robert MacDonnell of this city, I would draw your attention to his monograph, "Contributions to the Diagnosis of Empyema, with Cases" (Hodges and Smith, Dublin, 1844). Nothing has been added to our knowledge of the disease since then and I feel sure that THE LANCET would not willingly or knowingly deprive a British physician of his laurels to wrongly bestow them on a foreigner.

I am, Sirs, yours faithfully,

Dublin, March 12th, 1900. GEORGE FOY.

"THE POSITION OF THE RETIRED ARMY MEDICAL OFFICER."

To the Editors of THE LANCET.

SIRS,—The question raised very properly by "Retired on Gratuity" in THE LANCET of March 10th will probably be satisfactorily dealt with by the Departmental Committee of the House of Commons. There is also the larger question of army medical officers, being the only officers in Her Majesty's navy or army resigning on a gratuity, being held "liable to recall to service" up to 55 years of age, after the answer of Mr. St. John Brodrick, then Under-Secretary of State for War, in answer to Colonel Welby's question—viz., "All officers (except subalterns and captains) resigning on a gratuity are liable to recall to service up to 44 years of age."

I am, Sirs, yours faithfully,
H. G. GARDNER, M.B., C.M. Edin.

Norris-street, S W., March 13th, 1900.

CERTAIN DEFICIENCIES IN OUR INFIRMARIES AND ASYLUMS.

To the Editors of THE LANCET.

SIRS,—Patients in infirmaries often say: "I like the place well enough; I do not find any fault with either the treatment or food, but I am very much annoyed with my fellow patients—that one over there snores horribly—that one over there coughs terribly—that other one over there raves continually, and that other one talks incessantly, &c." Now, in these days when people live at high pressure and neurotic diseases predominate over all others, are these annoyances fully considered by the medical attendants of infirmaries? Could anything be done to mitigate them? Would smaller wards suffice? or would portable partitions (of a material that would not conduct sound readily) between beds be of any use? The above complaints are so common and must seriously retard the recovery of many patients that they should be seriously considered by the powers that be in infirmaries Then in asylums patients suffering only from a few delusions often say: "It was cruel of you to send me here among such a crew; how can you expect me ever to get well here, with that one singing constantly there, that other one swearing eternally there, and this other one shouting incoherently, incessantly, &c?" No doubt superintendents of asylums grade their patients as well as they can; but it is quite impossible for them to do so properly as long as these institutions are district or parochial and they are required to take in and retain every kind of case occurring in their neighbourhood.

It is surprising that the Lunacy Commissioners do not recommend asylums to be national instead of parochial or district; then the patients could be received as now into the asylum in their neighbourhood and sent after a few weeks' observation to an institution where the companionship would at least not retard their recovery, and chronic cases might be drafted from one asylum to another, giving them a change of air and surroundings occasionally which might ameliorate their condition materially. Hoping you will find room in your invaluable journal for the above and that those who read it and have any power in these matters will give the matter due consideration,

I am, Sirs, yours faithfully,
Paisley, March 10th, 1900. JOHN B. HUNTER, M.D. Glasg.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Consultative Institute.

AN intimation has been given officially that this institute will be opened at an early date, consulting rooms having been taken and fitted up with every convenience and all modern requirements. It is also stated that the committee have secured the services of a highly qualified medical man who is to be the first consulting physician appointed to the institute. This gentleman's qualifications are given at length, and bills, pamphlets, and detailed information are said to be in process of supply to the manufactories, trading establishments, and mercantile offices of the city. It remains to be seen how far all these preparations will result in success, but I do not envy the position of the medical man who, in opposition to the profession among whom he is about to locate himself and in face of the strong expression of opinion by the leading medical press, occupies a post under such exceptional conditions.

Training Institution for Nurses.

The annual meeting of the supporters of this institution, held on Feb. 23rd, showed that much good work had been done during the year. 555 families had been attended. The number of nurses on the staff was 66, of whom 55 were trained nurses and 11 were probationers. The statement of accounts showed that there was an income of £5496 and an expenditure of £3318, leaving a balance to be carried forward of £2178. The chairman congratulated the committee and expressed his satisfaction at the substantial provision made for pensions and at the contribution made to the District Nursing Society. The usual votes of thanks were passed and Dr. Rickards was re-elected honorary physician, Mr Barling honorary surgeon, and Dr E. Malins honorary gynæcologist to the institution.

Needless Deaths of Children.

In connexion with an inquest held on a small baby the coroner expressed himself strongly on the subject of overlying as a cause of death in infants In this particular case the father, mother, and a girl occupied the bed into which the baby was taken. Obviously the smallest had the worst chance in such a condition. The coroner stated that in Birmingham 80 children died every year from suffocation, and 75 of these deaths were absolutely preventable. English mothers clung to the practice of having their children in bed with them and while they did so the risk to life would continue. It is a question whether any legislation can prevent this practice of overcrowding, but it is a lamentable fact which presses upon the consideration of humanitarians. Unfortunately, in large towns this evil is a common one and most difficult to prevent either by precept or by law.

March 13th

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Report of the Head Constable of Liverpool for 1899.

THE report of the head constable of Liverpool for the year 1899 contains much valuable information. It deals with the police establishment and the state of crime, and gives tabular returns. It is interesting to find that instruction in "first aid" to the sick and injured is now given systematically to all constables. Fifteen years ago there was hardly an exception to the absolute ignorance of the force as to what should be done in cases of accident or sickness in the streets. "Put him in a cart and send him to hospital" was the invariable rule, with what results to the unfortunate patients may be imagined. Now no fewer than 1650 constables have received certificates of efficiency from the St John Ambulance Association, and the few who have not received them (recruits, &c.) are now undergoing instruction. To prove the value of what has been done in this direction it is only necessary to mention that last year the Liverpool police rendered "first aid" in 803 cases, and that in 484 of these cases they were highly commended by the medical men who ultimately took charge of the cases. In connexion with this subject it may be mentioned that in 1882 wheeled ambulance litters were placed at every police-station in the city to provide proper means of transport; a year or two later the Northern Hospital and subsequently the Royal Southern Hospital provided horse ambulances fully equipped for their respective districts; and in January, 1898, the city council, on the recommendation of the Watch Committee, authorised the establishment in connexion with the police of a complete horse ambulance service for the entire city. The benefit of all these provisions to sick and injured persons has been incalculable. Instruction in swimming and life saving has also been introduced and now many constables have passed the tests of the National Life-Saving Society. Instruction in drill and gymnastics is also now systematically imparted to all recruits, with great advantage to health, strength, smartness, and efficiency. With regard to the crimes committed in Liverpool, the head constable reports that in the five years ended 1889 there were 30,889 indictable crimes committed in Liverpool. In the five years ended 1899 there were only 19,863 such crimes and this notwithstanding the largely increased population. The most satisfactory reduction of all is shown in crimes of violence For the five years ended 1889 these numbered 1615, whilst for the five years ended 1899 they numbered only 790. There is one offence in the reports the figures for which form a very large proportion of the total, and the great reduction of which seems to confirm and accentuate the evidence of improvement furnished by the record of indictable offences Drunkenness, black as the figures have been, shows an enormous reduction, being only one-fourth of what it was 25 years ago. At the same time the head constable remarks that he deals with "illegal" drunkenness. It is not a record of all drunkenness. For it is obvious that persons getting drunk at home, or persons who (even though the worse for drink in the streets) are not incapable or riotous or in charge of any horse or cart, commit no offence against the law. For the five years ending in 1874 the average annual number of cases of drunkenness was 19,193, whilst for the five years ending in 1899 the figures had decreased to 4768. Indictable offences last year numbered only 3504, as against 4314 in the previous year. Crimes of violence show a reduction of 52, being only 82 last year, as against 134 in the previous year. The head constable lays much stress on the diminution in all kinds of crime in Liverpool during the last 15 years, so much so that he has advised the Watch Committee to diminish the police force by 100 men.

Proposed Amalgamation of Two Liverpool Hospitals.

The Lord Mayor, in moving the adoption of the report of the committee of St. Paul's Eye Hospital at the annual meeting held on March 12th at the town-hall, referred to the usefulness and popularity of the hospital among the working-classes. The work had now outgrown the building and the people of Liverpool ought to assist the committee in providing a new hospital. The Lord Mayor alluded to the possibility of amalgamation with the Eye and Ear Infirmary in Myrtle-street, which through lack of funds had nearly 50 empty beds. He suggested that a combination of the two institutions might result in more work being done without additional cost. The suggestion appears to be a reasonable one and deserves the serious consideration of the managers of both charities.

The Milk-supply in Liverpool and Tuberculosis.

Dr. Hope (the medical officer of health) has submitted a report to the Health Committee bearing on the difficulties in the way of securing convictions for supplying tuberculous milk, from the fact that the Act required that the information should be laid, and the summonses heard, within a period less than that in which the analysis of the suspected milk could be completed. Dr. Hope advised the committee to seek for an alteration of the law, which in its present form, is practically futile.

March 13th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Health of Edinburgh.

DURING the month of February the death-rate in Edinburgh was 22 78 per 1000 of the estimated population. The average death-rate in the month of February during the preceding five years has been 20 19 per 1000. The number of infectious diseases reported during the month was markedly less than last year, being 174 as compared with 937 in February, 1899. The mortality from influenza and its complications in February was 71, as against 41 in January. The poorer districts of the city are still only slightly attacked, and up to the end of February the common lodging-houses were apparently entirely free from the disease.

Edinburgh Royal Medical Society.

On March 6th the annual President's dinner of the Royal Medical Society took place in the Edinburgh University Union. The guest of the evening was Mr. Victor Horsley. The company numbered between 60 and 70 and included Professor Simpson, Professor Chiene, Professor Schafer, Colonel Rooney, Colonel Warburton, and Surgeon-Captain Horne. The chair was taken by Dr. W. J. Barclay, one of the junior Presidents. Colonel Rooney responded to the toast for the army and closed by proposing the healths of "The Medical Officers who are about to proceed to South Africa on the Staff of the Scottish Hospital." Mr. G. L. Chiene, who is going out with his father, replied. The chairman gave the toast of "Our Guest, Mr. Victor Horsley." Mr. Horsley, who was received with loud applause, referring to the complimentary remarks regarding him made by the chairman, said that though it was perfectly true that only by means of experimental work had cranial surgery become possible, he thought the profession was too apt to forget the man to whom they owed all surgery. In Edinburgh Lord Lister's name ought to come first whenever any advance in surgery was discussed. The toast of "The Royal Medical Society" was given by Professor Simpson. Dr. G. Mackie, the junior President, replied. Mr. Horsley gave "The University and Medical Corporations," to which Professor Chiene and Professor Schafer replied.

Royal Society of Edinburgh.

At a meeting of the Royal Society of Edinburgh on March 5th, after a paper on the Dynamics of Cyclones by Mr. John Aitken, F.R.S., Dr. Aitchison Robertson read a paper on the Activity of Saliva in Diseased Conditions of the Body. He placed great emphasis on the large part played by the saliva in the digestion of starchy foods and advocated a more thorough examination of the saliva in diseased conditions.

Edinburgh Medico-Chirurgical Society.

At a meeting of this society on March 2nd there was a discussion on the Influence of Heredity on Disease. It was opened by Professor D. J. Hamilton of Aberdeen, and he was followed by a few members whose names were on the billet. By a strange lack of arrangement on the part of the officials, and contrary to all precedent in the society, no other members were asked to speak and the chairman called on the opener to reply. The debate was thus very imperfect and the want of tact on the part of the officials is being much commented upon. On former occasions a discussion of this kind has had two or three meetings devoted to it.

March 13th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Irish Workhouse Association.

THE annual meeting of the Irish Workhouse Association was held in the Mansion House on March 9th, the Lord Mayor occupying the chair. Lord Monteagle, in moving the adoption of the report, referred to the fact that the Local Government Board now required that there should be trained nurses in every workhouse hospital, and expressed the opinion that the matter was too important to be left entirely to private enterprise, but that the training of nurses for workhouse hospitals should be specially facilitated or assisted by the Government in the same way that the training of teachers was assisted. Dr. J. W. Moore, President of the Royal College of Physicians of Ireland, in the course of an interesting speech, advocated the appointment of a medical inspector for workhouse hospitals and infirmaries, and stated his opinion that two or three lady guardians on each board could work a sort of revolution. Mr. R. L. Swan, President of the Royal College of Surgeons in Ireland, proposed the following motion:—

> That the special attention of the Executive Committee be called to the following branches of the association's work—(*a*) the conversion of workhouses into district hospitals as sanctioned and provided for by Section 90 of the Local Government Act of 1898, (*b*) the establishment of auxiliary asylums outside the workhouse for the accommodation of harmless lunatics and sane epileptics now retained in the workhouses without proper treatment or classification; (*c*) the care of the children, particularly by giving effect to the new regulations issued by the Local Government Board in May last.

Lord Clonbrock made some important observations in reference to the financial difficulties of the new and inexperienced county councils in carrying out the hospital reforms needed, and Mr. Denis Walshe, coroner for South Kilkenny, formerly medical officer of the Chorlton Hospital, Manchester, and of the Poplar and Stepney Sick Asylum, London, contributed a short but interesting account of the management of English poor-law infirmaries.

Death of Dr. T. P. Mason of Dublin.

Dr. Thomas Peter Mason died at his residence, 45, Harcourt-street, Dublin, on March 11th. He was born in Dublin in March, 1817, and was therefore aged 83 years. He filled the office of physician to Mercer's Hospital for many years, during which time he was more or less engaged in private practice in Dublin. It was, however, as a teacher and lecturer on anatomy at the Ledwich School of Medicine, of which he was a principal proprietor, that he was once so widely known. For more than 40 years Dr. Mason was closely identified with medical teaching in Dublin; his name and personality have there become familiar to hundreds, indeed thousands, of medical men now scattered over the world He obtained the M.B. degree of London University in 1846, and in 1852 he became a Fellow of the Royal College of Surgeons in Ireland. It is only a few weeks since that the death of his eldest son, Dr. Samuel R. Mason of Merrion square, who was also widely popular and highly regarded, was announced.

The Infectious Diseases Hospital, Belfast.

The question of the site for the new Belfast Infectious Diseases Hospital which, as reported in THE LANCET of March 10th, the city corporation have decided by a majority to locate at Purdysburn, has entered on a new phase owing to the action of the governors of the Belfast Asylum who met on March 12th. On this occasion (the usual monthly meeting) Dr. W. Graham, resident medical superintendent of the asylum, presented a report in which he submitted that, looking to the patients' good and successful treatment, it lay as a duty on the committee to oppose by every legitimate means the transfer of 65 acres of the Purdysburn estate proposed to be taken by the city council for the new Infectious Diseases Hospital. Should the city council persevere in their determination it would be better, Dr. Graham submitted, to abandon Purdysburn altogether and to seek another site with sufficient arable land attached to it for the use of the asylum. He pointed out that among the moral methods of treatment none was so valuable as the outdoor employment of male patients in agricultural labour, where their excitement found its best outlet and their morbid thoughts and feelings tended to run into healthier channels. If occupation and amusement could not be found for the patients the medical superintendent submitted that it would in many cases be necessary to fall back on the barbarous methods of treatment by secluding them within high walls and subjecting them to mechanical restraint. He suggested that if the committee were not satisfied fully on this question they should ask the Irish Government to obtain the opinion of their expert advisers, or, if the city council so wished, ask the highest authorities in England or Scotland whether it was just or fair to the patients to part with so large a portion of the arable land Nominally there were 295 statute acres, but from this must be deducted 112 acres for buildings courts, and woods, leaving 183 acres If 65 acres be now taken for an infectious diseases hospital it would leave 118 acres but it might be fairly estimated that the new asylum buildings would cover a surface area of 30 acres, leaving only 88 acres At a time when so many asylums were adding to their farms Dr Graham submitted that it seemed strange even to contemplate the curtailment of an estate so peculiarly adapted to the curative and recreative treatment of a most afflicted class Sir George O'Farrell (Inspector of Lunacy) who was present, in answer to questions stated that at Downpatrick Asylum they had 110 acres and they had just acquired nearly 100 acres more for 500 patients In a new asylum outside Dublin they had 465 acres and in three new asylums in Scotland the farms varied from 460 to 800 acres He spoke of the very fine site that Purdysburn was for an asylum (the most beautiful, he believed, in the world) He thought that when they deprived people who were bereft of their reason of their liberty they incurred very special obligations to them, and he considered that among these obligations was one not to bring any possible danger of spreading infectious disease In the case of small pox there would, owing to aerial spreading be a large element of risk In reply, Alderman J Graham (chairman of the Public Health Committee) said that the asylum authorities could get 500 acres in the neighbourhood at reasonable cost, and he stated that the corporation had brought the matter of erecting the Infectious Diseases Hospital at Purdysburn before the governors of the asylum as well as the Board of Control and no objection had then been made Dr Graham said it was only quite recently that the matter had come before him officially as the new medical superintendent and so he took the earliest opportunity of placing his views before his committee The report of the medical superintendent was entered on the minutes After a discussion it was decided to send a deputation consisting of the members of the Asylum Board (who were not members of the corporation) to attend the next monthly meeting of the city council to protest against taking any of the ground of the asylum at Purdysburn for an infectious diseases hospital

March 13th

PARIS

(FROM OUR OWN CORRESPONDENT)

Influenza and its Treatment

AT a recent meeting of the Academy of Medicine M Huchard read a paper upon the present epidemic of influenza especially upon those abortive forms which are so common at present The attacks are characterised by an absence of fever but are accompanied by various neuralgias and depression both bodily and mental In other cases abortive pneumonias occur there is no fever but there is congestion of the bases of the lungs or else a bastard pleurisy with diminished respiratory sounds M Huchard considered that all these symptoms could be put down to some affection of the pneumogastric nerve The respiratory form is not signalised by any very definite symptoms and the patients go about their usual work thus exposing themselves to grave dangers Sometimes the only symptom observed is a rise in temperature lasting for about two days without any abnormal pulmonary signs In other cases the temperature is raised but the pulse is not quickened These masked forms of influenza of the ambulatory type are especially dangerous for the sufferer takes no care of himself and the influenza infection opens the door to infections of another kind so that the organism is very subject to the danger of invasion by the bacilli of pneumonia or the staphylococci or streptococci for which Pfeiffer's bacillus prepares the ground and the virulence of which it intensifies In time of influenza, then, preventive measures should be taken, antisepsis and asepsis of the body cavities should be used antiseptic lotions should be used for the mouth, the nose, and the throat, and blistering agents should be avoided as opening the door to infection For intestinal antisepsis reliance should be placed on a milk diet, which is preferable to medicinal antiseptics, it also acts favourably on the liver and kidneys Quinine should be given in large doses in the form of the bromohydrate and as much as nearly 19 grains (1 25 grammes) may be given if there is fever, and if not from seven and a half to 11 grains (0 5 to 0 75 of a gramme) may be given both as curative and preventive 10 centigrammes (one and a half grains) of the watery extract of ergot, and the same quantity of bromohydrate of quinine may also be given in the form of a pill, and 10 of these may be taken per diem Where nervous symptoms are marked glycero phosphate of lime, or still better strychnine sulphate, may be given Antipyrin should be used very sparingly and with the greatest care, or, better, not at all —M Hayem did not recommend milk It was a depressing diet and influenza was a very weakening complaint He could not understand M Huchard recommending this to relieve the digestive organs and at the same time recommending ergot and quinine, which were both digestive irritants —M Laborde agreed that antiseptic lotions for the nose and throat should be used He recommended a solution of carbolic acid of the strength of 1 in 200

The Treatment of Tuberculous Infection by Muscle Plasma

At the meeting of the Academy of Sciences held on Feb 26th M Héricourt and Professor Charles Richet made a communication as to the results of their researches into the mechanism of the action of the therapeutics of raw meat in cases of tuberculosis Cooked meat does not produce the same effect because cooking coagulates certain albuminoid ferments The important point, however, of the researches of these two observers is as concerns the active part of the meat They separated the pulp from the muscle plasma and have discovered that the plasma alone is active It is the principles which are soluble in water that constitute the active portion of the meat The question is not one of feeding or of over feeding, for the quantity of nitrogen contained in the plasma is very small, but it possesses immunising qualities analogous to those of other animal products which are injected into the veins M Héricourt and Professor Richet propose to call this new method of treatment zomotherapy"

Appendicitis in Pregnant Women.

At a meeting of the Academy of Medicine held on March 6th M Pinard read a paper on a certain number of cases of appendicitis in pregnant women which had come under his observation The symptoms were from the beginning marked and persistent pain with muscular rigidity of the abdominal wall especially well marked on the right side There were also vomiting and high fever, which last never accompanies the ordinary vomiting of pregnancy Peritonitis in pregnancy is unknown except after rupture of the uterus so the diagnosis in these cases is comparatively easy It should, however be made as early as possible Appendicitis in pregnancy is always most grave, and surgical intervention must not be delayed M Pinard described various cases in which a successful result had been obtained, although the patients were almost *in extremis* when operated upon. The pregnancy went to full term in the usual way after the operation

March 13th

ROME

(FROM OUR OWN CORRESPONDENT.)

THE LANCET *and Italy's Climatic Resources*

"LA diffusissima e autorevole rivista clinica di Londra" (the most widely circulated and authoritative clinical review of London) has, according to last night's *Tribuna*, devoted a long series of articles fortified by statistics to demonstrating Italy's advantages over her southern rivals as a winter residence for the weakly and the ailing Starting with the report of THE LANCET'S Special Commissioner on Palermo and referring to its other communications on the same theme the Roman journal expatiates over two columns on Italy's attractions climatic and other, and reminds her of the duty these attractions impose on her to the public as well as to herself Towards the discharge of that duty a beginning has been made by that great Sicilian sanatorium, as it calls the "Villa Igiea," with its 150 rooms specially appointed for the treatment of the phthisical and it proceeds to announce that yet another step has been taken in the direction indicated—the foundation of a hotel, also at Palermo, on the lines and on the scale of the princely "Alberghi" of Rome and under such skilled and effective management as those of Zurich or

Lucerne. So far so good. But, as THE LANCET has often shown, there are many other reforms to be introduced and drawbacks to be removed before Italy can reap the benefit she aims at from the institution of sanatoria or colossal hotels. Railway travelling has yet to be robbed of its terrors for the invalid—the "Flying Lombard" or the "Wild Tuscan" (top speed 35 miles an hour, with many an irritating halt between) being greatly deficient in the comfort and convenience ruling on British or American lines. Arrived at his destination with his valise unrifled the English-speaking invalid must not be threatened with the substitution of an Italian for a compatriot practitioner. The former may have all the virtues under heaven and often, indeed, enjoys a good share of them; but not even such "credentials" can overcome the Briton's or the American's partiality for a compatriot medical adviser, speaking his own language and trained to appreciate the national traditions, requirements, nay, prejudices, if you will. On this theme, a thrice-told tale in THE LANCET, I need not enlarge, except once more to assure your influential lay contemporary the *Tribuna* that the greatest bar to the development of that "Industria del Sole," as it appropriately call's Italy's utilisation of its genial climate, is precisely the Bill for the exclusion of the English-speaking practitioner associated with the name of Dr. Santini.

The Senator Lorenzo Bruno.

"He was a veray parfit, gentil knight." Chaucer's famous line depicts admirably the great surgeon, the accomplished lecturer, and the public-spirited philanthropist whom the sub-alpine capital, and, indeed, all Italy, lost on Sunday, March 4th, in his eightieth year. Hale and well-preserved in mind and body Professor Lorenzo Bruno, contrary to expectation, failed to rally from the attack of influenza which struck him down at the close of February. He was conscious, however, to the end, and when it came it found him ready, in the words of Horace—

> "Exacto contentus tempore, vitâ
> Cedere, uti conviva satur,"

with his family and his professional advisers (some of them old pupils) around him. Born on July 26th, 1821, near Mondovì, his father was an eminent practitioner who as the parent of 12 sons was exempted (*affrancato*) from all fiscal burdens and who therefore gave the name of "Franco" to the youngest, now one of the lights of the Turinese bar. Lorenzo chose his father's profession and qualified in medicine and surgery at the Sub-alpine University, whence, after holding with distinction several clinical posts, he became in 1848 "Medico degli Ospedali Militari." In the campaign against Austria in 1859 he won the highest praise, particularly from his colleagues in the French lines of the allied army, for the success that almost invariably attended his operations (some of them extremely difficult), and when in 1862 the Turin chair of surgery lost its illustrious occupant Riberi, Lorenzo Bruno was at once chosen to fill it. King Victor Emanuel, who had witnessed his skill in operation, his judgment in treatment, and his serene courage under fire, now attached him to the royal person, in which capacity he accompanied His Majesty on the memorable visits to Vienna and to Berlin. Frequently associated with the "Rè Galantuomo" in his Alpine sports, especially in the summer quarters at Valsavaranche and Cogne for shooting the chamois and steinbock, Professor Bruno became his confidant even in delicate State affairs and by royal decree of Nov. 17th, 1876, was nominated Senator of the Italian Kingdom—an honour which the King was careful to be the first to announce to him. Meanwhile his work in professorial chair and clinical ward never relaxed, his classes steadily rose in numbers and enthusiasm, and when from dean of the teaching staff he rose to be Rector Magnificus of the University the appointment was unanimously hailed as of the best augury for the interests of the sub-alpine school. President for many years of the Royal Accademia della Medicina he gave a high direction and tone to its proceedings and contributed to the "Atti" a large number of papers independent in judgment and research, while easy yet chastened in style. His funeral on March 6th was one of the most impressive ever witnessed in the Piedmontese capital.

How the "Rè Galantuomo" Died.

Early in the winter of 1878 King Victor Emanuel, then an inmate of the Quirinal Palace in Rome, fell ill of pneumonia and Lorenzo Bruno was not the least
trusted among the eminent consultants who from
to day met around his bedside. It was he, in fact,
was deputed to convey to His Majesty that medi
was no longer of any avail and that the end was but a
hours off. The interview between the royal patient and
"beloved physician," now for the first time made public,
besides its historical interest, a special value for the lig
throws on the character of the two men. "Sire," said Br
"the mention of danger to a prince of the House of S
entails no embarrassment, for danger is his *métier*. All
Majesty's forefathers have, when their lives were in
balance, been willing to approach their God. I am sure
is your Majesty's desire." For a moment a cloud see
to rest on the King's countenance and he asked, "
I then so ill?" Bruno replied, "We have not g
up all hope; but it is always well to make every prep
tion." The King then raised his hand to his forehead
said, "Very well; send for Anzino" (the court chap
and almoner). Monsignor Anzino came from an adjoi
room, received His Majesty's confession, and at its c
saw the King put his arm round Bruno's neck, with
words, "I know you have always wished me well;
now I understand that you are my true friend." Ha
known from Bruno that the King was sinking
Anzino drove off to the church of SS. Vincenzo
Anastasio for the viaticum and hastily enclosed
in a case which he concealed in his vestments. Arri
at the Quirinal he made haste to collect some can
from the chandeliers in an ante-camera and having di
buted them among those present improvised in this mar
a suitable accompaniment to the "Santissimo."
Majesty then partook of the holy eucharist, whereupon
the Court, according to the usage of the House of Sa
passed one by one before the dying King who, having ra
himself in bed, fixed on each a glance of his still lust
eyes, after which he fell back on the pillow and in a
minutes expired.

March 11th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Bubonic Plague.

IN a previous communication reference was made
the outbreak of bubonic plague at Noumea and to
fear of the health authorities that the disease wo
reach Australia. This fear has proved well grounc
as cases of bubonic plague have occurred in both A
laide and Sydney. The Adelaide cases are pecu
and some of the profession doubt the correctness of
diagnosis A seaman absconded from the ship *Form*
from New York to Port Adelaide, six weeks bef
his death in the Adelaide Hospital on Jan. 12th after
illness of 26 days' duration. The diagnosis of his dise
as plague was made post mortem. The second c
occurred in a boy, aged nine years, who came from the to
where the first patient had been staying prior to his adn
sion to hospital. This boy has so far recovered. The So
Australian branch of the British Medical Association as
the Government to have an inquiry made by an exp
from another colony into the alleged outbreak, but
action has yet been taken. The old quarrel in connex
with the Adelaide Hospital has been revived by this incide
It will be remembered that Dr. Ramsay Smith was brou
out by the Government to act as physician to
Adelaide Hospital when the local members of the p
fession refused to act. Dr. Ramsay Smith was subsequen
appointed chairman of the Board of Health and in
capacity declared that the two cases were bubo
plague. In consequence Adelaide has been proclain
an infected town and all passengers from the proclain
city are examined by specially appointed medical offic
at the border and the ports before being allowed
enter the other colonies, and the mail steamers have cea
to call at Adelaide The reasons for casting doubt on
diagnosis are that the ship *Formosa* came straight from N
York without touching at any plague-infected port, t
there was no illness on board and no other cases h
developed among her crew, and the long time (six wee
the alleged case was in the colony before the dise
developed. The man was in a most filthy condition
further cases have occurred in Adelaide and the local Bo

of Health there has also resolved that the Government should appoint an independent Commission to inquire into the outbreak. In discussing the subject the feeling was generally expressed that the cases were not genuine plague. In all the Australian cities stringent precautions have been taken to prevent the entrance of the disease and extra attention given to enforcing sanitary conditions. In Victoria some amendments to the Health Act are being drafted by the Board of Public Health giving greater powers of inspection to health officers, of isolation of suspects, and for ordering the cremation of any body dead from an exotic disease. The Sydney authorities were very sceptical about the existence of the plague at Adelaide, but were soon compelled to take measures against the disease in their own city. On Jan. 24th a case was reported to the Board of Health as suspicious, and the patient, a ship's carter, and all the occupants of his house were removed to the quarantine station and the patient's house was isolated and disinfected. Upon further observation the case was pronounced to be a mild one of genuine bubonic plague, and the infection was believed to be by a flea-bite. The locality where the patient lived is a shipping one, much visited by sailors and infested by rats, and the authorities believe that the disease was introduced by inoculated rats. No further cases have occurred in Adelaide or Sydney and the restrictions on inter-colonial traffic have been removed.

Annual Meeting of the Medical Society of Victoria.

The annual meeting of the Medical Society of Victoria was held on Jan 10th, the retiring President, Sir T. N. Fitz-Gerald, being in the chair. The report of the committee showed that the work of the past year had been very satisfactory. The following were elected office-bearers for 1900:—President: Dr. J. W. Barrett Vice-Presidents: Dr. D Grant and Dr. C. J. Martin. Honorary treasurer: Mr. C H. Mollison. Honorary secretary: Dr. E L Gault. Honorary librarians: Mr. A. W. F. Noyes and Dr. J. S. Buchanan. Committee: Mr. F. D. Bird, Dr. W. Boyd, Dr. D. A. Gresswell, Dr. G. T. Howard, Mr. A. L. Kenny, Dr. H. Maudsley, Mr. W. Moore, Mr. Hamilton Russell, Dr. R R. Stawell, and Dr. A. J. Wood. The retiring President delivered an interesting address reminiscent of the changes that had occurred during the 20 years since he occupied the same position as President and the preceding 20 years which separated him from his student days. Would such changes ever occur again? he asked. Should they ever again go through such a period of unlearning and of relinquishing of beliefs? Although a surgeon he considered greater scientific advances had been made towards the benefit of mankind by bacteriological studies than by the surgeon's knife. Surgery too often strutted in borrowed plumes and the supposed triumphs of the operating theatre were really due to the application of the work of the laboratory. Sir Thomas Fitz Gerald contrasted the medical and surgical work of the past with that of the present, illustrated by many personal anecdotes and experiences.

The Health of Sydney.

The report of Dr. M. Kendall, medical adviser to the Water and Sewerage Board of Sydney for the past year, shows a marked increase in fatal cases of typhoid fever, 173 persons dying from that disease, more than double the usual mortality. Dr. Kendall seems to blame the municipal arrangements for the insanitary conditions prevailing in some of the quarters where typhoid fever has been most fatal. The city health officer furnished a report to the City Council on the health of the city, in which he stated that the total death-rate had not increased and the number of cases of infectious disease of all kinds reported was less than usual. Typhoid fever had prevailed in low-lying areas which he reported in 1892 as unhealthy—due to the recklessness of speculative builders in erecting dwellings at such levels as rendered drainage impracticable. The Mayor admitted that the monthly reports of the city health officer had been systematically shelved and ignored by the City Council. The council appointed four additional sanitary inspectors.

New South Wales Army Medical Corps sent to South Africa.

In November, 1899, the New South Wales Government despatched to the war in South Africa a field hospital and a half bearer company, with eight medical officers and the necessary transport equipment. Since then the Imperial Government has cabled a request that the other half of the New South Wales Army Medical Corps with its complete equipment should be sent to the front. This half unit left on Jan. 17th, under the command of Lieutenant-Colonel Kelly. The other officers of the corps are Captain W. L. C. Eames, Captain G. A. Marshall, Captain J. Marshall, Lieutenant Newmarch, Lieutenant Samuelson, and Lieutenant Dick. In addition, a number of medical practitioners volunteered for service, and the offers of Dr A. MacCormick, Dr. Scot Skirving, Dr. Cortis, Dr. N. Howse, and Dr. Horsfall were accepted. A company of 14 trained nurses also left with the Army Medical Corps.

Jan. 24th.

Obituary.

WILLIAM MARCET, M.D. EDIN., F.R.C.P. LOND., F.R.S.

DR. WILLIAM MARCET, whose death we have already announced as occurring on March 4th at Luxor, was born in 1828 at Geneva, where he was educated in his early days. His father was Professor Francis Marcet and his grandfather was Dr. Alexander Marcet of Guy's Hospital, whose wife was Jane Marcet, the well-known authoress. When 18 years of age William Marcet entered at the University of Edinburgh, being a contemporary of William Priestley, John Burdon Sanderson, and Charles Murchison. In 1850 he graduated as Doctor of Medicine and came to London, where he at first interested himself chiefly in researches into physiological chemistry. As a result he was elected a Fellow of the Royal Society on June 11th, 1857. He was also for some time assistant physician to the Hospital for Consumption at Brompton and also to the Westminster Hospital. As became one born in Geneva, he was greatly attached to mountains and made a number of researches into the influence of high altitudes upon respiration. He commenced his inquiries in 1876 and continued them during his residence in the High Alps every summer until 1880. A laboratory having been placed at his disposal by the kindness of Professor Schafer at University College, London, experiments and researches were regularly continued by himself and his assistants from the year 1883 up to 1895 and afterwards up to February, 1899. He appears to have been induced to undertake this work by his experiments on the composition of expired air and the results of decrease of pressure made in the high Alps in "the seventies," and in 1887 he commenced his inquiries which were destined to terminate in such valuable additions to our knowledge of respiratory phenomena. The points successively established were the following: (1) confirmation of the quantity of carbonic acid expired per minute under various conditions; and (2) quantity of oxygen retained in the blood under various conditions. These two points were discussed and elaborated in the Croonian Lectures. Following upon these came (1) the measurement of the quantity of heat given out by the human body for one gramme of oxygen absorbed; and (2) the efficiency of the human machine. Those who worked with Dr. Marcet during this inquiry (he always had the assistance of a young chemist) know with what perseverance he applied himself to the work, never resting content unless he saw every detail of the work and confirming every questionable point with repeated experiment. In the chemical work of this inquiry he showed that Pettenkofer's method is the most reliable for the estimation of carbonic acid; although he tried many volumetric methods he was always forced to reject them. He perfected a form of eudiometer for the estimation of oxygen in expired air, with this instrument two determinations to the second place of decimals in percentage of oxygen could frequently be made, and he devised a calorimeter for the measurement of the heat given out by the body. In his final experiments it will therefore be seen that the chemical labours were not small—the accurate determination of carbonic acid and oxygen in air expired in the calorimeter at rest and while work was being done, and the measurement of the heat given out on both these occasions, involved rigorous analytical operations. The outcome of all this work was the Croonian Lectures upon Respiration which Dr. Marcet delivered before the Royal College of Physicians of London in 1895.

Another subject to which he devoted attention was that of climatology, and in 1883 he published a book upon the principal southern and Swiss health resorts, while in 1877 he had written for the *Quarterly Journal of the Meteorological Society* a paper on the Meteorology of Cannes.

He was President of the Royal Meteorological Society from 1888 to 1889. Another matter in which he did good work was the influence of alcohol upon the human organism, especially in regard to the effect of alcohol upon the nervous system, and in 1860 he published a book dealing with the point.

In the Croonian Lectures, which formed one of the most important contributions ever made to the subject in hand, the history of the respiration was fully gone into. In the first lecture the oxygen of the atmosphere was shown to be the main agent of life and Hermann's discovery that oxygen is an integral part of the tissues was appealed to as a mode of explanation of the remarkable tenacity of life shown by certain tissues—such, for instance, as seeds. It was then demonstrated that it is not oxygen which produces metabolism, but that the living tissues themselves call upon the oxygen to effect the changes which they undergo. This was demonstrated by the action of cold which when not excessive increases the vitality of the tissues and consequently their demand for oxygen. The second lecture dealt with past investigations on respiration, and the different forms of breathing were illustrated by tracings. Oxygen was shown to be absorbed by the body independently of the formation of carbonic acid and analyses were quoted to show to what extent such absorption takes place. The third lecture dealt entirely with the influence of volition upon respiration. Volition towards any kind of muscular exercise, including forced breathing, is attended by absorption of oxygen in excess. This oxygen is necessary to the performance of volition, and if necessary to volition must be taken up by the motor centres of volition. The effects on the development of muscular force by this charging of the centres for motion with oxygen were discussed and an experiment was described showing that where volition became tired out the muscles refused to work. The last lecture dealt with the phenomena of respiration at high altitudes and with the effects of re-breathing and of breathing air under pressure. It was also shown that the effects of re-breathed air were not due so much to the absorption of carbonic acid as to the want of oxygen. Finally, the treatment of asthma as suggested by the considerations put forth in the lectures was discussed. Not the least valuable of Dr. Marcet's researches was that in which he was engaged during the cattle plague. The Royal Commission which was appointed in 1865 to inquire into the matter enlisted the services of various scientific men as experts in different fields of science, and to Dr. Marcet fell the part of reporting upon the chemistry of the blood and tissues and the value of disinfectants. *His report,* together with those of the other experts, among whom were Dr. Murchison, Dr. (now Sir) John Burdon Sanderson, and Dr. Bristowe, appeared as an appendix to the third report of the Commissioners which was published in 1866.

WILLIAM ADAMS, F.R.C.S.ENG.

WILLIAM ADAMS, who died on Feb. 3rd last at an advanced age, was for a long time the best-known orthopædic surgeon in England. He joined the medical school at St. Thomas's Hospital in 1838, at which time the surgeons of the hospital were Benjamin Travers, Joseph Henry Green, and Tyrrell. He was Green's pupil and to the end of his days cherished feelings of the sincerest admiration for his able teacher; but most of his anatomy and physiology was done at Grainger's in the Webb street School in Maze Pond, Southwark. (It will be remembered that the ancient site of St. Thomas's Hospital was in Southwark.) In 1842 William Adams became a Member of the Royal College of Surgeons of England, and his anatomical and pathological work was so well known to his superiors that immediately he was qualified he was appointed curator of the museum and demonstrator of morbid anatomy at St. Thomas's Hospital. In the same year, that is, in 1842, St. Thomas's Hospital purchased Grainger's School, and Richard Grainger became Adams's colleague as demonstrator of physiology in the hospital. In taking over Grainger's School St. Thomas's Hospital acquired the services of one Tom Parker, the dead-house assistant, who was a noted resurrectionist, and the stories that he told to his new master of the practices in which he had been engaged were certainly thrilling, and to the end of his days Mr. Adams loved to detail them to younger generations of medical men to whom "body-snatching" was only a word. One such story will be found in Dr. Sprigge's "Life and Times of Thomas Wakley" on page 49, and goes to prove that Tom Parker was probably the man who decapitated Thistlewood upon the scaffold—a gruesome act which in an indirect way led to the founding of THE LANCET.

Adams was for 12 years lecturer on morbid anatomy at St. Thomas's Hospital Medical School, and in 1851 he became a Fellow of the Royal College of Surgeons of England. Three years later he joined the Grosvenor place Medical School, adjoining St. George's Hospital, as lecturer on surgery and hospital practice, his fellow lecturer being Mr., afterwards Sir T. Spencer Wells. At the Grosvenor-place School he first showed his tendency to specialise in orthopædic surgery, for he delivered there several courses of lectures on this subject and became at the same time surgeon to the Royal Orthopædic Hospital. He also wrote about this time a sketch of the Principles and Practice of Subcutaneous Surgery and an essay on the Reparative Process in Human Tendons after Subcutaneous Division for Cure of Deformities. In 1864 Mr. Adams carried off the Jacksonian Prize of the Royal College of Surgeons of England, his essay being entitled, "Club Foot, its Causes, Pathology, and Treatment." A second edition of this book was published some ten years later and the work may be said to register all the surgical knowledge of its day upon the subject. He was appointed surgeon to the Great Northern Central Hospital and to the National Hospital for the Paralysed and Epileptic. In the latter institution his work was mainly orthopedic, for the day of cerebral surgery had not arrived, but at the Great Northern Central Hospital he did capital general surgery. It was here that he devised the operation generally known by his name, viz., osteotomy for ankylosis of the hip-joint, the neck of the femur being divided subcutaneously within the capsule. For this operation he invented a special saw and laid down a complete procedure designed to prevent the admission of air to the joint—a matter upon which antiseptic surgeons of the present day have not to be so particular. Among his written contributions to the knowledge of his profession may be mentioned the Lettsomian Lectures delivered before the Medical Society of London in 1869 on Rheumatic and Strumous Diseases of the Joints, including Hip-joint Disease—this particularly as showing that Mr. Adams was not a one-ideaed man although his name is so generally identified with orthopædic surgery—and essays on Congenital Contraction of the Fingers, on Hammer-toe, and on Congenital Wry-neck.

*Up to 1896 Mr. Adams continued to reside in Henrietta-*street and until late in life enjoyed a large practice. But four years ago he definitely decided to cease from work and retired to a house in Hampstead where he died in the first week in February in the eightieth year of his age. He had outlived most of his contemporaries and professional friends, but there are still some left to testify to the high position which William Adams occupied for very many years of his professional life. He was a sound pathologist and a dexterous surgeon and his operative procedures were dictated by intimate knowledge. In private life he was a most genial and humorous man, hospitable, exceedingly kind, and a voluminous talker.

Medical News.

UNIVERSITY OF CAMBRIDGE.—As Professor Watson Cheyne and Professor Chiene are absent on war service in South Africa Professor E. Ward of Leeds and Mr. G. E. Wherry have been appointed to examine in surgery at the next M.B. and B.C. Examination. At a special congregation on March 10th the following were admitted to medical and surgical degrees:—

M.B. and B.C.—R. F. C. Ward, B.A., St. John's; C. L. Hawkins, M.A., Emmanuel, F. W. Curl, M.A., Downing; A. E. Martin, M.A., Downing.
B.C. only—W. B. Winton, M.A., Clare.

The estimated cost of the new medical school buildings, which are to accommodate medicine, surgery, midwifery, medical jurisprudence, public health, pharmacology, and pathology, is some £35,000. The Syndicate propose that the museum of the school, which has been made a prominent architectural feature in the plans, shall be named the

Humphry Museum in commemoration of the services rendered to the university by the late Sir George Murray Humphry As it is doubtful whether more than £15 000 can be raised from local sources for the erection of the buildings there is ample room for further large benefactions The Syndicate report that there are now over 450 medical students in Cambridge, the average annual entry being 140 and that the present buildings are not only inadequate in extent and equipment but are irreparably dilapidated The professors and other teachers with their friends have contributed liberally to the building fund but the ability of the University to supplement their efforts as they deserve is more than doubtful

LOUGHBOROUGH GENERAL HOSPITAL The annual meeting of the governors and subscribers of the Loughborough General Hospital was held on March 12th, Mr Hussey Packe presiding The balance sheet showed a deficit of £101, mainly owing to expenditure on alterations and repairs, the total expenditure being £1521 16s 7d During the year 843 out patients received medical treatment and 593 received surgical treatment whilst 44 patients were admitted for medical treatment in the institution and 134 for surgical, no less than 600 casualties being dealt with The annual subscriptions were the highest ever received in a year The reports were adopted Mr Hussey Packe was re-elected president Votes of thanks to the honorary medical staff, committee, and visitors, concluded the meeting

PRESENTATIONS TO MEDICAL MEN —On Feb 22nd Mr T B G Stableford, M R C S Eng , L R C P Lond , of Whitchurch, Glamorganshire, being about to proceed on active service to the seat of war in South Africa, was the recipient of useful and valuable presents from friends as tokens of friendship and esteem —On Feb 28th the members of the Shepherds on the Down Lodge of Ancient Shepherds presented Mr E F Hastings Burroughs, L R C S Irel L A H Dub , of Redland Bristol, with a marble timepiece and also with a silk sash having the arms of the society woven on it as a mark of appreciation for his faithful services as lodge surgeon —Mr A H McDougall L R C P Lond , M R C S Eng, district medical officer, parish of Birmingham, who is going to the front in South Africa, was presented on taking leave of his colleagues on March 6th with several mementoes of his association with the parochial offices

LITERARY INTELLIGENCE —Messrs Baillière, Tindall and Cox announce the publication next week of the following important works —A second edition of Mr Mayo Robson's "Diseases of the Gall bladder and Bile Ducts very considerably enlarged and with many new cases added An English edition of Dr Macnaughton Jones's Manual of Diseases of Women The form of this edition has been changed from a crown 8vo to a demy 8vo and is to contain about 1000 pages more than 600 illustrations, and 28 plates It has been almost entirely re written and many new illustrations have been added A translation of Dr José Montenegro's "Bubonic Plague' by Dr William Munro with an appendix specially written by the author *for the English edition* 'Mock Nurses of the Latest Fashion,' by Mr F J Gant, reprinted with additions from the *Medical Press* The object the author had in mind when writing this series of sketches drawn from his personal experience was the advisability of "registration of nurses' There will also be published very shortly by the same firm a translation of Dr Ludwig Grünwald's important work on "Nasal Suppuration, and two more volumes of the recently started Medical Monograph Series, entitled, "Bacteriology of Everyday Life ' by Dr J O Symes and "Appendicitis ' by Mr A H Tubby

DEATH OF A CENTENARIAN —The *Torquay Times* of March 2nd announced that Mrs Mary Susan Curtis died at No 20 Sanford crescent Cockington Devonshire, on Feb 26th, at the remarkable age of 102 years and nine months She was the daughter of Robert and Sarah Clamp and was born in the parish of St Nicholas Ipswich, on May 27th 1797 According to the registers of the parish she was baptized on July 23rd 1797 She was married at the same church on March 12th 1820 to Mr George Curtis of St Lawrence She had been a widow for 33 years, her husband having died in 1867 Mrs Curtis was aunt to Sir Alfred Garrod M D Lond Her sight and memory were fairly good, and she enjoyed reading the daily paper Long after she had passed her hundredth year she was to be seen walking in the neighbourhood of the avenues and the pier Mrs Curtis celebrated her centenary on May 27th, 1897, at the then residence of her daughter, Mrs Cockrill, Victoria parade when she was surrounded by her children grandchildren, great grandchildren and other relatives Until the attack of bronchitis which terminated fatally in five days, Mrs Curtis had been remarkably free from illness having only required medical attendance for accidents during the last four years In January, 1896 she fell and wounded her forehead very badly, but the wound healed by first intention Last October she fell down two steps and severely wounded her left arm from the shoulder to the elbow, but made a good recovery

OXFORD UNIVERSITY —The degree of M A (*honoris causâ*) was conferred in Convocation on Feb 27th upon Alexander Frederick Bradshaw, C B , M R C P Lond , Surgeon Major General (retired) honorary physician to the Queen, Fellow Commoner of Worcester College

THE LATE SURGEON B G HEATHER, R N —The funeral of the late Surgeon B G Heather, R N , whose death was announced in THE LANCET last week took place on March 7th at Plymouth Cemetery The *cortege* which left the Naval Hospital was headed by a funeral escort of over 100 men of the Royal Marines with the full band of the regiment Six naval surgeons acted as pall bearers There were also present many officers and a number of retired officers and men The cause of Mr Heather's death was influenza followed by Malta fever Much sympathy is felt in Plymouth for his father, Captain Heather, R N

THE LATE MR E STEPHENS – Mr Edward Stephens of Ilminster Somerset died on March 8th, in his fifty fourth year Mr Stephens received his medical education at Liverpool and University College and St Mary's Hospitals, London and took the qualifications of M R C S Eng, and L R C P Edin in 1868 and 1869 respectively He commenced practice in Ilminster about 30 years ago and at the time of his death was medical officer of health for the Chard rural district and medical officer and public vaccinator for the Ilminster district of the Chard Union Mr Stephens, who had lately been in indifferent health had gone on a visit to Bromley, Kent and died there The deceased will be much missed in Ilminster where he was very popular, especially amongst the poor, to whom he was most kind

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

Lunacy Bill

THE Bill to amend the Lunacy Laws promoted by the Government has passed through all its stages in the House of Lords and now falls to be dealt with by the other branch of the Legislature

The Midwives Bill in the House of Lords

The Midwives Bill introduced into the House of Lords by Lord GLENESK was put down for second reading on Tuesday March 13th It was not however taken on that date, and it is understood that it has been indefinitely postponed

HOUSE OF LORDS

THURSDAY MARCH 8TH

War Clothing for the Troops in South Africa

The Marquis of LANSDOWNE made an interesting statement on this subject, which had been brought to the notice of the House by the Earl of LEVEN AND MELVILLE His lordship gave a description of the principal articles in the soldier's wardrobe He said In the first place there is his fighting suit That as the House knows is made of what we commonly call khaki—a word which, for the rest describes the colour and not the material The khaki clothing which until the present campaign has been issued to the Army has been cotton khaki commonly called khaki drill Of that khaki drill two suits have usually been issued to each soldier besides the ordinary clothing for campaigning purposes We are substituting for one of these suits a suit of khaki woollen serge which is obviously much more suitable to the climate Of these khaki serge suits 140 000 have been sent out, either with the men as they embarked or so as to follow them That number ought to provide one suit for every man who has already started for South Africa In addition to that we hope to send out weekly consignments of from 10,000 to 15,000 suits of khaki serge I am a little uncertain as to the exact number because in this matter we are to a certain extent in the hands of the contractors there are very few of them who are able to produce material of the quality which we require Then, as regards shirts, each man takes out with him two flanne hirts. Besides these we have sent out 96,000, and we hope to go on ending them out at the rate of about 25,000 per week. Each man has woollen jersey as part of his kit. We have already sent out 42,000 nore to meet additional requirements, and we hope to send out jerseys t the rate of 20,000 a week. Then each man has two flannel belts to tart with. We have sent out 40,000 more and expect to be able to send ut others at the rate of 50,000 a week during the next few weeks. We re also sending out weekly a consignment of 50,000 pairs of woollen socks, nd 330,000 pairs have already gone out. We have sent out 26,000 great oats, and hope to send out from 3000 to 8000 a week to replace those hich originally went out with the men, and no doubt are beginning o show signs of wear. Then we shall send 10 000 woollen caps eekly to replace the woollen caps which went out with the men. I nay also mention that in this campaign we have for the first time nade an issue to the dismounted troops of woollen drawers. Hitherto, believe, it has been customary to give cotton drawers only, and these nly to the mounted men. Before the cold weather sets in in South frica we shall issue two pairs of woollen drawers to the whole of the ismounted troops; 200,000 pairs have already gone, and it is hoped to end out 20,000 pairs a week. The only other matter which I need otice is that of blankets. Each man took out two blankets with him. Ve have sent out 166,000 more, and we are continuing to send them out t the rate of 30 000 a month. Of course, I need not tell your lordships hat these articles of clothing are issued quite irrespectively of those hich the great generosity of the public has in many cases supplied to ie troops.

MONDAY, MARCH 12TH.

The Provision for Invalid Soldiers.

Earl **CARRINGTON** addressed a question to the Secretary of State for Var with reference to the provision made for invalid soldiers on eaving Netley Hospital.—The Marquis of **LANSDOWNE**, in the course f his reply, said that the result of inquiry led him to think hat the arrangements for supplying clothing to invalid soldiers vhen they left hospital required further consideration, and he vas glad to be able to say that attention was being given to his matter some days before the noble earl called attention to he subject. It had been settled that the principal medical officer at Netley should be instructed that whenever an invalid soldier was bout to leave hospital, he was to communicate with the depôt of the egiment to which the man belonged, and from thence receive any lothing belonging to the man which might have been left there, or new lothing which the man could wear on the journey from the hospital o the station where the regiment was quartered, and in a case where man was going to a convalescent home it was proposed to give him, n addition to his usual clothing, hospital clothes which he could wear n the home. He took this opportunity of expressing acknowledgment o the many benevolent persons who had offered houses of all descriptions—he might almost say from cottages to palaces—as convalescent iomes for invalid soldiers. His only regret was that he did not see a prospect of filling them all. He was told that the private soldier when lischarged from hospital very much preferred going to his own home han to a convalescent home, however comfortable or luxurious. Nevertheless, the service was under a great obligation to those persons who, at great trouble and inconvenience, had made these generous offers.

HOUSE OF COMMONS.

THURSDAY, MARCH 8TH.

The Food of the Royal Navy.

While the House was in Committee of Supply on the Navy Estimates several members called attention to the food supplied to the bluejackets and marines. They complained particularly of inadequacy in the case of the breakfast which is taken very early in the morning, and consists of a pint of tea or cocoa and dry bread or biscuit, and they asked for a departmental committee to inquire into the subject.—Mr. **GOCHEN**, in reply, said that the subject must be considered in connexion with the system of canteens which had been greatly improved in recent years. However, he undertook to confer with his naval colleagues as to the propriety of instituting a departmental inquiry.

FRIDAY, MARCH 9TH.

Women and Children in Textile Factories.

Sir **CHARLES DILKE** asked the Home Secretary what had been the result of further inquiry into the recent illegal working of women over hours in textile factories having contracts for the War Office; whether it had been found that the Bradford Trades Council were justified in their statement that the absence of inspection had allowed manufacturers working illegal overtime not only to produce cloth for Government purposes but also for private sale; and whether, as stated, firms who could have executed the orders without illegal overtime had been passed over, and in the course of last week not only women but also children had been illegally working overtime.—Sir **MATTHEW WHITE RIDLEY** replied: Individual inquiries have been made with regard to all firms known to be working overtime on Government contracts. In a few cases it was found that the overtime had been used for private work, and this has been stopped. In one case children were found to be employed overtime, and this also has been stopped. The names have been supplied to me to-day by the right hon. baronet of some firms who appear to be working overtime without the knowledge of the factory inspectors. I will make inquiry into these and take such action as the circumstances may call for. As regards the first sentence of the last paragraph of the question, I can only repeat that the selection of firms for these Government contracts is not a matter as to which I have any responsibility or information.

Salt Beef Rations for the Troops.

The supply by the Admiralty of beef pickled in 1893 to one of the transports taking troops to South Africa was raised again at this sitting of the House and Mr. **MACARTNEY**, Financial Secretary to the Admiralty, after explaining the circumstances in which the issue took place, intimated that the whole question of salt beef rations is now under the consideration of the Admiralty with a view of seeing whether measures ought to be taken to diminish the amount of these rations.

The Sale of Intoxicating Liquor to Children.

The House gave a second reading to a Bill which raises the age for the sale of intoxicating liquor to children to 16 years.

Medical School of Queen's College, Cork.

Mr. **JOHN REDMOND** asked the Chief Secretary to the Lord Lieutenant of Ireland whether, in view of the fact that there was only one Roman Catholic professor in the medical school of the Queen's College, Cork, it was intended to appoint a Roman Catholic to the professorship now vacant, and whether it was intended that this appointment should be filled by a physician as in the case of every other medical school in the United Kingdom. The **ATTORNEY-GENERAL for IRELAND** (Mr. Atkinson), who replied for the Chief Secretary, said: I have no information as to the religious denominations of the occupants of the medical chairs in the Queen's College, Cork. As regards the remainder of the question I can only say that the legitimate claims of all candidates for the vacant chair will be fully considered.

MONDAY, MARCH 12TH.

Rabies in Ireland.

Mr. **HORACE PLUNKETT**, replying to a question addressed to him by Dr **TANNER**, said that 18 authenticated cases of rabies were reported from the whole of Ireland during the six months ended Feb 28th. and of these eight cases occurred during the past three months. Toxic results were demonstrated in 11 out of the 18 cases. The diagnosis of rabies in all of these cases was founded either upon experimental investigation by what is known as the Pasteur inoculation method or where such investigation was not practicable upon the results of careful inquiries made at the place of outbreak by qualified veterinary Inspectors.

French Assistance for the Wounded in South Africa.

Mr. **HAZELL** asked the Under Secretary of State for War whether he was aware that the French Society for affording Aid to the Wounded had sent from Paris 45 cases of instruments, medicaments, and other useful articles for the use of our hospitals in the front in South Africa, and, if so, whether some public recognition would be accorded to the society for its gifts.—Mr. **POWELL WILLIAMS** replied for the Under Secretary, saying: Yes, sir, Lord Wantage, the chairman of the Central British Red Cross Committee, accepted the offer in fitting terms and notified the gift to the public press at the time.

The Ambulance Wagons at the Front.

Mr. **HEDDERWICK** asked the Under Secretary of State for War if his attention had been called to the statement that the ambulance wagons attached to our forces in the field were in many respects inferior to those of the Boers, and whether the British ambulance wagons were without springs and in consequence were liable to jolt considerably, were so heavy in their build as to require 10 mules to draw one wagon, and were so constructed as to provide accommodation for only two wounded men in a recumbent position in each wagon as against eight in the case of the Boer wagon; and, if so, whether he would consider the propriety of taking steps to secure in future an ambulance wagon of a design better adapted for the requirements of the field and less likely to inflict unnecessary pain upon wounded men.—Mr. **POWELL WILLIAMS** replied for the Under Secretary of State for War, saying: The British ambulance wagon has excellent springs and in the Long Valley at Aldershot it can be drawn by a pair of horses. It accommodates either two men on stretchers and four seated or 12 seated It contrasts favourably with any ambulance wagon of a European nation. Nothing is known of the construction of the Boer wagons No complaints have been received at the War Office from South Africa.

The Teeth of Navy Recruits.

Mr. **WEIR** asked the First Lord of the Admiralty whether he could state the percentage of men and boys recruited for the Royal Navy who were rejected on account of bad teeth.—Mr. **GOSCHEN** said that the Admiralty had no statistics as to the percentage, but it was large; it might be as much as 25 per cent. Careful attention had to be given to the teeth of candidates as a test of health and suitability for service afloat.

TUESDAY, MARCH 13TH.

Vaccination Question.

Mr. **THOMAS BAYLEY** asked the Under Secretary of State for War whether his attention had been called to the death of Joseph Donovan, a private in the King's Own Yorkshire Light Infantry who, according to the finding of a coroner's inquest at Derby on March 3rd, died on Feb. 11th from pneumonia, secondary to pemphigus following vaccination; whether, in view of the fact that another soldier at Pontefract suffered during the same month from this rare disease supervening on vaccination, he would cause a strict investigation to be made into the source of the lymph used, in accordance with the recommendation of the jury; and whether he would advise that compensation be paid to the deceased's widowed mother on account of the loss of her son.—Mr. **POWELL WILLIAMS** replied to the question, saying: Yes, sir, there were three in all, two of which proved fatal. A careful inquiry is being made into these cases. The lymph used was from three different calves and from these same calves lymph was used in the vaccination of over 15,000 cases without any other unfavourable reports. No award from army funds can be granted as compensation, but if the man's mother was dependent on him for support the Patriotic Fund will be able to help her.

THE MIDWIVES BILL.

SECOND READING PASSED, MARCH 9TH.

The circumstances of the Midwives Question regarded from the Parliamentary point of view have undergone a sudden, unexpected, and substantial change As our readers are aware the Bill was introduced in the House of Commons early in the session by Mr. **TATTON EGERTON** who got for its second reading the second place in the list of orders for Wednesday, Feb. 28th. The first place in this list was held by the Miners' Eight Hours Bill and, as was expected, the discussion of this measure occupied the entire sitting to the exclusion of the Midwives Bill. The situation thus created seemed practically hopeless from the point of view of the

Members interested in the further progress of the measure They put it down on several occasions after Government business, but it never was reached at an hour when the rules of the House enabled it to be discussed as an opposed measure Convinced apparently that nothing more could be done in the House of Commons the promoters had a similar measure introduced in the House of Lords on the afternoon of Friday, March 9th, by Lord Glenesk But within about two hours of this second introduction the Bill in the House of Commons had actually been read a second time and referred to a Committee. This unexpected achievement was brought about by a strange combination of circumstances In the House of Commons the usual business at this period of the session on Fridays, is Committee of Supply, but on this particular Friday, owing to the Navy Estimates having been practically finished at the previous sitting and the absence of Mr Wyndham through illness making it impossible to proceed with the Army Estimates, the Government decided to devote the sitting to the advancement of certain of their legislative proposals Mr. Balfour set out in the orders of the day a list of four Government Bills, the most important being the second reading of the Factories and Workshops Bill Had this list been taken as it stood it would have occupied the entire sitting, but to meet the wishes of certain members Mr. Balfour agreed to withdraw from it the Factories and Workshops Bill. The programme of business thus attenuated was got through soon after half past five o'clock, and Mr Goschen acting for the Government at once moved the adjournment of the House. He did so on the ground that the House had met for Government business and this being over they should proceed no further As it chanced there were three Bills promoted by private Members on the order paper and the friends of one of these, the Sale of Intoxicating Liquors to Children (No 2) Bill, claimed that they should be taken The Government resisted the claim for a time, but eventually gave way, with the result that not only this Bill but the one that came after it, the Midwives Bill, were discussed and advanced The proceedings were conducted in a very small House and in the absence of many Members interested in the Midwives Bill Very few of the medical members were present. Just one further word of explanation before we give our report of what was said and that is that the whole proceedings on the Bill, which included two divisions, occupied only a little more than three-quarters of an hour.

Mr Heywood Johnstone moved the second reading He explained in a few sentences the main provisions of the Bill which, of course, are familiar to our readers He also explained that he and the other promoters of the Bill had been aided by the General Medical Council in its preparation. In justifying legislation of this description he recalled to the House the action of continental nations and the need there exists in this country for thoroughly trained midwives The general effect of the Bill, he said, would be that without some satisfactory proof of training and capacity a woman would not be allowed to practise at all as a midwife, and when she had given this proof and began to practise she would be subjected to the control of a supervising body He asked the House to consider the suffering of the poor women of England from the treatment of rough, ignorant, and in many cases dissolute women, of whose former career nothing perhaps might be known, and to give the Bill a second reading leaving defects, if it had defects, to be rectified in committee

Mr Schwann seconded the motion He dealt particularly with the attitude of the medical profession towards the Bill, saying that while at one time legislation of this kind had been opposed by the medical profession there were now unmistakable signs that the attitude of a great number of medical men had changed

Mr. T P O'Connor said he was opposed to the Bill and should fight it as vehemently, vigorously, and persistently as he could and he believed he should receive the support of many Members if not the majority of the House His conviction was that the result of this measure would be to aggravate the evils which it was designed to put down. Going on to refer to the assistance poor women often receive from friendly neighbours the hon Member was interrupted by

Mr Heywood Johnstone, who said he knew two cases this winter in his own small village of friendly neighbour's assistance which had the most sad results

Mr. O'Connor said that sad results there might be in these cases, but if this Bill passed sad results would be multiplied by 10 The midwife would assume all the duties and responsibilities, not merely of a nurse, but of a fully qualified medical practitioner Here was surely a case where if ignorance was bad half knowledge was worse—that half knowledge which assumed the appearance and privileges of whole knowledge He felt confident that if this Bill were passed and these women were registered they would not hesitate to undertake cases themselves, and if they did so there would be grave risk of serious results Not only so, but he charged the Bill in its results as being calculated to increase malpractice by giving these women the right to claim to interfere in cases of confinement, and in that way to cover under the cloak of confinement what was really an illegal practice. He denied that the majority of the medical profession was in favour of the Bill On this point he had received a letter from the Editors of The Lancet, the highest and most influential authority in the medical profession This letter stated that a circular lett had been sent amongst the members of the medical profession in England, and up to the date of writing the Editors of The Lancet had received 7250 replies According to the promoters of this Bill they ought all to have been replies in favour of the Bill, but such was far from being the case An analysis of the replies showed that 1547 medical men were in favour of the Bill, 640 were indifferent, while the remaining 5000 odd were opposed to it. He would remind the House that while a medical man went through five years training' before he could enter on the work of his profession and take charge of midwifery cases under this Bill midwives were only to have three months' training

Mr Heywood Johnstone said there was nothing about three months' training in the Bill The proposed Midwives Board would lay down its rules for the training of midwives, these rules being subject to the approval of the General Medical Council.

Mr O Connor said he could not regard the proposed arrangement as safe or satisfactory. He made no complaint against the promoters of the Bill for bringing it forward on the present occasion though he confessed he was not prepared for it He submitted that it was a measure so serious and so opposed by skilled medical opinion that it demanded a great deal better consideration than could be given to it at this time, and therefore he moved the adjournment of the debate

Mr Robert Ambrose seconded this motion.

On a division the motion was rejected by 127 to 56 votes

The debate accordingly proceeded.

Mr Vicary Gibbs said that anyone listening to the speech of Mr T P O'Connor would suppose that all the great medical authorities were against this measure He simply wished to say that the General Medical Council, the Royal College of Physicians, and the Royal College of Surgeons were all in favour of it

Dr Tanner, who had given notice of a motion for the rejection of the Bill, said he opposed it as a medical man conscious of the injury it was likely to cause to women of the humbler classes. The leading medical paper in this country was The Lancet and The Lancet had taken a plebiscite upon the question, and this showed that an overwhelming majority of the medical profession was against the Bill. This fact was surely enough to make Parliament pause before taking this important step in legislation For himself he regarded it as a retrograde step, one calculated to undo existing statutes designed for the benefit of suffering humanity.

Mr Hazell, speaking amid cries of "Divide," which made him practically inaudible, supported the Bill

Mr Robert Ambrose then proposed to speak, but the Speaker ruled that as he had seconded the motion for the adjournment he had already taken part in the debate

The motion for the second reading of the Bill was carried by 124 to 34 votes A full list of the names of members who voted respectively for and against the motion for the second reading will be found at page 798

Mr Heywood Johnstone moved that the Bill be referred to the Standing Committee on Law

Dr Tanner asked whether a number of medical members would be added to this committee for the consideration of this particular measure

The Speaker said that was a matter for the Committee of Selection to whom applications could be made

The motion, being put to the House, was adopted without division

The consequence of this reference to the Standing Committee is that the Bill avoids the Committee Stage in the House and comes back merely for Report and Third Reading

Appointments.

Successful applicants for Vacancies Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o clock on the Thursday morning of each week, for publication in the next number.*

Allport, R H, L.R C P Lond, M R C S, has been appointed Assistant Medical Officer for the Renfrew road Workhouse of the Parish of St Mary, Lambeth London, vice J C Harcourt, resigned.

Balck, J A, M B, Ch.B Edin., has been appointed House Physician, Royal Hants County Hospital, Winchester

Belding D T, L.R C P Lond., M R.C S, has been re-appointed Medical Officer of Health by the East Dereham Urban District Council

Bennett, W Edward, F R.C S Eng, has been appointed a Demonstrator of Anatomy to the Queen's Faculty of Medicine, Mason University College, Birmingham, vice W P Haslam.

Blair, Charles S, M.D Durh., F R C S Eng, has been appointed Assistant Surgeon to the Western Ophthalmic Hospital, London.

Blakiston, Arthur Alexander, M R C S, L.S A., has been re-appointed Medical Officer of Health for Glastonbury.

Briscoe, William Thomas, A.B., M.D., M.Ch. Dub., has been re-appointed Medical Officer of Health for Chippenham.

Brook, Charles, M.R.C.S., L.S.A., has been appointed Consulting Surgeon to the Lincoln County Hospital.

Brook, W. H. B., M.D., B.S. Lond., F.R.C.S., has been appointed Surgeon to the Lincoln County Hospital, vice Charles Brook.

Browne, George, has been appointed Dispensary Medical Officer of Ballynahinch, vice J. Dickson, resigned.

Brown, W. Langdon, M.A., M.B., B.C. Cantab., M.R.C.P., has been appointed Assistant Physician and Pathologist to the Metropolitan Hospital, Kingsland-road, N.E.

Burrell, L. C., M.B., B.C. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Kew Sanitary District by the Richmond (Surrey) Board of Guardians.

Burton, H., L.R.C.P. Irel., M.R.C.S., has been re-appointed Medical Officer of Health by the Marple District Council.

Cadell, N. P., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health by the Frimley Urban District Council.

Campbell, E. Kenneth, M.B., F.R.C.S., has been appointed Surgeon to the Western Ophthalmic Hospital, London.

Clarke, H. A., M.D., M.Ch. Irel., has been appointed Visiting Physician to the City Hospital, East, Liverpool.

Coates, W. H., M.A., M.B. Durh., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer by the Partrington Rural District Council.

Coombs, M. L., L.R.C.P., L.R.C.S., has been re-appointed Medical Officer of Health by the Newport Town Council, Isle of Wight.

Craven, R., M.B., C.M. Edin., has been appointed Medical Officer for the Chipping District of the Clitheroe Union.

Donagan, A. E., B.A., L.D.S., has been appointed Lecturer on Dental Mechanics in Mason University College, Birmingham.

Emerson, T. G., M.D., M.Ch. Irel., has been re-appointed Medical Officer of Health by the Wantage Urban District Council.

Evans, J. Jameson, M.B., C.M., F.R.C.S. Eng., has been appointed a Demonstrator of Anatomy in Mason University College, Birmingham.

Felce, Stamford G., M.D., B.C. Cantab., has been appointed Medical Officer to the Willesden Parish Infirmary.

Gaylor, E., L.R.C.P. Edin., L.F.P.S. Glasg., has been re-appointed Medical Officer of Health by the Alfreton Urban Council.

Giles, A. E., M.D., M.R.C.P. Lond., F.R.C.S. Edin., has been appointed Honorary Gynæcologist to Out-patients, Tottenham Hospital.

Gilmer, H. A. H., M.B., Ch.B. Edin., has been appointed Assistant House Surgeon to the Northern Hospital, Liverpool.

Grace, Gerald, L.R.C.P. Lond., M.R.C.S., L.S.A., of Chipping Sodbury, has been appointed Civil Surgeon to No. 10 General Hospital, South Africa.

Green, E. T., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the County Borough of Birkenhead, Wallasey Urban District Council, and the Townships of Bidston-cum-Ford and Noctorum, in Wirral Rural District.

Hays, A. G., L.R.C.P., L.R.C.S. Edin., F.F.P.S. Glasg., has been appointed Medical Officer for the Third Sanitary District of the Brackley Union, vice H. R. Jacobs, resigned.

Hemsted, Henry, Jun., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Royal Hants County Hospital, Winchester.

Herbert, B. H., M.R.C.S., has been re-appointed Medical Officer of Health by the Uttoxeter District Council.

Hollings, C. E., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health by the Driffield Rural District Council.

Holt, H. M., M.R.C.S., D.P.H. Edin., has been re-appointed Medical Officer of Health by the Malton Urban District Council.

Hutchinson, J. A., M.D. Durh., M.R.C.S., has been re-appointed Medical Officer by the Northallerton Rural District Council.

Inverarity, James M., L.R.C.P., L.R.C.S. Edin., has been appointed Civil Surgeon to the 4th Battalion Scottish Rifles, now *en route* for South Africa.

Jones, William Watkin, M.D., C.M. Edin., D.P.H. Cantab., has been appointed, *pro tem.*, Medical Officer of Health by the Merthyr Tydvil Urban District Council.

Legate, R. L., L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer by the Christchurch District Council.

Leslie, R. Murray, M.B. Edin., M.R.C.P. Lond., has been appointed Senior Medical Registrar and Medical Tutor, King's College Hospital, London.

Leslie, R. Murray, M.A., M.D., M.R.C.P. Lond., has been appointed Honorary Physician to In-patients, Tottenham Hospital.

Lloyd, W. H., M.R.C.S., has been re-appointed Medical Officer of Health by the Llandilo Urban District Council.

Macdonald, J. H., M.B., B.Ch. Glasg., has been appointed Assistant Medical Officer (Pathologist) at the Glasgow District Asylum, Woodilee, Lenzie.

Mackay, J. Y., M.D. Glasg., has been appointed to the Principalship of the University College, Dundee.

Mordaunt, L. J. Pavillet, M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon to the Miller Hospital, Greenwich-road, S.E.

Parsons, J. Frederick, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for Frome, Somerset.

Pim, J. H., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer and Public Vaccinator for the Billinghay Sanitary District of the Sleaford Union.

Richards, H. M., M.D. Lond., B.S., L.R.C.P., M.R.C.S., has been appointed Medical Officer of Health for the Borough of Croydon.

Rorie, George A., M.B., Ch.B., has been appointed Senior Assistant Medical Officer at Cumberland and Westmorland Asylum, vice J. W. Leitch, resigned.

Rowlands, W. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Bromsgrove Union, vice C. Kidd, resigned.

Seacome, A. F., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Assistant Medical Officer at the Workhouse of the Township of Toxteth Park, Liverpool.

Seddon, Albin J., L.R.C.P. & S. Edin., L.F.P.S. Glasg., D.P.H. Edin., has been appointed Medical Officer for the Frome District by the Frome Board of Guardians.

Smith, Edmund Moody, M.D., C.M. Edin., D.P.H. Cantab., has been appointed Medical Officer of Health for the City of York, vice *Robert Cattley, resigned.*

Steele, Herbert, L.R.C.P. Lond., M.R.C.S., of St. Marychurch, Torquay, has been granted a commission as Surgeon-Captain in the Eighth Division, and is proceeding to South Africa.

Thompson, George W., M.B., C.M. Edin., has been appointed Assistant Surgeon to the Western Ophthalmic Hospital, London.

Weaver, J. J., M.R.C.S., has been appointed Medical Officer of Health for the Borough of Southport.

Williams, H., M.D. St. And., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Richmond, Yorks, District Council.

Wright, William, M.B., B.Ch., M.R.C.S., L.R.C.P., has been appointed Lecturer on Osteology and Senior Demonstrator of Anatomy in Mason University College, Birmingham.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

Birkenhead Borough Hospital.—Visiting House Surgeon. Salary £75 a year, with board, lodging, and washing (no wine, spirits, or beer). Additional fees allowed for reporting certain infectious diseases, &c.

Birmingham and Midland Ear and Throat Hospital, *Edmund-street*, Birmingham.—House Surgeon. Tenable to Oct. 31st next. Salary at the rate of £60 per annum, with board, lodging, and washing.

Bradford Royal Infirmary.—House Surgeon, for twelve months, unmarried. Salary £110 per annum, with board and residence.

Bury Infirmary.—Junior House Surgeon. Salary £80 per annum, with board, residence, and attendance.

Cardiff Infirmary.—Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing, and apartments. Also Resident Medical Officer for three years. Salary £100 per annum, with board, washing, and furnished apartments.

Cumberland and Westmorland Asylum, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £100 a year, with board and residence.

Devon County Asylum, Exminster, *Devon.—Third Assistant* Medical Officer. Salary £120, rising to £150, with board, lodgings, &c.

Down (County) District Asylum, Downpatrick.—Assistant Medical Officer, unmarried. Salary £100 per annum, with furnished apartments, board, washing, and attendance.

Dumfries and Galloway Royal Infirmary.—House Surgeon. Salary £50 per annum, with board and washing. Also Assistant House Surgeon. Board and washing provided.

East Sussex County Council.—Consulting Medical Officer for one year. Honorarium 100 guineas, and travelling expenses.

Hamlet of Mile-end Old Town, London.—Assistant Resident Medical Officer at the Workhouse Infirmary, Bancroft-road, Mile-end, E. Also as Assistant Medical Officer for the Workhouse and School, unmarried. Salary, an inclusive one of £120, with board, lodging, and laundry and an allowance in lieu of beer. Applications to the Clerk to the Guardians, Bancroft-road, Mile-end, E.

Harris Parish Council, for the Southern Division of Harris.—Medical Officer. Salary £90. Apply to Mr. Thomas Wilson, Solicitor, *Lochmaddy, Clerk.*

Hospital for Consumption and Diseases of the Chest, Brompton.—Assistant Physician. Also Resident House Physicians for six months. Honorarium £25.

Hospital for Sick Children, Great Ormond-street, Bloomsbury, London.—House Physician for six months, unmarried. Salary £20, with board and residence in the hospital.

Hospital for Women, Soho-square (The London School of Gynæcology).—Clinical Assistantships.

Kent and Canterbury Hospital, Canterbury.—Assistant House Surgeon, unmarried. Salary £60 a year, with board and lodging.

Lincoln County Hospital, *Lincoln*.—Assistant House Surgeon for six months. Honorarium £10 for that period, with board, residence, and washing.

Lincoln Hospital for the Insane.—Assistant Medical Officer. Salary £100.

Liverpool Dispensaries, Moorfields Liverpool.—Assistant Surgeon unmarried Salary £100 per annum, with board and apartments

Loughborough and District General Hospital and Dispensary, Loughborough —Resident House Surgeon Salary £100 per annum, with furnished rooms, attendance, and board

Macclesfield General Infirmary —Junior House Surgeon Salary £70 per annum, with board and residence at the Infirmary

Monkwearmouth and Southwick Hospital, Sunderland —House Surgeon, unmarried Salary £20 per annum with board, residence, and washing

North Riding Infirmary, Middlesborough on Tees.—Assistant House Surgeon Salary £75 a year, with lodging, board, and washing No beer allowed

Parish of Rousay and Egilsay, Orkney —Resident Medical Officer (male or female) Salary £51 sterling per annum. Apply to the Clerk of Parish Council, Rousay Orkney

Preston Royal Infirmary —Senior House Surgeon Salary £100 per annum, with board, lodging and washing

Ramsgate and St Lawrence Royal Dispensary, and the General Hospital and Seamen's Infirmary —Resident Medical Officer, unmarried Salary £100 per annum, with furnished apartments, board, and attendance £10 allowed for substitute during annual holiday

Royal Albert Hospital, Devonport —Assistant House Surgeon for six months Salary at the rate of £40 per annum with board, lodging and washing

Royal Halifax Infirmary —Third House Surgeon, unmarried. Salary £50 per annum with residence.

Royal Hospital for Children and Women, Waterloo-bridge-road, London —Resident Medical Officer —Salary £70 per annum Full rations and laundry

Royal National Hospital for Consumption Ventnor —Clinical Assistant. Board residence, and laundry provided Apply to Dr Parry, Resident Medical Officer

Royal Sea bathing Hospital Margate —Assistant Resident Surgeon Salary £52 per annum, with board and residence. Apply to the Secretary, Royal Sea-bathing Hospital Offices, 30 Charing cross, London

St Mary's Children's Hospital, Plaistow, E —Ophthalmic Surgeon to Out-patient Department Also Assistant Resident Medical Officer for six months unmarried Salary at the rate of £60 per annum, with board residence, laundry, &c.

St Mary's Hospital, Quay street, Manchester —Medical Officer for six months Salary £65 per annum, with board and residence

South Devon and East Cornwall Hospital, Plymouth —Assistant House Surgeon for six months Salary at the rate of £50 per annum, with board and residence

Staffordshire General Infirmary, Stafford —House Surgeon for two years Salary £100 per annum, with board, lodging and washing

Stamford, Rutland, and General Infirmary Stamford —House Surgeon, for two years unmarried Salary £100 per annum, with board, lodging, and washing

Stockport Infirmary —Assistant House and Visiting Surgeon Salary £70 per annum, with board, washing, and residence

The Chief Inspector of Factories gives notice of a vacancy for a Certifying Surgeon under the Factory Acts at Ilkley, in the West Riding of York.

West Bromwich District Hospital.—Resident Assistant House Surgeon —Salary £50 per annum with board, &c.

Weston super Mare Hospital.—House Surgeon, unmarried Salary £80 per annum with board and residence in the hospital

Wolverhampton and Staffordshire General Hospital, Wolverhampton.—Assistant House Physician for six months Honorarium at the rate of £50 per annum and board, lodging and washing provided

Births, Marriages, and Deaths.

BIRTHS

Barton —On March 9th, at Sunnyside, Wimbledon, the wife of Percy Frederic Barton M A M B D C, of a son

Carruthers —On March 2nd at Moody Hall Congleton Cheshire, the *wife of Edward Carruthers M D Edin , of a daughter*

Currie.—On March 10th, at Maritzburg Natal, South Africa the wife of Oswald James Currie M B , M R C S , of a daughter

Goodall.—On March 6th at *Homerton,* the wife of L W Goodall, *M D Lond , of a daughter*

Higgins —On March 3rd, at Marazion, Chester-road, Erdington, Birmingham the wife of W A Higgins M D , of twins (girls)

DEATHS;

Jackson —On Feb 16th, Hadley C Jackson, M R C S , Medical Officer, Uganda Protectorate, British E Africa, aged 28

Williams —At Brynymor Penygroes Carnarvonshire, on March 12th, John Cadwaladr Williams M B , C M Edin , M R C S Eng , L R C P. Lond , of Grange-road West, Middlesboro on Tees, aged 31 years

N.B —A fee of 5s. is charged for the insertion of Notices of Births, Marriages and Deaths

Notes, Short Comments, and Answers to Correspondents.

THE CHURCH MILITANT FOR SANITATION IN HURDSFIELD

Hurdsfield is a suburb of Macclesfield with a population of 4000, and Macclesfield, as everyone knows, is a large town with a population of 39 000, in Cheshire famous for its silk manufacture This being so it is astonishing to find (from statements which have appeared in the local press—statements made at public meetings and elsewhere) that the arrangements for the disposal of sewage in Hurdsfield are on a par with those which obtained in London in the eighteenth century The state of matters stands as follows Macclesfield is asking for powers to borrow nearly £7000 for street improvements None of this sum, however, is to be spent in Hurdsfield Ratepayers of, and others interested in, Hurdsfield have therefore in a public meeting demanded that Hurdsfield shall be included in the scheme, even if more money has to be spent The reasons for this request were set out with exceeding plainness in a letter signed "Wm Laycock, Chairman of the said meeting and of the said School Committee Wm Laycock is, to his credit be it said, the Reverend William Laycock, Vicar of Hurdsfield and the letter in question was published in the local papers and also sent to the Local Government Board It states that—1 The main sewer of the whole borough comes through Lower Hurdsfield and Garden street 2 In Hurdsfield there are about 900 houses of these 370 are unsewered 3 Garden street contains 70 houses and has all the sewage of the borough passing through it It has three sewers, three sets of gas mains, and two water mains passing through it, and yet all its houses except seven are unsewered 4 Steeple street, with 28 houses, is unsewered and unpaved 5 Hurdsfield road containing with its small side streets 230 houses is totally unsewered Road gutters do not communicate with any drains but are fitted with dummy traps and grids From Higher Hurdsfield without the borough, flows a drain which so far as is known, carries all the sewage from Hurdsfield road, from the canal to the church, into the Bollin In part of its course it is uncovered and at times is most offensive 6. Lansdowne-street contains 30 houses and a large school and is totally unsewered and unpaved It has old soughs or drains which empty themselves into a pool This sewage, mixed with other water passes through the boilers of certain mills afterwards into the Bollin 7 The ashpit system is in vogue and the contents are apparently emptied into the street and then removed This occurred in the case of a house where there was a patient suffering from enteric fever The street is neither paved nor macadamised

At the monthly meeting of the Macclesfield Town Council held on Feb 7th the Chairman of the Highways Committee felt obliged to say something about the contents of this letter He contended that Mr Laycock's assertions were not well founded As to Garden street and Steeple-street the committee had estimates prepared for the work but they had been handicapped by the absence of a steam roller He had it from the medical officer conclusively that the very part of the town which Mr Laycock spoke of was one of the most healthy parts of the borough He did not think it should go forth that Hurdsfield was neglected Councillor Hood said that the Vicar was only asking for his rights and that he would back him out, tooth and nail Councillor Isherwood said that Eastgate required attention as soon as possible

A public meeting of the inhabitants of Hurdsfield was held on Feb 19th, at the Daybrook street School, "to ratify and confirm whatever has already been done by the Vicar and others in connexion with the unsewered and unpaved streets in Hurdsfield Mr T C Horsfall J P , was in the chair, and among others were present the Vicar and Councillors Hood and Isherwood The latter in the course of the proceedings mentioned that the last report of the medical officer of health was an argument in favour of the Highways Committee Eventually however the meeting unanimously passed the following motion — "That this public meeting of the ratepayers *and inhabitants of Hurdsfield heartily approves of* and confirms what has been done concerning neglected Hurdsfield by the Vicar and others and hereby states that his letter to the Local Government Board was no exaggeration of facts but a true statement of the present condition " We have always maintained, and we are glad to see that Mr Horsfall also maintained in his speech, that the clergy should be in the forefront in all efforts to improve the physical condition of the people There seems to be no doubt whatever that Mr Laycock's statements are the simple truth Hurdsfield is apparently in the dangerous condition not of having no drainage but of having bad and inefficient drainage at least so we gather from the mention of the "soughs whilst reference to the steam roller is not pertinent. Nobody either lays drains, connects houses with drains, or empties ashpits by means of a steam roller We do not gather so far that the Highways Committee have come to any conclusion, but we earnestly hope that the Local Government Board will make a strict inquiry into all the circumstances Meanwhile we offer our congratulations to the Vicar for giving voice to the complaint of his people

TROUSSEAU'S WINE.

To the Editors of THE LANCET.

SIRS,—In the annotation headed "Valvular Disease in Old Age" in THE LANCET of Feb. 3rd, 1900, you mention the use of Trousseau's wine as very beneficial in that disease. Will you or any of your readers kindly inform me, through your esteemed journal, the exact formula and the process of making the diuretic wine? May I also ask you to state the formula and process of making the German speciality called "urocidine"? I am, Sirs, yours faithfully,

Parel, Bombay, India, Feb. 24th, 1900. A SUBSCRIBER.

*** Uricedin is composed of citrate of potash, sulphate of soda, chloride of sodium, and citrate of lithium. We do not fancy that the exact formula has been published. Trousseau's wine was similar to the preparation mentioned in the annotation, but we have not the exact formula at hand. Possibly some of our readers can supply it.—ED. L.

"LAURIA FUND."

To the Editors of THE LANCET.

SIRS,—The above fund is now closed and we enclose herewith a final statement of subscriptions, the total being £115 16*s.* 6*d.* A cheque has been handed to Mrs. Lauria for this amount.

We are, Sirs, yours faithfully,
JOHN H. BARRS.
EDWARD B. HARTNELL.

6, Wandsworth Bridge-road, S.W., *March 12th*, 1900.

	£	*s.*	*d.*		£	*s.*	*d.*
To amount previously acknowledged	£35	3	0	Mr. C. L. Loch...	10	0	0
Mr. E. Coates	3	3	0	Collected by Dr. Jones, Lagos, West Africa ...	42	0	0
Colonel Neate	5	0	0	British Medical Benevolent Fund	20	0	0
Mrs Cater...	0	10	6				

THE SANITARY BANDELET.

WE have received from Mr. Louis Nelicker, of 29, Bedford-road, Rockferry, Cheshire, a sample of his patented sanitary bandelet for ladies' use. It has the ordinary form and appearance of articles for this purpose, being a thin pad or cushion about eight inches long and three inches wide, with loops at each end for attachment to a waistbelt. The bandelet is filled, not with wadding, wood-wool, or other fibrous material, but with a fine soft inorganic powder, for which great absorptive properties are claimed.

WANTED A HOME.

To the Editors of THE LANCET.

SIRS,—Could you or any of your readers tell me of any home where an elderly lady can be cared for? She is the widow of a medical man, and was formerly a nurse; she is now over 70 years of age and almost destitute. I am, Sirs, yours faithfully,

March 12th, 1900. MEMBER.

WANTED A REMEDY.

To the Editors of THE LANCET.

SIRS,—A woman is very much troubled by the growth of two patches of long hairs, one on either side of her chin. I shall feel extremely obliged if any of your readers will kindly suggest some simple but efficacious means of getting rid of them. She objects to electrolysis.

I am, Sirs, yours faithfully,

March 14th, 1900. L.R.C.P.

THE SEXUAL QUACK.

THAT noisome person, the sexual quack, is tolerably well known upon this side of the Atlantic. His literature is invariably of the same type—false pathology mixed up with lies about "loss of vitality" and other imaginary symptoms, with an undercurrent of semi-"religious" remarks about what the Creator has intended. We have recently received from a correspondent in India a pamphlet issued by the North American Specialists Company, who live at 194, Broadway, New York, and the object of this company appears to be to induce the weak-minded to buy the American Wafers. From page 8 of the pamphlet we learn that "from the glacial regions of Iceland to the arid sands of Patagonia and from the point where the sun exhibits his rising beams to the occident where he glows in brilliant setting, no remedy or combination of remedies exist which has gained the phenomenal success which has crowned the American Wafers." This is, in Thackeray's words, "a hoighth of foine writing," but its astronomical views are peculiar. The wafers are of four kinds, and Nos. 1, 2, and 3 are prepared in two strengths. Accompanying the pamphlet is a confidential consultation sheet which the sufferer is supposed to fill up together with his name and address. We have pointed out before how writing to abortion quacks opens the door to blackmail and we can say the same about filling up such papers as are now before us, although, of course, there is no criminality in question. But if anyone were idiotic enough to fill up the questions which are on the consultation sheet things might easily be made very unpleasant for him. The correspondent who sends us the pamphlet informs us that it was sent to an officer of his regiment and also that such literature is being sent broadcast over India at the present day. The amount of filth circulated by means of the post-office is incalculable and it is quite time that some means should be taken of putting a stop to the practice.

AN EIGHTEENTH-CENTURY MEDICAL BILL.

A LEGAL correspondent has been kind enough to forward the enclo bill which he came across in the exercise of his profession. It bill for medicines and dressings supplied in 1776 to a Mrs. Ell Hadderton but does not apparently include charges for professio attendance. It runs at follows:—

1776. March 24th. Mrs. Ellen Hadderton

Debtor to S. Jeffery.

	s.	*d.*
To three purging potions	2	0
To a cooling collyrium	1	3
Ditto repeat	1	3
Two Blystering plasters ... ... And Dressings for Ditto	1	6
£0	6	0

Receiv'd Ap. 27th, 1776,
The above in full, S. Jeffery.

Mrs. Hadderton, it will be seen, was very prompt in her payme and, allowing for the difference in the value of money, the pr seem to be about the same as in the present day.

AN "AUTOMATIC DRY SEAT" FOR TRAMWAYS, &c.

MR. J. JACKSON of Black Swan Works, Ripon, sends to us ticulars of an "automatic dry seat," which should supply a pressing want of those who travel on tramways and omnibuses. framework of the chair is very similar to the seats with move backs so common on tramcars, but attached to the back of the cha few inches above the seat is a strip of canvas which extends over seat and under the front edge, where it is affixed to an oscillating controlled by a strong spring. The seat when not in use is always kept covered. Before a passenger sits down he has merely move the back of the chair, when the canvas covering is dr automatically below the seat. The movement can be easily rever at the end of the journey by the conductor.

◆

Aliquis.—There is an unwritten rule that when in a puerperal case attendance is prolonged beyond the normal period the practition entitled to charge additional fees according to the number of his v and the demands upon his time. The practitioner himself, from own knowledge of the case and the circumstances, ought to be best judge of the additional fees which he should charge. The detailed is not one in which we should advise the unwritten rule t pushed very far.

W. W. B. (Edinburgh).—The gist of the letter is published in columns. Our correspondent must excuse us from replying to privately. With all the will in the world time does not permi to do this.

Mr. W. P. Phillips.—We have no information on the subject. It w be better for the young woman to communicate with the matron the large general hospitals.

Dubitans.—We do not think the cockade should be worn.

H. A.—We do not recommend practitioners to the public.

COMMUNICATIONS not noticed in our present issue will receive atten in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 15th, 190

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain-fall.	Solar Radia in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb.	Remark 8 30 A
Mar. 9	30·19	E	...	81	60	39	38	40	Overca
" 10	30·28	E.	...	83	56	40	40	42	Cloud
" 11	30·31	N.E.	...	74	54	40	41	43	Overc.
" 12	30 40	N.E.	...	86	57	37	38	40	Haz
" 13	30 41	N.	...	62	48	40	45	48	Overc
" 14	30 55	N.	...	87	53	37	41	43	Overc
" 15	30 19	W.	...	68	52	43	44	46	Overc

During the week marked copies of the following newspa have been received: *Wigan Examiner, Malton Gazette, Birken News, Dundee Advertiser, Bournemouth Guardian, Folkestone Exp Norfolk Daily Standard, Birmingham Daily Post, Daily Messe (Paris), West Morning News, Blackburn Daily Telegraph, York Sun, Evesham Journal, Yarmouth Mercury, Leeds Merc Weston-super-Mare Gazette, Newcastle Daily Chronicle, Bur Gazette, Ceylon Standard, Pioneer Mail, Times of India, Stalybr Herald, Salisbury Journal, Hampstead and Highgat Exp Chester Chronicle, Scarborough Mercury, Bolton Guardian, Cr Herald, Citizen, Architect, Scotsman, Builder, Liverpool Daily*

Bristol Mercury, Kilmarnock Standard, Health, Yorkshire Post, Sanitary Record, Indian Daily News, London Argus, Local Government Chronicle, Hertfordshire Mercury, Mining Journal, City Press, Reading Mercury, Lincoln Leader, Surrey Advertiser, Teignmouth Post, Oxford Times, Morning Herald, Queensland Times, Local Government Journal, The Reporter (Salford), Chelsea Mail, &c., &c.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M..

TUESDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat 2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (21st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.) Cancer (2 P.M.)

THURSDAY (22nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (24th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (19th).—MEDICAL SOCIETY OF LONDON.—9 P.M. Sir W. M Banks: Prevalent Errors about Mammary Cancer and its Diagnosis, Acute Mania, Chronic Interstitial Mastitis and How it Degenerates into Cancer. Lantern Demonstration to illustrate the last subject. (Lettsomian Lecture)

TUESDAY (20th).—CHELSEA CLINICAL SOCIETY (Holy Trinity Parish Hall, Pavilion-road, Sloane-square, S.W.).—8.30 P.M. Annual Clinical Debate. Subject:—The Treatment of Rheumatism with special reference to Prophylaxis and Cardiac Complications The following speakers have promised to take part in the discussion — Dr. Pye-Smith, Dr. R. Caton (Liverpool), Dr. B. Yeo, and Dr I. Owen. Sir R. Douglas Powell, Bart., will give a Closing Address

PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.)—8.30 P.M. Adjourned Discussion on Prof. Halliburton's paper on the Forms and Significance of the Proteids met with in the Urine will be resumed by Dr. Brodie *The following gentlemen and others are* expected to take part in the debate.—Dr Herringham, Mr. Cammidge Dr. Luff, Dr. L. Dickinson, and Dr. P. Weber.

WEDNESDAY (21st).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.)—7.30 P.M. Mr C F Rousselet: Exhibition of Slides of New, Rare, and Foreign Rotifers.

SOCIETY OF ARTS.—8 P.M. Dr. S Rideal: The Use and Abuse of Food Preservatives.

FRIDAY (23rd).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.)—8.30 P.M. Papers:—Dr Hale White and Mr. Fripp: A Case in which the Attempt was made to Remove a Dermoid Tumour which growing in the Spinal Canal pressed upon the Spinal Cord.—Mr. R. Jones and Mr. Tubby: Further Experience of Cases of Spinal Rectification.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (19th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. C. Stewart: On the Protection and Nourishment of the Young in Plants and Animals.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. Galloway: Consultation. (Skin.)—5-7 P.M. Dr. D. Grant: Class. Practical Otology Demonstration III.

TUESDAY (20th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. P. Horton Smith: The Typhoid Bacillus and Typhoid Fever. (Goulstonian Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—Sir W. H. Broadbent, Bart: Consultation. (Medical.)

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. E. Ray Lankester: The Structure and Classification of Fishes.

WEDNESDAY (21st).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. C. Stewart: On the Protection and Nourishment of the Young in Plants and Animals.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street W.C.).—4 P.M. Dr. C. O. Hawthorne: Consultation. (Medical.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Schorstein: Emphysema.

THURSDAY (22nd).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. P. Horton-Smith: The Typhoid Bacillus and Typhoid Fever. (Goulstonian Lecture.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Still: Some Functional Neuroses of Children.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

FRIDAY (23rd).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. C. Stewart: On the Protection and Nourishment of the Young in Plants and Animals

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. StClair Thomson: Consultation. (Eye, Ear, Nose and Throat.)

ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Sir A. Noble: Some Modern Explosives.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1899, which was completed with the issue of Dec. 30th, and the Title-page to the Volume, were given in THE LANCET of Jan. 6th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1899 are now ready. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 15 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

Communications, Letters, &c., have been received from—

A.—Señor M. D. Adame, Seville; Messrs. Allen and Hanburys, Lond.; Messrs. Ayrton and Saunders, Liverpool; *Abstainers'* and General Insurance Co., Birmingham; Mr. W. F. Abbott, Addlestone; A. W. W. D.; Aylesbury Dairy Co., Lond.

B.—Sir W. Banks, Liverpool; Mr. D. F. Bolton, Usk; Burton-on Trent Infirmary, Secretary of; Messrs. J. Beal and Son, Brighton; B. F. D.; Messrs. Burroughs Wellcome and Co., Lond.; Birmingham, &c., Ear and Throat Hospital, Secretary of; Bury Dispensary Hospital, Hon. Secretary of; Mr. J. F. Briscoe, Alton; Mr. Lennox Browne Lond.; H. F. Browne, Lond.

C.—Mr. P. J. Cammidge, Leeds; Messrs. Crossley and Co., Lond.; Clinical Research Association, Secretary of; Chester General Infirmary, Secretary of; Messrs. Samson Clark and Co., Lond.; Cortland Wagon Co, Lond., C. E. H.; Messrs. Cresswell and Cresswell, Dowlais; Cumberland and Westmorland County Asylum, Garlands, Steward of; Carnos, Ltd, Great Grimsby; Surgeon H. W. A. Cowan, R.N., Lond.; Messrs. Carnrick and Co., Lond; Cardiff Infirmary, Secretary of; Messrs. J. and A. Churchill, Lond.; Dr. E. Carleton, New York City; Clapham Dispensary, Secretary of.

D.—Down District Asylum Downpatrick, Medical Superintendent of; Colonel Damaira, I.M.S., Lond.; Messrs. Douglas and Mason, Edinburgh; Dr J. H. Davies, Leicester; Duchess of Devonshire, Lond.

E.—Dr. W. Ewart, Lond.; Captain H. M. Earle, I M S, Arrah, Bengal; East Sussex County Council, Lewes, Town Clerk of.

F.—Mr. B Foster, Evenwood; Messrs. Flynn and Co., Cork; Dr Percy Flemming, Lond.; Dr Fortescue Fox, Strathpeffer; Mr. F. H. Foulds, Droitwich.

G.—Dr. Grattan Guinness, Lond.; Great Western Railway Medical Fund, New Swindon, Medical Officer of; G. F.; G. D. V. B.; *Mr. J. Gillingham, Chard*; Mr. G. A. Ganton, Lond.; Dr. A. E. Gallant, New York.

H.—Staff Surgeon W. E. Home, R.N., Lond.; H. C. L; H. C.; Dr. Horton-Smith, Lond.; Mr. B. Hunter, Bristol; Mr. J. Harrold, *Lond.; Mr. H. Horncastle*, Woking.

I.—Mr. S. Iles, Bristol; Mr. F. C. Ireland, Lond.

J.—J. J.; J. S.

K.—Captain Kenrick, I.M.S., Idak; Kent and Canterbury Hospital, Canterbury, Secretary of.

L.—Mr. H. K. Lewis, Lond.; Mr E. H. Linnell, Florence; Law Accident Insurance Co., Lond.; Loughborough and District Hospital, Secretary of; L. B., Mr. P. G. Lodge, Bradford.

M—Mr. J. Munro, Edinburgh; Dr. Greville Macdonald, Lond.; Mr. R. C. Martin, Lond.; *Monkwearmouth* and Southwick Hospital, *Sunderland, Hon.* Secretary of; Dr. J. Moore, Farnborough; Dr. W. A. McKeown, Belfast; Maltine Manufacturing Co, Lond.; Medical Graduates' College, Lond.; Messrs. C. Mitchell and Co., Lond.; *Manchester Evening Chronicle*, Lond.; Mr. W. Martin, Lond.; Mr. J. de B. Murray, Lond.; Mr. A. W. Martin, Newcastle.

N.—Messrs. Nicolay and Co., Lond.; Neyroud's Advertising Agency, Lond.; North Riding Infirmary, Middlesbrough, Secretary of.

P.—Dr. W. Pear-tThomas, Lond.; Preston Royal Infirmary, Secretary of; Dr. Pye Smith, Lond.; Mr. Y. J. Pentland, Edinburgh; Messrs. T. Parris and Co., Acton; Messrs. Pollock and Peek, Lond.

R.—Dr. R. R. Rentoul, Liverpool; Rev. W. B. Raven, Leiston; Mr. E. J. Reid, Lond.; Ramsgate and St. Lawrence Royal Dispensary, Secretary of; Royal Halifax Infirmary, Secretary of, Royal Statistical Society, Lond.; Mr. H. Rugg, Burton-on Trent.

S.—Dr. Shuttleworth, Richmond; Sir James Sawyer, Birmingham; Dr. A. E. Sansom, Lond.; South Devon and East Cornwall Hospital, Plymouth, *Secretary of*; Dr. E. Stadelmann, Berlin; Society of Arts, Lond.

T.—Dr. H. Thursfield, Lond.; T. S.; Dr. H. G. Turney, Lond.

W.—Dr. C. E. Wilmot, Bulwell; Wolverhampton General Hospital, Secretary of; Worth's Food Syndicate, Cheltenham; Dr. E. *Waggett, Lond.; Weston-super-Mare* Hospital, *Secretary* of; Messrs. Willings, Lond.; W. E. S.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. F. C. Angear, Chatham; A. B.; A. L.; A. C.; A. C. P.; A. P.

B.—Mr. J. T. Brickwell, Watford; Birmingham and Midland Hospital, Hon. *Secretary* of; Mr. E. K. Brown, Longton; Mr. S. Bullivant, Nottingham; Dr. F. E. Batten, Lond.; Messrs. Battle and Co., Neuilly sur-Seine, France.

C.—Mr. L. Cooke, Aspull; Messrs. Carter, Lond.; Coventry Public Medical Service, Hon. Secretary of; Mr. F. G. H. Cooke, Lond.; C. P.; C. D. F.; C. J.

D.—Mrs. H. E. Duke, Chichester; Lieutenant-Colonel G. Dennys, I.M.S. Fleet; Durham County Asylum, Winterton, Steward of, D. D.; Dumfries and Galloway Royal Infirmary, Treasurer of.

E.—Mr. J. R. Evans, Ammanford; Messrs. Ebrall and Courtenay, Bournemouth; E. F. H. H.; E. R.; Mr. A. Elliot, Edinburgh.

F.—Messrs. Fletcher, Fletcher, and Co., Lond.; F. C. H. M.; F. W. A.; F. A. C. F.; Mr. E. J. Foulston, Liverpool.

G.—Mr. O. W. Gange, Tuxford; Mr. G. Goodchild, Lond.; G. K.; G. W. O.; G. B

H.—Mr. J. A. Hedges, Leighton Buzzard; Mr. T. M. Hocken, Dunedin, New Zealand; Messrs. J. Haddon and Co., Lond.; Messrs. Hastings Bros., Lond.; *Heigham Hall, Norwich, Medical* Superintendent of, Messrs. Holt, Risque, and Robson, Manchester; H. A.; Dr. D Henderson, Llandebie; Mr. J. L. A. Hope, Addlestone.

J.—Mrs. Jenkins, Lytham; J. T.; J. H. J.; J. F. H.; J. G. M.; J. H.; J. H. B; J. K. G.; J. C.

K.—Messrs. H. and F. Knowles, St. Helens.

L—Dr. J. H. Lamb, Crewkerne; Messrs. W. H. Lowdermilk and Co., Washington, U.S.A.; Dr. P. B. Le Franc, Langla Tea Estate, India; L. M. N., Oldham.

M.—Mr. W. A. Mushé, Lond.; Mr. S. Mackey, Manchester; Dr. W. McCallin, West Burton; Miss Marten, Lond.; M. W. W. C.; M. P.; Dr. W. R. Mander, Stockport.

N.—Mr. R. Nitch-Smith, Lond.; Northern Medical Association, Glasgow; Dr. W. Newman, Stamford.

O.—Dr. L. O'Clery, Clonakilty; Oxford Incorporation, Clerk of; Mr. F. Orchard, Lond.

P.—Mr. T. D'O. Pain, Bembridge; *Messrs.* Pool and Co., Lond.; P. H.

R.—Rochford Union, Southend-on-Sea, Clerk of; R. W. J.

S.—Mr. W. Smith, Aberdeen; Mr. F. S. Sanderson, St. Just; Mr. F. W. Sears, Lond.; Surgical Supply Association, Manchester; Smith's Advertising Agency, Lond.; Surgeon, Lond.; Mrs. J. Salmond, Glasgow; S. A.

T.—Mr. T. W. Thomas, Caerphilly; Mr. J. Thin, Edinburgh; Torquay Publishing Co., Torquay; Tottenham Hospital, Clerk of; Messrs. J. Turner and Co., Queensferry; Mr. W. Twinch, Cleveland, U.S.A.; Messrs. C. Tayler and Co., Lond.

W.—Mr. T. M. Watt, Burbidge; Worksop Dispensary, Secretary of; Mr. F. V. Worthington, Lond.; Dr. W.; West Bromwich District Hospital, Secretary of; Messrs. W. Wood and Co., New York; W. Sheffield; W. W. S.; W. J. N.; Mr. R. T. Williams, Cwm Avon; Dr. S. Wellby, Lond.

EVERY FRIDAY. **THE LANCET.** PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

For the United Kingdom.		*To the Colonies and Abroad.*	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	*Seven Lines* and under	£0 5 0
Official and General Announcements	Ditto	0 5 6
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6

Quarter Page, £1 10*s.* Half a Page, £2 15*s.* An Entire Page, £5 5*s.*
Terms for Position Pages and Serial Insertions on application.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent *to the Office in reply to Advertisements*; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France —J. ASTIER, 8, Rue Traversière, Asnières Paris

The Goulstonian Lectures

ON

THE TYPHOID BACILLUS AND TYPHOID FEVER.

Delivered before the Royal College of Physicians of London

BY P. HORTON-SMITH, M A, M D CANTAB, F R C P LOND,

ASSISTANT PHYSICIAN TO THE BROMPTON HOSPITAL FOR CONSUMPTION AND TO THE METROPOLITAN HOSPITAL ASSISTANT MEDICAL TUTOR TO ST BARTHOLOMEW'S HOSPITAL

LECTURE I[1]

Delivered on March 20th

MR PRESIDENT AND GENTLEMEN,—In the Goulstonian Lectures which he delivered nearly half a century ago the late Sir William Jenner expressed in appropriate language the feelings which should guide the lecturer in the choice of his subject "It is fitting," he said, "that on this occasion the junior Fellow of the College should treat only of matters concerning which he has reason to hope his knowledge is inferior to that of his hearers in a less degree than on any other" In taking typhoid fever for my subject I trust that I may be fulfilling these conditions I propose to discuss the pathology of the disease from its bacteriological aspect, for it is in this direction that recent researches have most materially extended our knowledge To day I desire, after considering some important points in connexion with the typhoid bacillus itself, to discuss the relationship which the latter bears to an ordinary case of typhoid fever

Sir William Jenner[2] in his classical paper, published just 50 years ago showed that in their clinical symptoms and in their morbid anatomy typhoid fever and typhus fever were separate diseases A few months later, in a paper read before the Royal Medical and Chirurgical Society,[3] he supported his former thesis by proving, so far as inductive reasoning could prove the point, that the specific causes of the diseases were distinct What the nature of the cause might be he did not discuss Indeed, the words which Dr. Peter Mere Latham[4] had written some years before still fairly well expressed the difficulty felt by even the very ablest minds in forming any definite conception of the pathology of the infectious diseases Speaking of the epidemic prevalent at the General Penitentiary in 1825 and speculating on its cause Dr Latham was obliged to confess that "the present state of our knowledge does not enable us to ascertain what the essence of the disease was, and indeed the search after the essence of any disease beyond the point at which it begins to fall within the reach of the senses has seldom brought the pathologist to any more certain conclusion than this—namely, that it consists in a morbid disposition or action which is *sui generis*" In truth, no further advance was possible until Pasteur had opened up a new world for us by demonstrating the connexion of micro-organisms with disease

As soon as this had been effected numerous observers turned their attention to typhoid fever, each eager to discover the micro organism in question This honour was, however, reserved for Eberth[5] of Zürich who in 1880 succeeded in demonstrating in sections the presence of the true typhoid bacillus in the spleen and mesenteric glands After its discovery and when its cultural characteristics had been pointed out by Gaffky,[6] it seemed an easy matter to identify the microbe, one or two cultures alone being sufficient to make certain of its identity In 1885, however, the bacillus coli communis was discovered by Escherich[7] and it rapidly became evident that much greater care would have to be exercised in isolating the real typhoid bacillus Indeed so great became the difficulty in distinguishing the typhoid bacillus from some varieties of bacillus coli that in 1890 Rodet and Roux, representing the Lyons school of bacteriology, firmly maintained the view that distinction between them was impossible, that is to say, that by no morphological, cultural or other tests was it possible to certainly distinguish the typhoid bacillus from members of the coli group, and, in fact, that the typhoid bacillus was nothing more than bacillus coli endowed temporarily with the power of producing a specially virulent toxine and thereby causing the disease This we now know to be incorrect It is, without doubt, true that the typhoid bacillus is a member of the great coli family It is, in fact, nothing more than the member of that family which by a process of evolution has acquired the most highly specialised properties at the expense of some of the more common qualities possessed by the humbler members of the group, but the view that the ordinary bacillus coli communis can be converted at any moment into the typhoid bacillus, or that the reverse can obtain, is not supported by any evidence whatever. The species, though having a common ancestor, are now absolutely distinct But though this is so, and though with care the typhoid bacillus can be accurately distinguished from the other members of the group, it is by no means a simple matter, and I propose to dwell for a short time on the methods which should be employed for making the diagnosis, more especially as no definite criteria have as yet been agreed upon by bacteriologists, and consequently much valuable work has been vitiated by insufficient testing of the isolated micro-organisms

THE IDENTIFICATION OF THE TYPHOID BACILLUS

In the first place it may be said that there is not the smallest difficulty in distinguishing the typhoid bacillus from what may be called the classical bacillus coli communis They resemble each other superficially, but differ essentially in that the typhoid bacillus does not, for example, form gas bubbles in dextrose gelatin, does not clot milk, nor form indol The two can therefore be readily distinguished The difficulty, however, in diagnosing the typhoid bacillus arises from the fact that the classical or typical bacillus coli communis is by no means the sole representative of this great group Indeed, we now have to recognise the fact that the term "bacillus coli" does not refer to a single bacillus but to a great group of microbes some of which are identical with the classical bacillus coli while others very closely indeed resemble the typhoid bacillus Innumerable intermediate forms also exist The credit of first thoroughly bringing home this important point belongs to Dr M H Gordon[8] of St Bartholomew's Hospital who, in an admirable paper published in 1897, very clearly demonstrated its truth Dr Gordon obtained from various sources, such as stools, urine, sewage, milk, water, &c, over 100 micro organisms which resembled the bacillus coli communis morphologically and in its growth on gelatin and agar He then proceeded to investigate the attributes of each, for example, their power of producing gas and indol, their capacity for acidifying and coagulating milk, the number of their flagella, &c In this way he was able to demonstrate clearly what had been foreshadowed by Lawes and Andrewes,[9] that the 100 or more microbes, apparently all similar, could really be divided into as many as 16 different and stable varieties, according as they had lost one or more of the properties characteristic of the typical bacillus coli communis Large as the number may seem, it by no means includes all the varieties known, indeed, to it we must now add several which resemble the typhoid bacillus most closely—for example, Petruchsky's bacillus fæcalis alkaligenes, Gärtner's bacillus enteritidis, Nocard's bacillus psittacosis Günther's bacillus der fleischvergiftung, Basenau's bacillus morbificans bovis (sometimes grouped together as "the Gärtner group"), and many others, such as for example Houston's bacillus typhosus simulans isolated from Thames mud These micro organisms are important in themselves and they derive additional interest from the fact that they are not isolated bacilli but are merely representatives of a large group, continually being added to, from which the typhoid bacillus has to be very carefully distinguished

In making, then, the diagnosis between the typhoid bacillus and its allies, on what tests should we rely? It may be stated at once that since no test is absolutely specific, with the exception of the one introduced by Pfeiffer, which in England at least is not always easy to perform, reliance must be placed on a series of tests. Let us now consider the most important of these and how they should be applied.

---

[1] Lecture II was delivered on March 22nd, and Lecture III will be delivered on March 27th

[2] On Fevers London 1893, p 3 Edinburgh Monthly Journal of the Medical Sciences, 1849-50

[3] Ibid p 133, Transactions of the Royal Medical and Chirurgical Society, vol xxxiii

[4] An Account of the Disease Lately Prevalent at the General Penitentiary London, 1825, p. 140.

[5] Virchow's Archiv, Band lxxxi, 1880, and Band lxxxiii, 1881

[6] Mittheilungen aus dem Kaiserlichen Gesundheitsamte, Band ii, 1884

[7] Fortschritte der Medicin, 1885.

[8] Journal of Pathology and Bacteriology, 1897

[9] London County Council Reports [illegible]

Morphology and motility.—In the first place, it should be noticed that an examination of the micro-organisms under the microscope often gives valuable indications provided that a fresh gelatin culture be used (agar cultures being much less distinctive) and that the examination be made in a drop of broth. Under these circumstances the greater length of the typhoid bacilli, their greater motility, and especially the curious serpentine movement of the longer forms, should at once suggest this micro-organism. Unfortunately, however, it cannot do more, for Gärtner's bacillus, Günther's bacillus, and Nocard's bacillus psittacosis, unlike the commoner varieties of the coli group, *exactly* resemble the typhoid bacillus in these respects. Still, the tests are of value in suggesting the presence of the typhoid bacillus and in excluding many of the commoner varieties of bacillus coli.

Recently, however, it has been shown that bacilli exactly resembling each other in appearance, size, and motility may yet differ radically in the shape and number of their flagella, and the point is of some importance in the diagnosis of the typhoid bacillus. Thus the flagella of this micro-organism are long and wavy and from eight to 12 in number on each bacillus, while those of the ordinary bacillus coli are shorter and vary in number from one to three. Until quite recently, therefore, it was thought that here bacteriologists possessed an infallible means of differentiating the two micro-organisms. But this is not so, for though the majority of the members of the coli group have but from one to three flagella, there are others which possess more, while one or two of the higher members of the group are multi-flagellated in exactly the same way as is the typhoid bacillus. These variations in the number of the flagella possessed by members of the coli family are well shown in the accompanying reproductions of photographs, for which I am indebted to the kindness of Dr. Gordon. We see from them that while very often it is possible to distinguish the typhoid bacillus from its allies by the flagella test, yet sometimes this fails. Thus bacillus enteritidis, and probably also Nocard's bacillus, exactly resemble the typhoid bacillus, in this respect. As a rule, however, even in the multi flagellated forms, slight differences can be made out and the test, therefore, is of very considerable importance. Thus the bacillus represented in photograph 1 was a variety of bacillus coli, which formed no gas, did not clot milk, and formed no indol, but the number and arrangement of its flagella at once enabled it to be distinguished from the typhoid bacillus. In all cases of doubt, therefore, the flagella should certainly be stained.

Cultivation tests.—I do not propose to say anything about the growths of this great group of microbes on surface gelatin or agar, for the shades of differences noticed are too fine to be of any value as differential tests. Nor need I delay over the potato culture, hallowed though it be by tradition, owing to the fact that it was introduced by Gaffky himself, who first succeeded in cultivating the bacillus. The invisible growth, however, which may occur in the case of the typhoid bacillus if the reaction of the potato be suitable is not uncommonly also obtained with other members of the coli group, especially the higher members, and the test therefore becomes of but little use. So, too, with Elsner's medium, at first so much vaunted. According to my experience many varieties of bacillus coli grow on it exactly like the typhoid bacillus, and the medium, difficult at any time to prepare, becomes therefore of but little value.

Dextrose-agar and dextrose-gelatin.—Extremely important, however, as differential tests are the dextrose agar and dextrose-gelatin shake cultures; probably, indeed, of all the culture tests they are the most important. Their value depends on the fact, first pointed out in 1890 by Theobald Smith,[10] that typhoid bacilli, grown in a medium containing 2 per cent. of dextrose, never decompose the latter with the formation of gas bubbles, while numerous members of the coli group do. Gordon, working with dextrose-gelatin, found that of his 16 varieties 11 produced the phenomenon, while the remaining five did not. Experience, however, shows that, contrary to the former tests, the chief members of the Gärtner group, otherwise closely allied to the typhoid bacillus, are sharply differentiated by this test. Thus of the four examples which I have been able to examine all gave a positive result. Petruchsky's bacillus fæcalis alkaligenes, however, is an exception; like the typhoid bacillus it forms no gas bubbles. As a rule, too, gas bubbles, if they are going to appear, generally are seen within 24 or 48 hours; occasionally, however, in dextrose-gelatin at least, they are delayed, it may be as long as for 10 days. If this medium be used it is well, therefore, to keep the tubes for a month before deciding that the reaction is really negative—the tests, then, are of the highest value, for though by no means conclusive in themselves, they yet often effect a distinction exactly in the cases where it is most required.

Litmus milk.—Another very important test is the litmus milk test. Originally introduced in 1891 by Chantemesse and Widal,[11] it was perfected in the following year by Dunbar,[12] who pointed out the importance of noticing the change of reaction as well as the presence or absence of coagulation. Grown in this medium and incubated at 37° C. the typhoid bacillus rapidly produces a slight acidity in the milk, but never, even after some months, does it coagulate the latter. With the typical bacillus coli communis, however, the reverse obtains, for the milk is clotted in from 24 to 48 hours, while the amount of acidity formed is greatly in excess of that ever produced by the typhoid bacillus. What, now, are the limitations of the test? 1. First, as regards the coagulation of the milk. Here, again, as with so many other tests, it is by no means infallible. Gordon found that 10 out of his 16 varieties of bacillus coli clotted while the other six failed to do so; moreover, of the four highly specialised members of the group which, I have examined each had lost this power and so by this test could not be distinguished from the typhoid bacillus. A point of great importance to be borne in mind in conducting the test is that the coagulation of the milk in these cases is not uncommonly long delayed. As a rule it occurs within the first four days, but it is by no means rare with the less common varieties of bacillus coli to find it occurring first in the second, the third, or even the fourth week after inoculation of the tube. The lesson, therefore, to be drawn from this fact is that every tube should be observed for at least a month before stating that the result is negative. 2. Secondly, with regard to the production of acidity. This, I believe, is subject to less variation than the power of clotting milk, that is to say, that most varieties of bacillus coli form acid rapidly and form it more abundantly than does the typhoid bacillus. But, unfortunately, the test fails when we come to the more highly differentiated forms, for the Gärtner group all produce approximately the same amount of acid in milk as does the typhoid bacillus. So far I have spoken of the acidity, noticed up to the end of a week, the time usually allowed by observers before the tube is cast aside. If, however, the tubes be kept for a month before being discarded, as I have suggested, further important changes in the reaction may often be observed. Thus even at the end of this period the reaction of a typhoid milk culture is still nearly always acid. Such, at least, has been the case in the great majority of the different typhoid bacilli, over 20 in number, which I have examined. Occasionally, however, the reaction has been faintly alkaline. Supposing, however, we take the cultivations not of the typhoid bacillus but of the other highly specialised members of the coli group, bacillus enteritidis and its allies, we find that in certain of them, Gärtner's bacillus itself for example, at the end of a month the reaction is highly alkaline and has acquired a curious but very definite slaty blue colour. Without going so far as to affirm that a typhoid bacillus could never give rise to such a change of reaction we may say at least that it can only rarely occur, and we should do well, therefore, to regard all such bacilli with grave suspicion until their identity with the typhoid bacillus has been otherwise most fully proved. We, may, then, affirm that the litmus milk test is of considerable value as a means of distinguishing the typhoid bacillus from the varieties of bacillus coli, if performed in the manner suggested, that is to say, if the culture is kept at 37° C. for at least one month. If discarded at the end of a week, as is the usual procedure, valuable indications are often lost.

Indol test.—Another test commonly applied to distinguish the typhoid bacillus is the indol test, introduced by Kitasato[13] in 1889. The bacilli are grown in broth at 37° C.,

---

[10] Centralblatt für Bakteriologie, 1890, vol. vii., p. 504.

[11] Societé de Biologie, Paris, Nov. 7th, 1891, p. 747.

[12] Zeitschrift für Hygiene, Band xii., 1892, p. 491.

[13] Ibid., Band vii., 1889, p. 515.

Photographs showing the Variations in Flagella Possessed by Different Members of the Coli Family
(Prepared by Van Ermengem's Method)

Fig 1

Fig 2

and the cultures are tested at the end of a variable time, generally one week, to see whether indol is present in them or not. Typhoid bacilli under these conditions never form indol, various members of the coli group do. If the test is to be of any real value, however, it must not be performed before the end of one month, for in many cases the formation of the indol is much delayed. Even, however, if we take a month as the standard the test not uncommonly fails, and it should be noticed that this failure is especially common among the higher members of the group. Thus no indol was produced by any of the four members of the Gärtner group which I have examined, and the test, therefore, as a means of diagnosis becomes of infinitely less importance than the dextrose-agar or dextrose-gelatin test or the litmus milk test.

Media of Capaldi and Proskauer.—We now come to two tests for the typhoid bacillus which are too little known. I refer to the media introduced by Capaldi and Proskauer.[14] Into their composition I need not enter; suffice it to say that in Medium I. the bacillus coli grows readily and forms strong acidity, while the typhoid bacillus will not grow at all; in Medium II., on the contrary, while both grow readily the typhoid bacillus alone forms acid. The tests, like all the others which we have been discussing, have their limitations; but that they are of considerable value is shown by the fact that by means of them two of the four members of the Gärtner group which I have examined, as well as Houston's four bacilli (bacillus typhosus simulans, *a*, *b*, *c*, and *d*), were at once differentiated from the typhoid bacillus. In these media, then, we have a valuable auxiliary means of distinguishing the typhoid bacillus from the other members of the coli group, rendered more important by the fact that the reaction is quickly given (in from 24 to 48 hours) and that the media can be easily prepared.[15]

Serum test.—We may now pass to the serum test, the most important of the tests which are commonly employed for the identification of the typhoid bacillus. This test, however, like all the others, only becomes of real diagnostic value if applied in the proper way. A not uncommon method of procedure is to take a broth culture of the suspected bacillus and to add to it sufficient serum from a patient suffering from typhoid fever to make a dilution of 1 in 20. Should clumping occur within an hour, or it may be two or even three hours, the bacillus is said to be the typhoid bacillus. Such a method of procedure, however, is really of no value, for we now know that in very many cases the serum of the typhoid fever patient is not a simple serum containing only the typhoid agglutinins but is a complex body containing the agglutinins of other microbes as well, and often those which we are most anxious to distinguish from the typhoid bacillus. Moreover, even if a simple typhoid serum is used—that is to say, a serum obtained from an animal immunised artificially by injections of typhoid culture, a fallacy may come in. Thus it is well known—it was, indeed, pointed out by Durham[16] in his earliest communication on the subject—that these sera are not "specific" but rather "specialised." The result is that if a very strongly agglutinating typhoid serum is used and a dilution of merely 1 in 20 be employed a bacillus, allied to the typhoid bacillus, but *not* the typhoid bacillus, may be clumped. Thus it was shown that Gärtner's bacillus may be agglutinated under these conditions, and other microbes of a similar kind also exist.

How, then, should the test be applied so as to guard against the possibility of such errors? In the first place, where possible a simple typhoid serum should be used for the test, that is to say one obtained from an animal highly immunised against the typhoid bacillus. Where, however, as is commonly the case, this is impossible, and a serum from a typhoid patient has to be employed, it should be one which agglutinates strongly, at least in dilutions of 1 in 1000, and the following method of procedure should be used. The serum should be tested against the standard typhoid bacillus (agar cultures in all cases being used) and the highest dilution in which a complete reaction is obtained in one hour should be worked out. When this is done then the unknown bacillus must be tested in like manner so that the maximum agglutinating power of the serum towards it may be also determined. If then the two prove equally sensitive towards the serum, each giving a complete reaction in one hour to a similar high dilution, then it may be said for certain, *provided it has answered the other tests*, that the unknown bacillus is also the typhoid bacillus; for experience shows that though a typhoid serum may agglutinate other microbes, for example, Gärtner's bacillus, as well as the typhoid bacillus, yet it probably never clumps the former in dilutions over 1 in 500 (Durham)[17] and indeed very rarely reaches such a height. If, then, the serum test, applied in this way, has given a positive reaction and the morphological and cultural tests are also affirmative, then we may be certain that the bacillus is also the typhoid bacillus.

Variations in clumping power according to the culture used; necessity of using cultures on solid media in testing typhoid bacilli.—Is, however, the converse true? Are we justified in saying that a bacillus which is only slightly sensitive to a strong typhoid serum is therefore not the typhoid bacillus, even though in all other respects it may resemble the latter? In other words, are all typhoid bacilli agglutinated by a given serum to an exactly equal extent? The majority of observers, Widal,[18] Bensaud,[19] Durham,[20] and others, have not noticed marked differences in this respect, and they believe, therefore, that typhoid bacilli from every source are agglutinated approximately to the same degree. Van de Velde,[21] however, from his observations on 20 different typhoid stocks found very considerable variations in the clumping power. The following observations are of interest in this connexion, for they show that using 18-hour broth cultures, as is now the usual practice, undoubtedly marked variations in the clumping power of different typhoid bacilli do exist. In these experiments typhoid sera of different typhoid clumping power were tested against the laboratory standard typhoid bacillus and also against typhoid bacilli isolated from stools, urine, mesenteric glands, and spleen—bacilli which, be it remembered, were found to resemble the typhoid bacillus in all respects both morphologically and culturally. As a result it was found that their clumping powers were by no means similar. Thus in Experiment 1 and Experiment 2 the bacilli isolated from the stools and urine of the same patient were agglutinated to a somewhat higher degree than was the standard bacillus. In Experiment 3, on the other hand, the bacilli which had been obtained in pure culture from the spleen and mesenteric gland of a patient who died from typhoid fever on the twenty-first day were found to clump in a far less degree than the standard bacillus, while in Experiment 4 the bacillus, which had been isolated in pure culture from the spleen of a fatal case of typhoid fever was found to have no clumping power at all in a 1 in 20 dilution, though tested both against the highly agglutinating blood of a patient inoculated against typhoid fever and also against the milk of a patient who had recently had typhoid fever and in whom this secretion was strongly agglutinating. Experiment 5, also, is interesting. In this case two standard typhoid bacilli, both of which, that is to say, had been used in the routine work of the laboratory and which were very sensitive to typhoid serum, were tested against a feebly agglutinating serum, and the difference in their agglutinable power was distinct. The one clumped fairly in a 1 in 100 dilution, the other only in a dilution of 1 in 20. (See Table I.)

There can be no doubt, then, that if broth cultures be used typhoid bacilli often differ markedly among themselves in the ease with which they are affected by the typhoid agglutinins. But is this difference constant and have we here evidence of "varieties" of typhoid bacilli? It would seem not, for if we use cultures on solid media (agar and gelatin) this variability seems much less marked. This was especially noticeable in the case of the bacillus in Experiment 4, which, though it reacted like typhoid to all the morphological and culture tests enumerated above and had been obtained in pure culture from the spleen in an early fatal case, yet neither was agglutinated by typhoid serum when tested by Dr. Andrewes, nor by the typhoid milk when tested by myself. Feeling certain, however, that the bacillus *was* the typhoid bacillus I tried once more, but on this occasion used an agar culture (18 hours), testing it against a second sample of milk obtained from *the same* patient as before. A very different result was now obtained. After mixing the culture and the milk agglutination immediately became apparent in a dilution of 1 in 20, and in a few minutes was complete, while in a dilution of 1 in 500 a complete reaction was obtained within the hour—a result exactly similar to that given by the standard typhoid bacillus when tested against the sample of milk now under consideration.

---

[14] Ibid., Band xxiii., p. 471.

[15] Medium I. is composed as follows: asparagin, 0·2; mannite, 0·2; sodium chloride, 0·02; magnesium sulphate, 0·01; calcium chloride, 0·02; mono-potassium phosphate, 0·2; and distilled water, 100. Medium II.: Witte's peptone, 2·0; mannite, 0·1; and distilled water, 100.

[16] Proceedings of the Royal Society, vol. lix., Jan. 3rd, 1896.

[17] THE LANCET, Jan. 15th, 1898, p. 154.

[18] Annales de l'Institut Pasteur, 1897, p. 384.

[19] Thèse de Paris, 1897, p. 65.

[20] Journal of Pathology and Bacteriology, July, 1896.

[21] Bulletin de l'Academie de Belgique, 1897, ii., p. 261.

This same extraordinary difference in sensibility to agglutination between broth and agar cultures I have noticed in the case of five other typhoid bacilli, isolated from different patients (and in a seventh case a similar result was obtained on using a gelatin culture), so that probably it is not really very uncommon. It is possible, too, that it should be associated with a fact observed by Kraus.[22] This experimenter showed that if broth cultures of the typhoid bacilli be incubated for some days and be then filtered the filtrate gave rise on the addition of typhoid serum to a precipitate closely resembling in appearance that produced by agglutinated micro-organisms. The reaction was *specific* and only occurred when typhoid serum was added. It may be that the constituent of the bacillary body on which the agglutinins act, and which thus seems normally to pass into the surrounding liquid, may in some cases diffuse much more easily, and even after 24 hours be no longer present in the bacilli themselves. We should thus have an easy explanation of the absence of the reaction in the broth grown bacilli and its presence in those obtained from solid media. Be this as it may, the obvious moral to be drawn from the fact is that in testing the agglutinable qualities of a suspected bacillus cultures on solid media should always be used, and especially therefore agar cultures.

So far, too, though my experiments are not numerous enough for me to speak with certainty, I have not noticed more than slight differences between different typhoid bacilli, provided agar cultures be compared. The experiments of Dr. Klein,[23] however, showing that under abnormal conditions the agglutinable property of the cholera vibrio can be lost, should warn us not to be too dogmatic on this point in the case of the typhoid bacillus. Indeed, the matter requires further investigation.

Pfeiffer's test.—Should, however, a bacillus be discovered which culturally or morphologically resembles the typhoid bacillus in all respects and which yet agglutinates but feebly or not at all, then one further test must be applied to it—namely, Pfeiffer's test. This consists in injecting into the peritoneum of a guinea-pig a 10 times fatal dose of the bacillus in question, together with a very small quantity (0·001 cubic centimetre may be quite sufficient) of typhoid serum from a highly immunised animal. If the bacillus in question be the typhoid bacillus, then while a control animal injected *only* with the bacillus will die this animal will recover, the bacilli being converted first into granular masses (Pfeiffer's phenomenon) and then gradually disappearing under the influence of the lysogenic properties of the serum. Such a serum, however, is *specific*, and can therefore only protect in minute doses, against the corresponding micro-organism. If, therefore, the bacillus in question be not the typhoid bacillus, but some variety of bacillus coli, the animal will infallibly die just like the control animal. This test is of the highest importance, for if properly performed a positive result is infallible. It is unfortunate, therefore, that the test, owing to the difficulties connected with it, cannot be made of more general application. It should, however, always be applied in any case in which there can be doubt as to the nature of the micro-organism. If, for example, a bacillus which should fail to agglutinate nevertheless should react like the typhoid bacillus to this test, then we must accept it as the latter.

Such, then, are the most important methods which we possess for the identification of the typhoid bacillus. Without doubt by far the most important of these are the last two, the agglutination test carried out in high dilutions and Pfeiffer's test, but the others cannot be neglected. Indeed, in view of the extreme importance of the subject it would be well if before pronouncing any bacillus to be the typhoid bacillus, more especially if it be found in some unusual situation, whether within or without the body, the micro-organism were subjected as a minimum in all cases to the following tests which for convenience I here recapitulate: (1) morphology and motility (as observed on gelatin), (2) flagella; (3) gelatin and agar slope culture, (4) dextrose agar or gelatin shake cultures, preferably the former, (5) litmus milk (one month), (6) broth culture (no indol—one

TABLE I.—VARIATIONS OF CLUMPING POWER MANIFESTED BY BROTH CULTURES OF DIFFERENT TYPHOID BACILLI.

—	Agglutinating strength of the given serum, as tested against a broth culture of the standard typhoid bacillus used in the laboratory for Widal examinations.	—	The same serum tested against the broth cultures of various other typhoid bacilli. Time limit in all cases one hour.
Experiment 1.—Serum (*a*) from a typhoid patient.	1:20 = + 1:200 = + 1:500 = + 1:1000 = + 1:2000 = trace.	Typhoid bacilli isolated from stools.	Col. I: 1:500 = +; 1:1000 = +; 1:2000 = just + Col. II: 1:500 = +; 1:1000 = +; 1:2000 = just + *Result.*—The bacilli clump a little more readily than the standard typhoid bacillus.
Experiment 2.—Serum (*b*) also from a typhoid patient.	1:200 = + 1:500 = partial 1:1000 = 0	Typhoid bacilli isolated from urine.	Col. I: 1:200 = +; 1:500 = just +; 1:1000 partial Cols. II and III: Gave a similar result. *Result.*—As in Experiment 1 the bacilli are rather more sensitive than the standard typhoid bacillus.
Experiment 3.—Serum (*c*) also from a typhoid patient.	1:20 = + 1:200 = + 1:1000 = partial 1:2000 = trace.	Typhoid bacillus isolated from the spleen and mesenteric gland from a case fatal on the twenty-first day.	Spleen Col. I: 1:20 = + (just); 1:200 = trace. Mesenteric gland Col. I: 1:20 = + (just); 1:200 = trace. *Result.*—The bacilli are far less sensitive than the standard typhoid bacillus.
Experiment 4.—(I.) Serum (*d*) from a patient inoculated against typhoid fever.	1:2000 = +	Typhoid bacillus isolated in pure culture from the spleen of an early fatal case.	1:20 = 0
(II.) The milk of a woman who had recently had typhoid fever.	1:20 = + 1:500 = + 1:1000 = +	"	1:20 = merest trace 1:500 = 0 *Result.*—The isolated typhoid bacillus does not clump at all.
Experiment 5.—Serum (*e*) from a typhoid patient.	Standard bacillus I. 1:20 = + 1:50 = + 1:100 = partial 1:200 = trace. 1:500 = 0	—	Standard bacillus II. 1:20 = + 1:50 = trace 1:100 = 0 1:200 = 0 1:500 = 0 *Result.*—Standard bacillus I. is more sensitive than standard bacillus II.

---

[22] Wiener klinische Wochenschrift, August 12th, 1897, No. 32.

[23] Report of the Medical Officer of the Local Government Board, 1896-1897.

month); (7) Proskauer and Capaldi medium 1 (no growth 48 hours); (8) Proskauer and Capaldi medium 2 (growth and acidity 48 hours); (9) agglutination test (high dilutions—1 in 1000 at least—agar cultures); and (10) in cases of doubt Pfeiffer's test.

These tests are long and tedious, but it must be borne in mind that we know very few of the saprophytes with which we are surrounded and that at any moment one may be discovered having greater affinities with the typhoid bacillus than those already described. Remembering, too, the history of our subject it behoves us to use exceptional care, for only in this way can we hope that our results may withstand the just criticism of future observers.

THE TYPHOID BACILLUS AS A SAPROPHYTE.

The life-history of the typhoid bacillus may be divided into two great chapters—the one dealing with the bacillus in its relation to the human body, the other describing its existence after leaving the shelter of the organism. It is to the former of these that I propose chiefly to confine myself, for our knowledge of the latter phase of the life-history of the micro-organism is as yet most limited. We are ignorant indeed whether under the conditions found in nature the bacillus can ever multiply and increase in numbers, or whether after a longer or shorter duration it gradually dies out.

The former view was recently brought forward by the late Sir Richard Thorne Thorne from a consideration of the fact that it was otherwise very difficult to explain the endemic character of typhoid fever in certain towns and districts. At the present time, however, the view is unsubstantiated by bacteriological evidence. It is true that, as Dr. Sidney Martin[24] has shown, the typhoid bacillus can multiply if implanted in organically contaminated soil previously sterilised, but whether it would also multiply were the soil unsterilised and were it therefore exposed to the inevitable struggle for existence has not yet been shown. Indeed, the work of Lawes and Andrewes who showed that the typhoid bacillus rapidly died out if planted in sewage, whether sterilised or not, would rather suggest the improbability of its doing so.

Again, in support of the active saprophytic growth of the typhoid bacillus the very careful observations of Lösener[25] have been cited. In 1895 this observer, using all the means of differentiation then at his command, was able to find bacilli quite indistinguishable from the typhoid bacillus in very various situations, for instance, in the intestines of a pig, the water of his laboratory, and in a specimen of uncontaminated soil. Unfortunately, however, neither the serum nor Pfeiffer's test were then available, so that we are not justified in concluding that the bacilli in question really were the typhoid bacilli. On the contrary, the extraordinary difficulty experienced in finding the latter in water obviously specifically polluted would suggest that they were not.

We must allow, then, that so far there is no proof that the typhoid bacilli can multiply outside the human body. Our increasing knowledge of typhoid fever, too, enables us to explain satisfactorily many outbreaks of the disease without such an assumption. Thus it is fully established that a person may, though apparently restored to health, remain infectious for months and years after an attack of the fever—a fact in itself sufficient to account for many outbreaks of the disease. If, too, we remember that the bacillus has great power of resisting the effect of desiccation, remaining alive, it may be, for over a year in the dried condition (Schiller),[26] it becomes easy to understand how bacilli eliminated from the body may later pass into the atmosphere in the form of dust and cause disease at long periods after every fresh source of infection has been really removed. These facts should, in many cases at least, render unnecessary a belief in the actual growth of the bacillus outside the human body. The question, however, is one which the future alone can finally settle.

THE TOXINES OF THE TYPHOID BACILLUS.

The pathology and symptoms of any infectious diseases are intimately bound up with poisons elaborated by the micro-organism in question. This subject was recently brought before the College by Dr. Sidney Martin in his Croonian Lectures, and I will not now do more than draw attention to two points in connexion with the toxines formed by the typhoid bacillus. The first point to note is that the poison is for the most part intracellular. It is contained in the bodies of the bacilli themselves and during their life passes only to a comparatively slight extent into the surrounding medium. Funck,[27] indeed, came to the conclusion that this never occurred, and this though he used both ordinary bacilli and also those whose virulence had been considerably heightened by successive passages through the guinea-pig. In both cases he found that if broth cultures were made and incubated at 37° C. for at least a month and then filtered through a Chamberland's bougie, the filtrate was innocuous. This, too, was my own experience, using a typhoid bacillus recently isolated and possessing moderate pathogenic power. Thus in the case of a rabbit whose initial weight was 1360 grammes I injected intravenously, in three successive doses, 18½ cubic centimetres of a filtered broth culture, the latter having been previously incubated at 37° C. for 42 days. This was followed 10 days later by a single subcutaneous injection of 18 cubic centimetres of the same filtered culture. A we
later the animal was killed, four weeks from the init
injection. During the injections it had appeared in perfe
health, its temperature had remained normal, and at
death it had gained 231 grammes. Post mortem, beyo
slight parenchymatous changes in the liver and kidn
nothing abnormal was observed. The poisonous characte
of the filtered culture were therefore in this case almost *ni*

There is no doubt, however, that in some cases the toxin
do diffuse somewhat into the surrounding liquid. Thus I
Sidney Martin[28] was able on several occasions to produ
lowered temperature, diarrhœa, and eventually death, by t
injection of small doses (three cubic centimetres) of the filter
culture. But although this is so, and though there can be
doubt that sometimes to a slight extent the toxines do pa
into the culture media, it remains true that the poisons a
for the most part intracellular—a fact at once proved
noticing the incomparably greater effect produced on t
animal by the injection of cultures in which the bacilli ha
been killed, but their bodies have been allowed to rema
in the liquid. It may be accepted, then, that the toxines
the typhoid bacillus are for the most part contained with
the bacillus itself and are chiefly set free when the latter
destroyed. The fact is of interest from a clinical point
view, for it shows that even when the body has acquired
a case of typhoid fever sufficient bacteriolytic power
destroy the bacilli we ought not to expect, in the absence
antitoxin formation, of which as yet there is no evidenc
an immediate fall of temperature. The first effect, indee
of the destruction of the bacilli would be a further outflo
of poison into the general circulation, and only as this
gradually excreted should we expect the temperature to fal
In this way an explanation offers itself of the fall by lys
which is so characteristic of the disease.

The second point which it is of interest to note is that t
toxine is a very feeble one as compared with those of certai
other micro-organisms. Thus, in order to kill a guinea-pi
of 300 grammes weight Sanarelli[29] had to use a subcutaneo
injection of 4 5 cubic centimetres of his toxine, whi
in the case of tetanus Vaillard was able to obtain a sol
tion $\frac{1}{10000000}$ cubic centimetre of which was able to ki
a guinea-pig. In the case of diphtheria, too, the dos
necessary may be extremely small. It is obvious, then, tha
to explain the symptoms of typhoid fever the number
bacilli present in the body should be very large, so tha
sufficient toxine may be formed. As we shall see, this
what does occur. So far from being limited to one situatio
as in tetanus, the bacilli find their habitat in many orga
and in diverse situations of the body and are present
enormous numbers.

EXPERIMENTAL TYPHOID FEVER.

Before a given micro-organism can be accepted as th
cause of a disease two points must be clearly established
In the first place the organism must be constantly present i
the tissues of patients suffering from the disease, an
secondly, the bacillus, having been obtained in pure cultur
and grown artificially through several generations, must b
able to reproduce the disease.

With regard to typhoid fever there can be no doubt abou
the former of the two premisses. The bacillus is present i
the body in all cases of the disease. Indeed, this is so wel
recognised abroad that puncture of the spleen with th
object of isolating the bacillus is one of the recognise

---

[24] Report of the Medical Officer of the Local Government Board, 1896–1897.

[25] Arbeiten aus dem Kaiserlichen Gesundheitsamte, ii., 1895, p. 207.

[26] Ibid., 1889, Band v., pp. 312 to 319.

[27] La Sérothérapie de la Fièvre Typhoïde, Bruxelles, 1896, pp. 34 to 38.

[28] Croonian Lectures, Brit. Med. Jour., vol. ii., 1893, pp. 11 and 73.

[29] Annales de l'Institut Pasteur, 1894, p. 193.

means of clinical diagnosis practised by the continental physician. Is, however, the second premiss true. Can the bacillus when reintroduced again give rise to the disease? For a long time this was doubted, innumerable attempts to reproduce the disease in animals, both by feeding and by inoculation, having resulted in failure. Animals, in fact, as a rule are not susceptible to typhoid fever such as it occurs in man. The observations of Mr. Bland Sutton,[30] however, on the animals (lemurs, monkeys, beavers, &c.) in the Zoological Gardens seemed to show that, under certain conditions at least, the lower animals could suffer from true typhoid fever. At all events, the clinical symptoms in these animals, fever, in some cases of six weeks' duration, and diarrhœa, the ulceration of the Peyer's patches and solitary follicles found post mortem, and the mode of death, brought about in one case at least by general peritonitis and in another by sudden hæmorrhage from the bowel, gave a picture quite indistinguishable from the disease occurring in man. Moreover, this disease was raging in the neighbourhood at the time. It was reasonable, therefore, to hope that further persistent effort might eventually result in producing by means of the typhoid bacillus typical typhoid fever, and it would seem that Remlinger has lately succeeded where so many others have failed. His experiments, it should be noticed, were carried on during the summer in Tunis, and it is conceivable that the tropical climate may by its effect on the animals have had something to do with the successful result. Remlinger[31] experimented first on rabbits. His method consisted in feeding them on vegetables previously soaked in water largely diluted with typhoid cultures. Under this treatment and after a short incubation period three of the eight rabbits used became ill. The temperature rose gradually and remained raised; the animals were affected with diarrhœa and they refused food and rapidly lost weight. The temperature charts strongly resembled in appearance those of typhoid fever, the temperature remaining up for from 12 to 16 days. In two cases death followed and in one recovery. In all three cases Widal's reaction, 1 in 50, was obtained from the blood during life. In the two cases which died the post-mortem appearances obtained were those of typhoid fever. The ileum was found to be much injected, the Peyer's patches were swollen and hypertrophied, and near the cæcum there was some ulceration The mesenteric glands were swollen, the spleen was enlarged, and in one case diffluent. In both cases typhoid bacilli were isolated from the latter organ With white rats, also, a very similar result was obtained. It would seem, then, that there cannot be any further doubt that typhoid fever can be communicated to animals by means of the typhoid bacillus. The last link, therefore, in the chain of evidence proving the causal connexion of the bacillus with the disease may be regarded as complete.

HUMAN TYPHOID FEVER; THE DISTRIBUTION OF THE BACILLUS IN THE BODY.

I may now pass from the disease experimentally induced in animals to typhoid fever as it occurs in man, and I propose first of all to discuss the relationship which the bacillus bears to an ordinary case of the disease. This may be best effected by considering in such a case what are the situations of the body in which the bacillus may be found.

Mesenteric glands and spleen.—Eberth,[32] the discoverer of the bacillus, was able to demonstrate its presence microscopically in the mesenteric glands and in the spleen. He did not, indeed, find the bacillus in all cases, but he was successful six times in the spleen and 12 times in the mesenteric glands out of 23 cases which he examined. Further investigation, however, not only confirmed his discovery but showed that the presence of the micro-organisms in these situations was constant. In rare cases, it is true, a culture from either organ may remain sterile, but this doubtless arises from the curious manner in which the bacilli are scattered in little masses through the tissue so that occasionally the inoculating needle fails to come in contact with them.

Peyer's patches.—With regard also to the Peyer's patches themselves and the solitary follicles of the intestine there is no doubt that, if examined early enough, typhoid bacilli may be demonstrated therein.

The liver.—Another organ in which the typhoid bacillus is constantly present is the liver. Thus Gaffky found it here in 12 out of his 13 examinations, and his results have been fully confirmed. In the liver again, just as in the Peyer's patches, the mesenteric glands, and the spleen, the typhoid bacilli are found aggregated together into their little characteristic masses. It might at first seem somewhat surprising that the liver should contain the typhoid bacillus, but it is not difficult to explain. As we shall see, the bacilli must in all cases at some period of the disease pass into the blood and hence be first carried to the liver. Now this organ, as Lemaire[33] has clearly shown, undoubtedly plays a very active part in eliminating the typhoid bacillus from the circulation, even more so than the spleen. For both reasons, therefore, it is easy to understand how the liver comes to be a constant habitat of the bacillus in typhoid fever.

The bile.—This, however, has been known for long. Much more recent is the knowledge that the bile in the gall-bladder in the majority of cases contains the bacillus, very often in pure culture. For this advance in our knowledge we are especially indebted to Chiari[34] who in 1893 examined the bile in 22 cases of typhoid fever, and in 19 of them found the typhoid bacillus therein. Moreover, in 15 of these it was present in pure culture. Somewhat similar results had, indeed, been obtained before experimentally. Thus Blachstein and Welch[35] in 1891 showed that if mild doses of typhoid culture were injected intravenously into rabbits, on examination after death the bile would often present a pure culture of the typhoid bacillus. To Chiari, however, belongs the credit of demonstrating the fact in cases of typhoid fever in man and his observations have been fully confirmed. Thus in 10 cases at St. Bartholomew's Hospital in which the bile was examined, in nine of them was the bacillus found; in each case also it was in pure culture. Flexner[36] was, however, less fortunate, finding them only in seven out of 14 examinations. It should be noticed, also, that in very many cases the micro-organisms are present in great numbers, so that if a drop of bile be examined under a microscope numerous bacilli may be seen.

The bone marrow.—Another situation, also, in which the bacilli have been recently demonstrated with great frequency is the bone marrow. This was shown as recently as 1894 by Quincke.[37] He examined the marrow of the ribs in nine cases and in eight of them he found the typhoid bacillus in considerable numbers. In seven the bacilli were present in pure culture. His method of diagnosing the bacilli, it is true, left much to be desired; still there is no doubt from the confirmation which his observations have received that the bacilli found by him were really true typhoid bacilli. At St. Bartholomew's Hospital the bone marrow has been examined in six cases and in four of them a pure culture of typhoid bacilli was obtained. In the other two cases typhoid bacilli were not found, but only bacillus proteus vulgaris and bacillus coli.

The kidney.—We may now pass to another organ which contains sometimes the specific micro-organism—namely, the kidney. As a matter of fact, however, in contradistinction to what we have seen to be true for the liver, the spleen, and the mesenteric glands, the bacillus is by no means constantly found here. Its presence, indeed, is exceptional. Thus, to mention only recent observations, Flexner[35] found it here in one case out of four, in addition to two cases of obvious typhoid septicæmia in which the bacilli were found in the blood and all the organs after death. Wright and Stokes[39] found it in three cases out of seven. For myself I may say that I have examined the kidneys bacteriologically on eight occasions. Twice only were the typhoid bacilli found, and in both of these the micro-organism was present in large quantities also in the blood. In the remaining cases the kidneys were sterile three times, and on three occasions they contained bacillus coli communis, twice in pure culture and once combined with bacillus proteus vulgaris. We shall probably, therefore, be not far wrong if we conclude that it is the exception rather than the rule for typhoid bacilli to be found in the kidney after death, though in rare cases, as I shall show, it may become localised here and give rise to an acute nephritis. Although, however, this is so, it is probable that during life it is by no means uncommon for typhoid bacilli to be carried every now and then in small numbers to the kidney and then to be rapidly excreted into the urine, for how else are we to explain the frequent occurrence of the bacilli in this excretion?

---

[30] Transactions of the Pathological Society of London, 1885.

[31] Annales de l'Institut Pasteur, 1897, p. 829.

[32] Loc. cit., vide note 5.

[33] Archives de Médecine Expérimentale, Septembre, 1899.

[34] Zeitschrift für Heilkunde, xv., 1894, p. 199.

[35] Bulletin of the Johns Hopkins Hospital, 1891, pp. 86 and 121.

[36] Quoted by Osler, Transactions of the Association of American Physicians, vol. xii., p. 365.

[37] Berliner Klinische Wochenschrift, 1894, p. 351.

[38] Johns Hopkins Hospital Reports, 1895, vol. v.

[39] Boston Medical [illegible] Jo[illegible] [illegible], p. 33[illegible]

The lung.—In other organs, too, the typhoid bacillus has been described not infrequently, for example, in the lung. Here the bacillus does undoubtedly occur, but not, I believe, as frequently as is sometimes imagined. Thus, in five cases in which I have examined the lung, in one only has the typhoid bacillus been present, this being a case of thrombosis of the pulmonary artery and infarction of the lung. In four others (two examples of lobar pneumonia, one of hypostatic pneumonia, and one of simple congestion), the typhoid bacilli were not found, though in two cases the bacillus coli was present in considerable numbers. The late Professor Kanthack also had a similar experience, since in four cases of broncho-pneumonia he was never once able to discover the specific organisms, though bacillus coli was present on more than one occasion.

In less suspected regions, too, as, for example, the testicle, the typhoid bacillus may be present even in the absence of any definite complication.

It will be seen, then, from what has been said that the bacilli are found in uncomplicated cases of typhoid fever with great constancy in the Peyer's patches, in the solitary follicles, in the mesenteric glands, in the spleen, and with great frequency in the red marrow of the bones and in the bile, not uncommonly in the kidney, and sometimes in the lung. In other organs, too, such, for example, as the testicle, their presence has been discovered. The relative frequency of their occurrence in these situations is shown in the following table from the St. Bartholomew's Hospital post-mortem records, the observations having been made by the late Professor Kanthack, by Dr. Andrewes, and by myself.

TABLE II.—*Showing the Relative Frequency of Occurrence of the Typhoid Bacillus in the Various Organs of the Body.*

—	Number of times examined.	Typhoid bacilli found.
Spleen	21	20
Mesenteric gland	13	12
Liver	4	3
Bile	10	9
Bone marrow	6	4
Kidney	8	2
Blood from the heart	10	2
Lung	9	1
Thyroid	1	0

It is evident, from a consideration of this table, that the bacilli are always widely distributed in the body and there would seem to be only one means by which such a wide distribution could be effected, and that is through the blood. Are, however, the bacilli found in the blood?

THE BLOOD.

In answering this question it will be well to consider first of all the results which have been obtained from an examination of the blood in fatal cases. In such cases, though it is not by any means the rule to find the typhoid bacillus in the blood after death, yet it occurs there by no means infrequently. Thus Vincent[40] found the bacillus in one case out of four and Flexner[41] in two cases out of six. Klein[42] recorded their presence in two out of four cases, a similar result also being obtained by Wright and Stokes. Lately I have examined the blood after death on nine occasions, and three other cases are recorded in our records at St. Bartholomew's Hospital. Of these 12 cases two gave a positive result, the typhoid bacilli being demonstrated in the blood with ease. Of the remaining 10 cases, five were sterile, three contained bacillus coli and bacillus proteus vulgaris, and two the pyogenic cocci. Table III. shows these results more exactly.

TABLE III.—*Showing the results of Post-mortem Examination of the Blood in Fatal Cases of Typhoid Fever.*

Total number of cases examined, 12.

Sterile	5	Streptococci, and staphylococci	1
Typhoid bacilli	2	Bacillus coli	2
Streptococci	1	Bacillus coli and proteus	1

It is interesting to note in passing that one of the cases in which the typhoid bacilli were found in the blood was that of a girl who died on the fourteenth day from the "severity of the disease" and "heart failure." It is possible that not a few of the cases which die thus early may really prove to be cases of similar marked typhoid septicæmia.

It will be seen, then, that out of a total of 30 cases in which the blood was examined after death the typhoid bacillus was found in nine of them. Evidently, then, in *fatal* cases it is not uncommon for the typhoid bacilli to be present in the blood in considerable numbers. But does the same occur in *non-fatal* cases during life, and is it easy to demonstrate the presence of the bacilli in the circulating blood? It may be said at once that it is a matter of extreme difficulty; indeed, it was held until quite recently to be almost impossible. Seitz[43] failed in seven cases, Janowski[44] in 27, Lucatello[45] in nine, Klein[46] in 10, and Fraenkel and Simmonds[47] in six. Occasionally, however a positive result has been recorded; thus Thiemich[48] was once successful out of seven cases, Wiltschur (quoted by Janowski) once in 31, and Ettlinger twice out of 10 cases. Lastly, Stern[49] recently reports two successes and Block[50] one. In all seven successful cases are here mentioned against 110 failures. As a matter of fact, however, these results are misleading, for Kühnau[51] has lately shown that if much larger quantities of blood be taken than was used by the earlier observers—five to ten cubic centimetres, for example—and especially if the blood be immediately diluted after it has been obtained, to diminish its bactericidal power, then it is possible to obtain the bacillus from the blood during life in a very considerable percentage of cases. Working on these lines Kühnau was successful in 11 out of 41 cases. It should be noticed, however, that the number of colonies which developed were always extremely small, the total number varying from two to nine. If, then, when we examine only 10 cubic centimetres of blood we are able to demonstrate the bacillus in 25 per cent. of cases of typhoid fever, it is no rash assumption to believe that, were we able to examine the whole, we should always find it in the circulating blood during life. The reason why the bacilli are not found in greater numbers in the blood during life probably depends on the fact that in ordinary cases the blood is an extremely bad medium for their growth. Indeed, owing to its bactericidal power it is likely that such bacilli as do not succeed in finding shelter in some viscus are rapidly destroyed. This would not occur to the same extent in fatal cases (perforation and similar cases being excluded), for often it is owing to such patients acquiring this power that a fatal termination ensues, and on this fact doubtless in part depends the greater ease with which the bacilli can be demonstrated in the blood after death. We may believe, therefore, as indeed we should expect from the distribution of the bacillus in the body, that the micro-organisms pass into the blood in all cases of typhoid fever. They are, however, rapidly eliminated from it into the various organs or destroyed. In rarer cases, on the contrary, probably always fatal, when the blood fails to acquire bactericidal properties, the typhoid bacilli may develop therein and be found after death in considerable numbers.

THE TYPHOID ERUPTION.

The general distribution of the typhoid bacillus in the organs of a patient suffering from typhoid fever has now been considered, and it is obvious from the facts brought forward that typhoid fever is far from being merely an intestinal disease. Bearing this in mind it will be interesting to consider the relation of the bacilli to the "spots"—the roseolous eruption characteristic of the illness.

---

[40] Annales de l'Institut Pasteur, 1893.

[41] Loc. cit., vide note 38

[42] Report of the Medical Officer of the Local Government Board, 1892-93

[43] Jahresbericht uber Pathologische Micro-organismen, 1886, p. 165

[44] Centralblatt fur Bakteriologie, 1889, p. 657

[45] Jahresbericht uber Pathologische Micro-organismen, 1886, p. 176

[46] Loc. cit., vide note 42

[47] Centralblatt fur Klinische Medicin, 1885, p. 737.

[48] Jahresbericht uber Pathologische Micro-organismen, 1894, p 266.

[49] Centralblatt fur Innere Medicin, 1896, p 1249.

[50] Bulletin of the Johns Hopkins Hospital, 1897, p. 119.

[51] Zeitschrift fur Hygiene xxv., 1897.

The early observers for the most part were unable to demonstrate the presence of the bacilli in this lesion. Thus Wiltschur,[52] Seitz,[53] Curschmann,[54] Merkel and Goldschmidt,[55] and others in their numerous experiments all obtained negative results, while Rutimeyer[56] obtained one positive result in six observations In the light of these results the statement of Neuhaus,[57] made as long ago as 1886, that he had obtained nine positive results in 15 cases, was generally received with incredulity It may be said, therefore, that until quite recently the received opinion was that the spots in typhoid fever were not due to a local growth of the typhoid bacilli, but were more probably due to the absorption of the typhoid toxines into the general circulation

Observers, however, were not entirely satisfied and continued working at the subject In 1895 Thiemich[58] reported that he had found the bacilli in the spots in three cases out of seven, while early in 1899 appeared the important paper by Neufeld,[59] which apparently explained the discrepancies between the results of various observers Neufeld argued that if the bacilli really were the cause, it was evident they were only able to obtain their foothold in the skin and subcutaneous tissue for a very short time, otherwise the spots themselves would not be so fleeting—hence to find them *spots should be examined quite early in their development.* Secondly, to eliminate as far as possible the bactericidal power of the blood itself, which would come in contact with the bacilli as soon as the spot was opened, he advocated the use of liquid culture media (broth) in order to dilute the blood and so diminish this source of error The value of these suggestions was shown by his results He examined the spots in 14 cases and in 13 he obtained a positive result His methods of testing the bacilli obtained were, it may be stated, admirable These results were confirmed in November of last year by Curschmann[60] of Leipzig Following Neufeld's methods he examined the spots in 20 cases and in 14 he was able to demonstrate the typhoid bacilli, certain of his negative results also being evidently due to his having in some cases chosen spots already beginning to fade Lastly, within the last few weeks, Richardson[61] of Boston, an extremely careful observer, reports similar successful results, the bacilli being isolated from the spots on an average six days *before* the Widal reaction was obtained It should be added, however, that the number of typhoid bacilli in each individual spot must be very small, for though many observers have endeavoured to demonstrate them microscopically therein, they have never yet succeeded (Ernst[62] and Neufeld[63]) There would seem, then, to be hardly any doubt whatever that the rose spots are truly specific in nature and are the result of the direct presence of the typhoid bacillus

THE EXCRETIONS

Having now discussed the usual distribution of the specific microbe in the various organs in an uncomplicated case of typhoid fever we may turn our attention to the excretions, for it is of great importance to know how far each of these is infectious There are four which have been so described with more or less frequency—the sweat, the expectoration, the fæces, and the urine

The sweat —With regard first of all to the sweat There would seem to be *a priori* no reason why typhoid bacilli should not be found therein, since there is no doubt that the bacillus always passes into the blood At present, however there is really no evidence to show that they do occur in this excretion Three positive observations have, it is true, been recorded in addition to numerous negative ones, but the observers, Geisler[64] and Sudakoff,[65] seem to have taken no special care to prove the identity of the micro-organism found, and for the present, therefore, their results may be disregarded

The expectoration —With regard to the expectoration the case is somewhat different I have shown that the typhoid bacillus may be present in the lung in large numbers and whenever this occurs we must believe that the sputum will always contain the micro-organism Fortunately, however, these cases are rare, but nevertheless we should always look upon the expectoration in a case of typhoid fever, if there be any, as a possible means of spreading the disease and should take measures accordingly

The fæces —The idea that the fæces were the chief means whereby the disease was conveyed seems to have been first explicitly stated by Canstatt in 1847, and in this country Dr William Budd long and ably maintained this view.[66] Indeed, it is probably due to his enthusiastic teaching that the doctrine of the intensely contagious character of typhoid stools throughout the whole course of the disease has held its ground ever since Lately, however, a distinction has been drawn between the alvine dejections and the urine, and though it is absolutely certain that excremental pollution in its broad sense is the great cause of the spread of typhoid fever, it is at the present moment still debated how great is the share taken by the fæces and the urine respectively, and at what period of the disease each should be regarded as most dangerous In the early days of bacteriology no difficulty was experienced in isolating the typhoid bacilli from the stools It was open to anyone to effect this The rapid progress of knowledge, however, soon showed that these were not typhoid bacilli, but merely bacillus coli communis or one of its numerous varieties, and it was then recognised that so far from being easy it was a matter of most extraordinary difficulty to find the true bacilli in the fæces Thus Walthelet[67] in 1895 could only isolate the micro organism in four stools, though he examined as many as 51 In 1896, however, the introduction of Elsner's medium somewhat facilitated matters and led at all events to renewed investigations As a result we may say that there can be now no reasonable doubt that in the first and second weeks of typhoid fever the stools are highly infectious The numerous

TABLE IV —*Observations made on Typhoid Stools (obtained separate from urine) for the most part in the Later Stages of the Disease*

No	Age and sex	Day of disease	Character of stool	Result *
1	24 F	8th } attack	Semi solid	—
		11th } attack	"	+
		15th } attack	"	—
		Convalescent 20 days	Solid	—
2	16, M	13th } attack	Semi solid	—
		17th } attack	Solid	+
		25th } attack	"	—
		32nd } attack	Semi solid	—
		T N 5 days	Solid	—
		? 1st day of a relapse	"	—
		Convalescent 6 days	Semi-solid	—
3	22, M	9th } attack	Peasoupy	—
		14th } attack	"	+
		18th } attack	—	—
		21st } attack	Semi solid	—
		T N 4 days	"	+
		1st day of relapse	Solid	—
		5th " "	"	—
		9th " "		—
		Convalescent, 3 days	"	—
		Convalescent 10 days	"	—
4	9, M	1[illegible]th day } attack	Peasoupy	—
		25th day } attack		—
		Convalescent 13 days	Formed	—
5	42, M	2 days before end of long relapse	Semi solid	—
		Convalescent, 11 days	Solid	—
6	18 M	Convalescent, 4 days	Semi solid	—
7	21, M	28th day		—

* + signifies a positive result typhoid bacilli being found in the stools — signifies a negative result, typhoid bacilli not being found T N = Temperature normal.

For further details consult THE LANCET *May 20th, 1899, p 13*[illegible] observations of Pollak,[68] Jemma,[69] and Richardson[70] show that the typhoid bacilli can be found in them in practically every case at this period of the disease. An extremely important point, it may be remarked in passing, for it completely annihilates the fanciful but well-known theory of Sanarelli that typhoid fever is primarily a septicæmia and that the intestinal lesions are merely secondary. At later periods of the disease, however, and also during convalescence, if care be taken to obtain fæces uncontaminated with urine, it is extremely difficult to isolate the micro-organism. Thus Jemma,[71] Richardson,[72] and Lazarus[73] all found great difficulty at this stage, and my own observations bear out their results. Thus out of 20 observations made during the later periods of the disease, sloughs being actually present in the stools in some instances, in one only was a positive result obtained, and in this case a relapse very shortly followed; though in the three cases in which the examinations were made before the seventeenth day in each the typhoid bacilli were demonstrated at the second attempt.

---

[52] Quoted by Janowski Loc. cit., vide note 41

[53] Loc cit vide note 43

[54] Der Unterleibstyphus Wien 1898

[55] Centralblatt fur klinische Medicin, 1887, p 39[illegible]

[56] Ibid p. 14[illegible]

[57] Berliner Klinische Wochenschrift No 6 and No 24 1886

[58] Deutsche Medicinische Wochenschrift, 1895 No 34 p 550

[59] Zeitschrift für Hygiene 1899 Band xxx, p 49[illegible]

[60] Munchener Medicinische Wochenschrift, Nov 28th 1899

[61] Journal of the Boston Society of the Medical Sciences, Jan 16th 1900 p 110

[62] Ziegler Beitrage zur Pathologischen Anatomie viii, 1890, p 1[illegible]5

[63] Loc cit, vide note 59

[64] Centralblatt für Bakteriologie vol xiii, 1893 p [illegible]7

[65] Ibid, vol xxv 1899 p. 57[illegible]

[66] For an interesting, if somewhat highly-coloured description of the dangers resulting from the stools reference should be made to Dr Budd's work on "Typhoid Fever" London 1873 p. 52.

[67] Annales de l'Institut Pasteur 1895, p. 252.

It would be wrong, of course, to assume that because the micro-organisms cannot be demonstrated by our imperfect technique after the beginning of the third week that therefore they are not present. We have seen, indeed, that the gall-bladder may contain a pure culture of typhoid bacilli at the patient's death late on in the disease, and as a matter of fact this condition may continue for weeks, months, and even years after the primary attack. Whilst this lasts we must assume that the specific germ is carried with the bile into the alimentary canal, and we might therefore expect to find it in the fæces. It is possible, however, that if present only in small numbers the typhoid bacilli may be rapidly destroyed as soon as they come in contact with the other micro-organisms in the alimentary canal, for the toxines of not a few of them are extremely inimical towards the typhoid bacillus. This, however, though possible, has not yet been actually proved, and at present the following are the facts of which we are in actual possession. The specific micro-organism can be demonstrated in the stools if care be taken during the first and second and early part of the third week of the disease and possibly during the early part of the relapse. Later it cannot be demonstrated by our present methods. It follows, therefore, that the fæces are highly infectious at the commencement of the disease and that later they become much less dangerous. How soon they become absolutely innocuous cannot be stated, but we must be prepared for the possibility of their remaining in some cases a source of danger for long periods after the patient is apparently well—as long, that is to say, as the bile continues to harbour the parasite. It is quite possible, indeed, that certain epidemics in which the sanitary conditions were at fault and in which no obvious case of typhoid fever had been previously imported may have been caused by cases of this kind—epidemics which must always have a high interest for us, since it was from a consideration of them that Murchison was led to formulate his belief that in some cases at least typhoid fever could originate *de novo* and which prompted him therefore to name the disease "pythogenic fever."

The urine.—Passing now from the stools to the urine, the other great secretion by means of which typhoid fever is spread—or, as I believe myself, the chief means—I will only say now that, unlike the fæces, the urine only becomes dangerous in one out of every four cases of the disease and that as a rule it is towards the end of the disease or during convalescence that this condition occurs. In one other point, too, we notice a contrast and that is that while it is always difficult to find the typhoid bacilli in the stools in the urine it is always easy, for when they occur they are nearly always in pure culture and not uncommonly they are present in such extraordinary numbers that one cubic centimetre may contain as many as 500,000,000 micro-organisms. The danger of such a constant supply needs no comment, though incidentally it shows that our means of protection against the invasion of the typhoid bacillus are much greater than is generally supposed.

CONCLUSION.

If, now, we consider the facts which have been brought forward in connexion with the bacteriology of an ordinary case of typhoid fever we obtain the following data. The typhoid bacillus can always be found in the stools in the early periods of the disease. It can also be demonstrated always in the Peyer's patches and the mesenteric glands. It does not, however, remain limited to these situations but very soon and in all cases passes into the blood (from which it can be very often isolated) and by means of which it is distributed to the most diverse organs. Thus it can be always found in the spleen and in the liver. It gives rise in the skin to the typical eruption. It is in most cases present in the marrow of the bone and in the bile. It is frequently present in the urine, and is not uncommonly found in the kidneys. Occasionally, also, it may be detected in the lungs and sometimes in other organs.

And now we may ask, How do these facts bear upon our conception of typhoid fever? The answer is clear. Any conception of the disease which regards it merely as affecting the alimentary canal only can no longer be maintained. On the contrary, so far from considering it as an intestinal disease pure and simple, we should rather look upon it as a *modified form of septicæmia*. It is septicæmia in that always and in all cases the bacilli pass into the blood and then into the various organs, and in that the symptoms, excepting as far as they are intestinal, are referable to the poisons there produced. It is a modified form, however, in that in nearly all cases there is a definite local and primary disease whence the secondary dissemination of the micro-organism takes place.

Looked at in this way we have a ready explanation of the fact that the severity of the disease bears no relation to the number and character of the intestinal lesions. For just as a fatal septicæmia may originate in a scratch, so one or two small typhoid ulcers may be quite sufficient to allow the entry of the micro-organism and the development of the disease.

Three Lectures

ON

THE SURGERY OF THE STOMACH.

Delivered in the Theatre of the Royal College of Surgeons of England on March 5th, 7th, and 9th, 1900,

BY A MAYO ROBSON, F.R.C.S. ENG.,

MEMBER OF THE COUNCIL AND HUNTERIAN PROFESSOR OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND; EMERITUS PROFESSOR OF SURGERY IN THE YORKSHIRE COLLEGE; AND SENIOR SURGEON TO THE LEEDS GENERAL INFIRMARY.

LECTURE III.[1]

Delivered on March 9th.

DILATATION FROM ATONY DUE TO VARIOUS GENERAL AND LOCAL CAUSES, AND PERSISTING AFTER THE ORIGINAL CAUSE HAS DISAPPEARED.

MR. VICE-PRESIDENT AND GENTLEMEN,—There are certain cases of dilated stomach of the atonic variety in which the chief symptoms depend on the great bulk of the organ. As descriptive of the amount of paralytic distension that is possible Bamberger mentions an extreme case in which the stomach held 70 pints of fluid.[2] As these cases may be dependent on chronic catarrh or on some general cause not mechanical it is not necessary that I should enter fully into the etiology or even into the treatment, for general and medical treatment if carried out systematically and for a sufficient length of time usually yields good results; but in some cases, despite regular lavage of the dilated organ, well-regulated diet, and general medical treatment, the dilatation persists and the nutrition of the patient and the general health become seriously impaired; in such cases the operation of gastrorrhaphy or gastroplication may be worth considering.

Bircher performed the operation and reported three cases in 1890 and Weir of New York published a paper on this subject in 1892 The reports show that the operation is a most beneficial one if the cases be well selected, but before performing gastroplication it should be clearly ascertained that there is no mechanical obstruction either at the pyloric orifice or in the duodenum, for in the report of a recent case

---

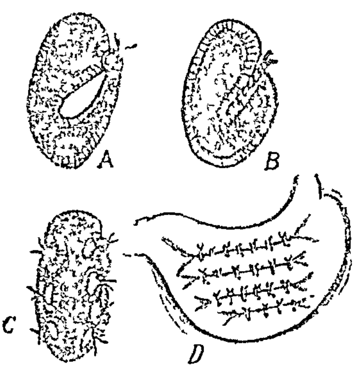
[68] Centralblatt für Innere Medicin, 1896, p 785.
[69] Münchener Medicinische Wochenschrift, 1897, No. 33.
[70] Boston Medical and Surgical Journal, 1897, p. 443; Brit. Med. Jour., Dec. 25th, 1897.
[71] Loc. cit., vide note 69
[72] Loc cit., vide note 70
[73] Berliner Klinische Wochenschrift, Dec. 9th, 1895, p. 1068.

[1] Lectures I. and II. were published in THE LANCET of March 10th and 17th, 1900 respectively.
[2] Gould and Pyke, p. 630.

I noticed that gastrorrhaphy had been done where the pyloric orifice was markedly stenosed. Needless to say in such a case it could do no permanent good

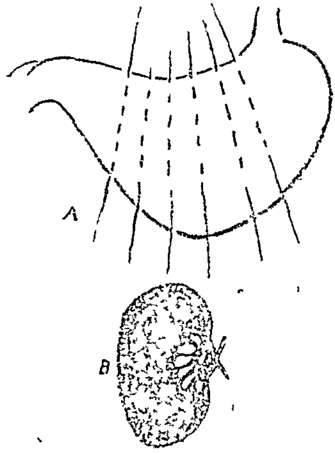
The following diagrams illustrate the method of folding and diminishing the volume of the stomach adopted by various operators In slighter cases probably Bircher's operation would do all that is required, but in the more severe cases a modification of Mr W. H Bennett's method would probably be the more efficient (Figs 5 and 6)

FIG 5



Different methods of gastroplication A Bircher's method seen in section. B Weir's method seen in section C Brandt's method seen in section D Brandt's method seen anteriorly

FIG 6



Gastroplication Bennett's method modified by Moynihan A, Seen anteriorly B A sectional diagram

The operation is neither difficult nor attended with serious risk since there is no danger of sepsis as the cavity of the stomach is not opened, and as the stomach can be drawn out of the wound to be sutured the general peritoneal cavity is saved from long exposure

The following table which Mr Willmott Evans has assisted me in compiling, I believe includes all the reported cases, 28 in number, with a 7 1 per cent mortality

TABLE XVIII.—*Statistics of Gastroplication (Gastrorraphhy)*

Name of surgeon operating or collecting cases	No of cases	Recovered	Died	Remarks
1 Bircher	1	1	—	The patient died a month later after pylorectomy.
2 "	1	1	—	The patient was well three years later
3 "	1	1	—	"
4 "	1	1	—	The patient was well two and a half years later
5 "	1	1	—	Later pyloroplasty was performed
6 "	1	—	1	The patient recovered from the operation but died two weeks later from syncope.
7 "	1	1	—	The patient was well a year later
8 "	1	1	—	The patient was well two months later
9 "	1	—	1	—
10 Brandt	1	1	—	—
11 Stockman	1	1	—	—
12 Bennett	1	1	—	—
13 Moynihan	1	1	—	The patient was well in 1899
14 Weir	1	1	—	—
15 Spencer	1	1	—	Gastroplication and pyloroplasty were performed
16 Shattuck	1	1	—	—
17 Maylard	1	1	—	—
18 Horrocks	1	1	—	Stricture of pylorus noticed but not treated
19 Hill	1	1	—	—
20 Faure, J L	1	1	—	—
21 Borelius	1	1	—	—
22 Nicolaysen	1	1	—	—
23 Roux	1	1	—	—
24 Tricomi	1	1	—	—
25 Caselli	1	1	—	—
26 Oliva	1	1	—	—
27 Hartmann	1	1	—	The patient gained 15 kilos in weight in three months.
28 Mayo Robson	1	1	—	Gastroplication and gastrolysis were performed
Total	28	26	2*	

* Equals a mortality of 7 1 per cent

References.—1 2, and 3 Correspondenzblatt für Schweizerische Aerzte 1891 p 713 4 5, 6 7 8 and 9 Ibid, 1894 p. 553. 10 Centralblatt für Chirurgie, 1894 p 361 11 Edinburgh Hospital Reports vol iv 1896 p. 502 12. THE LANCET July 4th 1896, p 8 13 Brit Med Jour July 9th 1892, p 29 14 New York Medical Journal, July 9th 1892 p 29 16 Medical Press and Circular 1898 vol ii, p 456 16 Transactions of the American Surgical Association 1897 17 THE LANCET, April 8th 1899, p 952 18 Annals of Surgery, September, 1899 p 249 19 Liverpool Medico-Chirurgical Journal July 1893 p 281 20 Gazette des Hôpitaux 1897 21 and 22 Mercredi Médical Paris Dec. 25th, 1895. 23 Revue de Gynécologie et Chirurgie vol i p 1 24 and 25 Riforma Medica Napoli 1895 vol iv, p 375 26. Ibid, May 1898. 27 Terrier and Hartmann Chirurgie de l'Estomac, 1899 28. This case is reported here for the first time

I have only seen one case that I thought suitable for gastroplication and as the operation was only performed in January of this year it is too early to speak of it except to say that the patient, aged 35 years, who had been invalided for 18 months and who had tried lavage and other medical treatment for several years without benefit, expresses himself as cured of all his former symptoms and he certainly looks well and seems able to take his food without any difficulty I performed the [illegible] after [illegible] of the plan carried out by Mr P [illegible]

ACUTE DILATATION OF THE STOMACH.

Acute gastric distension was described by Dr. Fagge, his paper being illustrated by two cases, both in men, one 30 years of age and the other 20 years of age, and both ending fatally. The symptoms were those of largely distended stomach, coming on suddenly, accompanied by pain, diminished secretion of urine, and death. Many other cases of the kind have since been reported and the subject was fully discussed in an able paper by Dr. T. N. Kelynack[3] in the *Medical Chronicle*, where will be found a reference to all cases previously reported. Pepper and Stengel suggest that the immediate cause is spasm of the pylorus.

Carion and Hallion[4] have shown that the section of the pneumogastric nerves in the dog leads to dilatation of the stomach and to symptoms in many cases resembling those of uræmia. It seems probable that the symptoms are dependent on the absorption of toxins from the cavity of the stomach, just as in some cases the absorption from a dilated stomach leads to tetany. In a case of Sir William Broadbent's[5] eight pints of fluid were removed by the syphon. No sooner, however, was this removed than the stomach began to re-fill and rapidly regain its former dimensions. In the Leeds Infirmary we have had three cases of this kind, under the care of Mr. T. R. Jessop, Mr. W. H. Brown, and myself respectively, and they all terminated fatally.

Mr. Brown's case has been reported in THE LANCET.[6] In this case a man, aged 55 years, said to be suffering from intestinal obstruction, was admitted into the hospital. He was in his usual good health up to 48 hours previously, when suddenly he was seized with intense pain in the abdomen accompanied by incessant vomiting; the vomiting continued until three hours before admission. On admission the hands were cold, the pulse was small and thready, and the face was pinched and sunken. The abdomen was distended above the pubes, but flattened at the sides and epigastrium; it was resonant, except between the umbilicus and pubes, where it was dull. Fluctuation could be felt and a succussion splash was obtained. The temperature was subnormal. Earlier in the day the bowels had been moved slightly, but no urine had been passed since the onset of the illness—i.e., for 48 hours. The abdomen was not tender, but the patient was in great pain, turning from side to side constantly and asking for relief from his agony. A catheter was passed and about a drachm of bloody urine was withdrawn. An exploring syringe was passed into the fluctuating swelling midway between the umbilicus and pubes and withdrew about two drachms of thick greenish fluid with a curious smell recalling the contents of a pancreatic cyst As the general aspect of the case presented unusual difficulties with regard to diagnosis, and as it seemed certain that the man would die shortly if unrelieved and that the pressure of the fluctuating tumour was the cause of his suffering, Mr. Brown decided to operate. Ether was given and the abdomen was rapidly opened over the most prominent part of the swelling. A tense, thin-walled, rounded cyst was found which contained a dark liquid with some gas. As no colon could be seen or felt, and as the tissues of the cyst wall seemed to be more like peritoneum than any viscus, Mr. Brown drew it to the surface, opened it, and let out about three pints of dark green viscid fluid closely resembling that of a pancreatic cyst. The walls were stitched to the skin and the wound was closed. The patient rallied from the operation and expressed himself as being relieved, but he died five hours later. At the necropsy the cyst was found to be a dilated stomach which would easily hold five pints; there was no pyloric obstruction. The kidneys showed marked signs of nephritis and were saccular; all the other organs were healthy.

Mr. Jessop reported his case before the Leeds and West Riding Medico-Chirurgical Society; it also ended fatally after gastrostomy.

My own case came on ten days after a duodeno-choledochotomy for the removal of a gall-stone impacted in the common duct; the patient was doing well in every respect until 24 hours before her death when she suddenly began to vomit, the abdomen became enormously distended, the urine became suppressed, and the patient died in a state of collapse. At the post-mortem examination, beyond dilatation of the stomach nothing was found to account for death. It is interesting that in this case there were adhesions of the pylorus to the liver and gall-bladder which we thought might probably have been the cause of the trouble. I was unfortunately out of town at the time of the catastrophe, otherwise I should certainly have operated, though probably the result might have been no different, and when my colleague who was taking charge for me was called in to see the patient she was pulseless and cyanosed.

Dr. Appel[7] has reported a case where acute dilatation of the stomach supervened on an abdominal injury. The abdomen was opened for what was supposed to be intestinal obstruction, but three-quarters of the abdominal cavity were occupied by a dilated stomach. The stomach was opened, giving vent to a quantity of gas and fluid, the incision being afterwards closed, but the second night after the operation the abdomen became distended as before and death rapidly ensued. At the necropsy nothing was found abnormal except the distended and dilated stomach. It was suspected that the great sympathetic abdominal ganglia might have been injured, but nothing was found wrong with them on examination. Fenger[8] reports a case of acute distension of the stomach five days after cholecystotomy. The stomach-tube was used giving temporary relief, but the patient died on the tenth day, that is, five days after supervention of the stomach symptoms. The necropsy showed nothing amiss except an enormously dilated stomach. Dr. Box and Mr. Wallace[9] report a case in a boy, 16 years of age, following on a blow on the epigastrium. Abdominal section disclosed a dilated stomach which was incised and emptied but in that case also death followed. Kirch[10] reports a case in a youth, 19 years of age, who made a supper of soup and beer which was followed by pain and uncontrollable vomiting. The stomach was washed out and five and a quarter pints of greyish-green fluid were evacuated. The next day another two and a half pints were removed by the stomach-tube, but the patient died in the evening from heart failure four and a half days after the beginning of his illness. At the post-mortem examination the stomach was found to have lost its normal shape and to have the form of a long dilated tube reaching from the left hypochondrium to the true pelvis and then turning sharply upwards to the duodenum.

A careful analysis of all the recorded cases of acute dilatation would seem to point to a neuro-paresis, probably associated with spasm of the pylorus, but so far surgery seems to have been of little avail in these cases and no treatment seems to have been of material service. Nevertheless we must not give up our efforts and I would suggest that in every case of this kind, no matter at what stage it may be recognised, unless the patient be actually dying, the abdomen should be opened and the stomach emptied and connected with the jejunum, thus providing for continuous drainage into the intestine. I believe that as yet this method has not been put to the test.

Although in the greater number of cases of stenosis of the pylorus requiring the surgical treatment a general anæsthetic may be given, it is well to bear in mind that if necessary, as in serious cases like those under consideration, the operation may be performed under local anæsthesia produced by Schleich's method. Herczel has reported two cases where he did gastro-enterostomy in this way, in both of which recovery was rapid. In another case which he did under a general anæsthetic pneumonia supervened and he believed that the anæsthetic played a prominent part in its production. Czerny has remarked that a certain number of patients submitted to stomach operations suffer from pneumonia owing to the predisposition caused by the cessation of abdominal respiration and the superficial character of the thoracic respiration on account of the pain in the wound caused by costal movement. I have on several occasions performed operation of the stomach successfully under cocaine where I thought the patient too feeble for general anæsthesia or where chest complications rendered chloroform or ether inadvisable and with very little pain, discomfort, or shock to the patient.

GASTRO-ENTEROSTOMY.

Gastro-enterostomy, or the establishment of a permanent fistula between the stomach and duodenum or jejunum, is one of the most useful of the operations undertaken on the stomach, since there are fewer contra-indications to this procedure than in any other stomach operation, and it is applicable not only as a means of overcoming obstruction but also for giving physiological rest to the organ. It may be performed for simple or malignant stenosis of the pylorus, for chronic or acute dilatation, for intractable simple ulceration, and for bleeding ulcer, and it has been done for severe gastralgia and inveterate chronic dyspepsia not yielding to medical treatment. It was first performed by Wölfler on Sept. 27th, 1881, for cancer of the pylorus, by Rydygier and Mastryski for simple stenosis with dilatation, by Doyen for simple ulcer, and by Hartmann on Dec. 10th, 1895, for hæmatemesis due to bleeding ulcer.

---

[3] Medical Chronicle, May, 1892.

[4] Semaine Médicale, August 21st, 1895.

[5] Referred to in Dr. Dreschfeld's article in Professor Clifford Allbutt's System of Medicine.

[6] THE LANCET, Oct. 14th, 1899, p. 1017.

[7] Philadelphia Medical Journal, August 12th, 1899.

[8] Clinical Review, Feb 28th

[9] THE LANCET, June 4th, 1898, p. 1538

[10] Deutsche Medicinische Wochenschrift.

As the various methods employed for gastro-enterostomy are given so fully in various text-books it is needless for me to enter into details which would occupy more time than is at my disposal. I have performed the operation successfully (1) by simple suture, (2) by the aid of Senn's plates, (3) by the use of my bone bobbin, and (4) by the employment of the Murphy button. Of these methods I have no hesitation in saying that I prefer the use of the bobbin. The operation where the button is used being by a few minutes quicker than when the bobbin is employed may be in some cases preferable, though there is a drawback to its employment in the fact of the button not infrequently falling into the stomach and remaining there. This has occurred in three of my own cases. In consequence of this accident and for other reasons Professor Kocher has given it up, and I hear that Dr. Murphy himself has also adopted Laplace's method of suturing in this operation. Laplace's operation is performed by means of an ingenious instrument which coapts the opposing surfaces that have to be united so that a continuous suture can be applied around the opening before the final stitch is inserted. I have seen the operation done by one of my colleagues but I have not as yet employed it. Its great disadvantage seems to be the absence of direct union between the two mucous margins and the small opening for anastomosis.

The junction with the stomach may be made either into the duodenum or upper part of the jejunum, the latter being, as a rule, preferred because it is easier and less likely to cause soiling of the peritoneum, since it is so readily clamped by an elastic ligature The jejunum is easily found by pushing to the right or raising the omentum and passing the hand behind the transverse colon when the attached part of the jejunum is at once reached and a loop selected about a foot from the fixed point. The junction may be made either to the front or the back of the stomach. If to the latter a slit must be made in the transverse mesocolon and the junction made through that; if to the former the whole procedure can be effected outside the abdomen and with much less general exposure; hence I prefer to make the junction in front. There are, however, many different methods in vogue for making the anastomosis which may be classified as follows: 1. *Gastro-jejunostomy.*—(*a*) Anterior, in which the junction is made to the front of the stomach. (1) Pre-colic (Wolfler, 1881) in which the jejunum is brought over the colon, and (2) retro colic (Brenner, 1892) in which the jejunum is made to pass through the transverse mesocolon and the great omentum before reaching the anterior surface of the stomach. (*b*) Posterior, in which the junction is made in the posterior wall through a slit in the transverse mesocolon (Von Hacker, 1885). (*c*) After pylorectomy by any of these methods. 2. *Gastro-duodenostomy.*—(*a*) With great dilatation of the stomach a junction may be easily effected between it and the second part of the duodenum (Jaboulay, 1892). (*b*) After pylorectomy (1) end-to-end suture; and (2) posterior anastomosis after closing the open end of the stomach and duodenum (Kocher).

Among the modifications are (*a*) Paul's proposal to incise all the tissues at the proposed junction except the mucous membrane and to apply chloride of zinc to these, so that within 24 or 48 hours after the operation the two hollow viscera will be made to communicate by the sloughs separating. (*b*) Postinkow (1892) and Podrez advise making the communication by means of two crossed ligatures tied tightly, which makes the anastomosis within three or four days. (*c*) Gaston (1884) employed in a similar way the elastic ligature on dogs and McGraw used it successfully on the human subject in 1890. (*d*) In order to avoid regurgitation Kocher adopted a valvular method of uniting the viscera. (*e*) For the same reason Chaput made use of an H-shaped opening. (*f*) Sonnenberg made a valve by invaginating the stomach into the intestine. (*g*) Braun joined together the two arms of the communicating loop of bowel so as to establish continuity of the intestinal canal without the contents passing the opening into the stomach. (*h*) Lauenstein made a communication with an adjoining loop of bowel for the same purpose. (*i*) Wolfler and Rouse modified these operations by completely dividing the bowel and implanting the cut ends into the stomach and bowel respectively. Practically there are two methods employed, Wolfler's anterior and Von Hacker's posterior operations. After pylorectomy Kocher's method is undoubtedly the best. A study of statistics would seem to show that it matters little which method is employed, and the surgeon will select that which seems to him to be the easiest to perform. For my own part I prefer Wölfler's operation.

The whole operation of gastro-enterostomy may be done in from 15 minutes to 30 minutes. All the precautions mentioned under pyloroplasty should be observed, so as to guard against shock. If the patient is too ill to bear general anæsthesia the operation may be done under cocaine supplemented by a whiff of chloroform and ether if required. The following points should be observed in anterior pre-colic gastro enterostomy. 1 After finding the fixed part of the jejunum make the anastomosis from a foot to one and a half feet from it, so as to avoid strangling the colon and kinking the junction with the stomach. 2. Let the afferent part of the intestine be to the left and the efferent to the right. 3. Fix the intestine well beyond the point of junction so as to avoid a spur. 4. Silk of moderate thickness is the best suture. 5. Apply a pad of gauze behind the parts to be joined as well as around them, so as to avoid soiling the peritoneum. 6. In anterior gastro enterostomy it is easy, if thought advisable, to bring a small loop of omentum around the line of junction and thus to make the operation safer.

After treatment—Since the greater number of these cases do not come under the care of the surgeon until very late, it is advisable to carry out all the means of preventing and combating shock that have been described. As soon as fluid can be taken by the mouth a little may be given in repeated doses; for instance, a teaspoonful of champagne every quarter of an hour is often useful. Light feeding may be commenced on the second day, especially if the button has been used. If there be regurgitation into the stomach the bowels should be moved by enema if possible, and the patient should be raised in bed and the stomach washed out. If no relief should ensue the abdomen may be re-opened and an entero anastomosis established, as has been done by Ricard and Czerny with success.

The ultimate results of gastro enterostomy have engaged the attention of several observers. These are: (1) return of digestive functions, (2) disappearance of hyper-acidity in the ulcer, (3) relief of pain, (4) cessation of vomiting, (5) healing of ulcer, (6) arrest of hæmorrhage, (7) return of appetite, (8) increase in weight, (9) disappearance of inflammatory tumour, (10) lessening of malignant tumours, (11) new blood formation, (12) gradual lessening of the dilatation of the stomach, and (13) in cancer prolongation of life of from three to 15 months. Dr. Steudel gives the average prolongation of life after gastro-enterostomy as 12 6 months, some of the patients being alive four and a half, five, and five and a half years after operation, but as these were in all probability cases of simple character this cannot be accepted as altogether accurate, and the estimate of 7 to 8 months, when doubtful cases are removed from the malignant list, is much more likely to be correct. Considerable contraction evidently occurs in some cases after the use of the button (Steudel), and probably after every method a certain amount of diminution of the opening occurs in time.

In the compilation of the following statistics (see Table XIX.) and in the verification of the references I have had the kind and able assistance of Mr. Willmott Evans.

With regard to the method of operating—i e., by the anterior or the posterior operation—Haberkant gives the percentage mortality at 44 for the anterior and 42 for the posterior operation, and von Hacker at 50 for the anterior and 36 8 for the posterior, but Mehler gives it at 47 9 for the anterior and 65 2 for the posterior. On averaging these percentages it works out as 47 3 for the anterior position and 48 for the posterior position, so that it would seem to make little difference whether Wölfler's or von Hacker's method be employed. It will be noticed that the number of cases collected (1978) is large and that the mortality varies from 0 per cent. to 100 per cent., but that on grouping all the cases together the average mortality is 36 4 per cent. The results vary very considerably according to the nature of the case for which operation has been undertaken, as also in the earlier and later series of cases. Haberkant gives two periods of seven years each. In the first period the mortality was 55·9 per cent. and in the second period it was 39·3 per cent. Petersen (Czerny's Clinic) also gives two periods in simple cases, in which before 1895 the mortality was 25 per cent. and since 1895 it was 3 per cent. Chlumskiji gives three periods. From 1881 to 1885 the mortality was 65·7 per cent.; from 1886 to 1890 it was 46·47 per cent.; and from 1891 to 1896 it was 33 91 per cent.

TABLE XIX.—*Statistics of Gastro-enterostomy.*

	Source of report of cases.	No of cases.	Recovered.	Died	Mortality per cent
1.	Mikulicz.	26	19	7	27·0
2.	Czerny.	90	61	29	32·0
3.	Doyen.	21	16	5	23 8
4.	D'Ewald, von Lindner, von Bergmann, and von Sonnenberg.	26	10	16	62 0
5.	Carle.	45	36	9	24 5
6	Stendel (Czerny's Clinic).	110	77	33	30·0
7.	Mayo Robson (private).	8	6	2	25·0
8.	Leeds Infirmary.	35	20	15	42 86
9.	Chlumskiji, 1881-85.	35	12	23	67·7
10.	„ 1886-90.	114	61	53	46·47
11.	„ 1891-96.	401	265	136	33·91
12.	Vasconcello.	4	3	1	25·0
13	Gallet.	3	2	1	33 3
14.	Desfosses.	93	64	29	31·1
15.	Weir.	5	5	0	0
16.	Barker.	8		2	33 3
17.	Berg.	17	17	0	0
18.	Boas.	3	3	0	0
19.	Sholita.	2	2	0	0
20.	Davis.	3	3	0	0
21.	Single cases collected by Mr. Willmott Evans.	27	21	6	22·2
22.	Certain London Hospitals	32	9	23	71 8
23	Wilbeur.	219	103	116	53·3
24.	Haberkant · „ First seven years. „ Second seven years.	298	171	127	42 6 55·9 39 3
25.	Roux.	31	28	3	9 6
26.	Tuffier.	50	48	2	4·0
27.	Lambotte.	6	6	0	0
28.	Van Kleef.	68	54	14	20 59
29.	Fricle.	2	1	1	50·0
30.	Chaput.	2	1	1	50 0
31.	„	2	2	0	0
32.	Monprofit.	19	17	2	10 5
33.	H Pehan	67	33	34	50 7
34.	Kappeler	8	3	5	62 5
35.	—	10	7	3	30 0
36.	—	21	17	4	19 0
37.	Garre.	20	13	7	35·0
38.	Carle and Fantine.	19	15	4	21 0
39.	—	25	20	5	20 0
40.	—	1	0	1	100 0
1.	—	1	1	0	0
42.	—	1	0	1	100·0
	Total ...	1978	1258	720	= 36 4

References—1. Archiv fur Klinische Chirurgie, 1896, vol. li, p 9 2 Berliner Klinische Wochenschrift, 1897, p. 762 3 Traite de la Chirurgie des Affections de l'Estomac, 1894 4 Berliner Klinische Wochenschrift, 1897, p. 797. 5 Archiv fur Klinische Chirurgie, 1898, Band xvi, p. 217. 6 Ibid, p 459 7. These cases are reported here for the first time. 8 Taken from hospital reports 9, 10, 11. Beitrage zur Klinischen Chirurgie, 1893, Band xx, p 231 12 Medécine Contemporaine, 1898, p. 169. 13. Douzième Congrès de Chirurgie, Paris, 1898, p 299 14 Revue de Gynécologie, 1898, No 1. 15. New York Medical Journal, June 3rd, 1899 16 THE LANCET, Nov. 12th, 1898, p 1249, and Brit Med Jour., 1898, vol. i, p 421 17 Norddeutsches Medicinisches Archiv, 1893, No. 26, p 1 18 Archiv fur Verdauungs Krankheiten, 1898, vol. iv., Heft 1 19 Vratch, 1899, No 1. 20. Western Medical Review, May 15th, 1899. 21. These cases are reported here for the first time. 22. Taken from hospital reports 23 Thèse de Nancy, 1892 and 1893. 24 Archiv für Klinische Chirurgie, Berlin, 1896, vol li, pp. 484 and 861. 25 Douzième Congrès de Chirurgie, Paris, 1898, p. 290. 26 Ibid., p. 311. 27. Annales de la Societe Medicale d'Anvers, January, 1898. 28 Nederlands Tijdschrift voor Geesh, 1893, No. 6. 29. Revue Médicale, 1893, p. 98 30. Bulletin de la Société Chirurgique, Paris, 1898, pp. 21 and 126. 31. Ibid. 32. Douzième Congrès de Chirurgie, Paris, 1895, pp 316 33. Centralblatt fur Chirurgie, 1893, No. 45. 34 Deutsche Zeitschrift fur Chirurgie, vol. lxix., p. 113 35 and 36. Ibid. 37. Munchener Medicinische Wochenschrift, 1898, p. 1165. 38. Il Policlinico, 1893, vol. ii., p. 105. 39, 40, 41, and 42, Ibid.

As to the nature of the case Stendel (Czerny's Clinic) gives the mortality in gastro-enterostomy for cancer as 34·5 per cent. and in gastro-enterostomy for simple disease as 14 3 per cent.; and Haberkant gives the mortality in gastro-enterostomy for cancer as 43·5 per cent. and in gastro-enterostomy for ulcer as 25·5 per cent.

TETANY AND TETANOID SPASMS IN ASSOCIATION WITH GASTRIC DILATATION.

It does not appear to have been generally noticed that severe muscular spasms of a tetanoid character, in rare cases amounting to severe or even fatal tetany, are frequently associated with dilatation of the stomach, yet I have noticed tetanoid symptoms in so many cases of dilated stomach that I have come to look at it as a frequent concomitant of the disease.

An important paper on the subject by my colleague Dr. E. F. Trevelyan published in THE LANCET[11] shows very forcibly that fully developed tetany associated with stomach dilatation is a symptom of extreme gravity and that in such cases a fatal termination is to be feared in a considerable percentage of cases. To quote from Dr. Trevelyan's paper: "If the term 'gastric tetany' is allowed to include the milder as well as the severer cases—and there is no sufficient reason against this view—then the disease may turn out to be more common than is usually supposed. The transition between gastric tetany strictly so-called, tetany with gastro-intestinal symptoms, and ordinary tetany would seem to be a gradual one. The prognosis of tetany occurring in gastric dilatation is undoubtedly very serious; nearly 75 per cent. of the cases die. The largest mortality occurs in [cases] where the spasm in the extremities is associated with tonic spasm in the head and trunk muscles or with clonic spasm. If the very strict views are held as to the disease then the outlook is almost hopeless; thus of the 11 cases recognised by Frankl Hochwart only one recovered. There is a danger here, as in some other diseases, that the fatal issue is raised to be the chief criterion as to the nature of the affection." My own experience of tetany and of the severe muscular spasms in association with gastric dilatation leads me to think that we may possibly take a more hopeful view if the cases be treated surgically at an early period. The following cases will serve to illustrate my views. In the first case the tetany was so pronounced that the question of strychnine poisoning crossed my mind. In the second and third cases, though there were well-marked tetanic spasms, the cramps were limited to the extremities and the abdomen.

CASE 1.—A man, aged 34 years, was sent to me by his medical attendant in January, 1895, with a view to having something done in the Leeds Infirmary to relieve his condition. He had been suffering for five years from pain after the ingestion of food, with attacks of vomiting. Latterly his condition had become aggravated, the pains occurring from half an hour to one hour after each meal and being relieved only by vomiting, so that for the last six months he had had to give up his work as a printer. For some time before coming under my notice there had been very evident peristalsis from left to right in the epigastric region. Throughout the period over which his stomach symptoms extended his bowels had for the most part been very constipated, but there were occasional attacks of diarrhœa. During this time he had attacks of what he described as "cramps" in his limbs and especially in his legs. He had lost very considerably in weight, as in December, 1892, he weighed 9 st. 6 lb., whereas in January, 1895, his weight was only 7 st. 7½ lb. On examination there was found well-marked dilatation of the stomach, but the feature of the case which presented most interest in connexion with the present question was the occurrence while under observation of severe tetanic spasms, affecting almost all the muscles of the body. So extreme were these and so widespread—the muscles of the trunk and of the cervical region as well as those of the limbs being affected—that on Jan. 17th the question of possible poisoning from strychnine was raised. As palliative treatment of the stomach condition gave no relief the stomach was exposed on Jan. 24th and the diagnosis of cicatricial stenosis with hypertrophy of the pylorus was confirmed. Pyloroplasty was done, a bone bobbin being employed to ensure patency of the new pylorus. Recovery was uninterrupted, and although the cramps were present up to the time of operation he never had even a threatening of cramp afterwards. On Feb. 15th he was able to take a mutton chop for his dinner without inconvenience, and by March 2nd (five weeks after the operation) he had gained eight and a half pounds. Since then he has done very well, and two years after the operation he had quite recovered his strength and was working as usual, his weight then being just over what it was in December, 1892, and quite two stones above what it was at the time of the operation. There has been no recurrence of any "cramps" or of muscular spasms of any kind. In a letter I received at the beginning of 1899 he speaks of some slight symptoms which may have had their origin in some stomach disorder, but he adds, "You will please understand that I am a new man to what I was when you saw me last."

---

[11] THE LANCET, Sept. 24th, 1898, p. 791.

CASE 2.—A man, aged 24 years, was seen by me on Oct. 5th, 1897, in consultation with his private medical attendant, on account of severe painful cramps of the extremities and of the abdomen, with persistent vomiting. He gave the history of having had pain after food for several years previously and of having vomited blood, since which time he had never been well and had gradually lost flesh. For some little time before I saw him he had vomited every day unless the stomach was washed out; and from weighing over 10 st. he had diminished to a little over 8 st. There was well-marked dilatation of the stomach, but no pyloric tumour could be felt, and simple stricture of the pylorus was diagnosed. He was admitted to the infirmary some time in October, and on the 21st I performed pyloroplasty as the pyloric orifice would only permit the passage of a No. 10 catheter. The longitudinal incision in the pylorus was sutured vertically over one of my bone bobbins. Recovery was uninterrupted and from that time the cramps and vomiting ceased. He returned home within a month. On Oct. 23rd, 1898, I received the following letter from him: "It is with a grateful heart I write to thank you for the good received at your hands 12 months ago. I am thankful to say I have never had any trouble with my stomach since. I feel it my duty to acknowledge the good I received and also to thank you for your extreme kindness."

CASE 3.—A woman, aged 29 years, was sent to me from the east coast in the spring of 1895 suffering from severe pain in the abdomen associated with vomiting and loss of flesh; there was well-marked dilatation of the stomach and the pain always started on the left of the abdomen and passed to the right, on which side, just below the ninth rib, there was well-marked tenderness with rigidity of the right rectus muscle. Operation was declined and I did not see the patient until nearly the end of the year when she told me that the pain in the abdomen was excruciating and recurred every day. She said it was associated with severe cramp in the limbs, especially in the legs and thighs, and that at night she was kept awake by the pain. Vomiting of large quantities occurred daily and she was steadily losing weight and strength. Her symptoms began in 1888 and she had lost two stones in weight between that year and 1895. On Dec. 14th I opened the abdomen and found active ulceration of the pylorus which was adherent to the gall-bladder, liver, and abdominal walls, and was so much thickened as to form a distinct tumour. Pyloroplasty was performed after the adhesions had been separated. Recovery was uneventful and satisfactory in every way and she returned home within the month. She never had any return of the tetanic symptoms and a report sent to me in March was to the effect that she had gained flesh and was "well." In July, 1896, I saw her again for stomach symptoms but without much loss of flesh. In 1897 and 1898 the vomiting, the loss of flesh, and well-marked stomach splash showed that the pyloric trouble had recurred, and as I found a distinct tumour of the pylorus, which I believed to be simple inflammatory induration, I performed gastro-enterostomy in October, 1898. She made a good recovery and has been well since. A letter in December, 1899, states that she is quite well and has fully regained her weight. The interesting point in this case is that there was no return of the painful cramps in the limbs after the first operation.

Though tetany occurs apart from gastric dilatation—for instance, in children during teething, when it is frequently associated with gastro-intestinal disorders and not infrequently merges into general convulsions—and in other conditions apart from stomach disorders, yet tetany or painful muscular spasms of a serious character are so frequently associated with gastric dilatation that one cannot ignore the association and pronounce it merely accidental. It is curious that I have never seen the symptoms in other than dilatation due to simple causes, such as adhesions of the pylorus to the gall-bladder or liver, or stricture of the pylorus due to the cicatrisation of ulcers. I have never seen it in simple unobstructive dilatation or in dilatation due to cancer of the pylorus, though Dr. E. F. Trevelyan gives single examples of its association with both in his paper.

The immediate cause of tetany is perhaps beyond the scope of a surgical lecture, but as my views are based on clinical experience they may be worth relating. I have noticed that the exacerbations of the tetanic state (especially in the first case I have related) were always associated with a painful contraction of the stomach, and that when the wave of contraction had reached the pylorus the latter, which was previously incapable of being felt, formed a distinct hard tumour. The abdominal pain then became very intense and the tetanic cramps in other muscles came on, or if already present became intensified. From this sequence of events I have come to the conclusion that the cause of tetany is a double one: first, the absorption of some poison from the dilated stomach which increases the excitability of the nervous system; and secondly, a reflex effect produced by the painful contraction of the pylorus. The practical outcome of these observations is that where tetany or allied conditions are associated with gastric dilatation surgical treatment is well worth considering before the symptoms become so severe as to lead to the almost hopeless condition described in the report of some of the fatal cases.

INJURY OF THE STOMACH.

The stomach is so well protected by the chest wall and the surrounding organs that it is seldom ruptured from blunt force applied to the abdominal wall, though contusions and partial or complete rupture may occur from a blow or kick in the epigastric region when the stomach is full. The vomiting of blood, therefore, with pain over the stomach immediately following a blow may demand exploration. It would be wise, however, before resorting to operation to inflate the stomach, as if a rupture has taken place gas will escape into the peritoneal cavity and the liver dulness will disappear, whereas if the organ be unruptured the distended stomach will be clearly outlined through the abdominal wall. In case of doubt a small incision in the middle line above the umbilicus will speedily settle the question, for if the stomach is ruptured there will be an escape of odourless gas immediately the peritoneum is opened and in all probability blood-stained fluid from the stomach contents would also escape. Needless to say, in case of rupture no time should be lost in first arresting hæmorrhage and then closing the laceration and cleansing the peritoneum.

Gunshot and stab wounds of the stomach are not infrequent and there are now numbers of cases on record where the stomach has been perforated by a bullet and recovery has occurred. It must not be forgotten that if there is one wound of entry into the stomach there will probably be one of exit. In one reported case there were no less than three wounds in the stomach, two of which were sutured and the third, being undiscovered, led to death from peritonitis. In stitching up the stomach Lembert's sutures must be applied well beyond the wound at both extremities. Dr. George Woolsey[12] reports a case of a wound from a pistol bullet in the abdomen in which he had successfully sutured two wounds of the stomach, two of the transverse and two of the ascending colon, five hours after the injury. In all Lembert's sutures were employed. Mr. A. B. Johnson[13] describes an interesting case in a man, 35 years of age, whom he saw a short time after he had been shot. The bullet had not only passed through the stomach but had also wounded the jejunum, the colon, and the mesentery. He was able to close all the wounds and his patient recovered. In case of persistent hæmatemesis after injury the stomach should be opened if necessary, for it is possible, as in a case described by Dr. J. Hazelwood Clayton,[14] where the patient died as a result of a crush, for the mucous membrane to be lacerated independently of the external coats of the stomach. In another case, described by Ziegler, a cyst appeared two weeks after a buffer accident and at the end of five months an operation was performed successfully and a large cyst of the stomach covered by the peritoneum was evacuated of three litres of fluid.

---

[12] Annals of Surgery, August, 1899.

[13] Ibid., November, 1899.

[14] Brit. Med. Jour., March 24th, 1894.

The older writers relate numerous cases of successful treatment of wounds of the stomach, but in many of them, such as that of Alexis St. Martin, a fistula was left. Spizharny collected 61 cases of gastric fistula. Fallopius successfully treated two cases of penetrating wound of the stomach, and there are many other cases of old and recent dates that can be referred to. The case I related under exploratory operations, where hæmatemesis followed on a stab wound of the abdomen, shows how a severe bruise of the stomach may lead to violent hæmatemesis, without there being an actual rupture of the stomach wall.

Nearly all cases of spontaneous rupture of the stomach are due to ulcer or carcinoma; but we should not forget that there are a number of cases on record in which rupture has occurred from over distension. Arton reports a case in a negro, aged 50 years. Fulton mentions a case of rupture of the œsophageal end of the stomach in a child owing to distension. Collins describes a spontaneous rupture in a woman, 74 years of age; this was followed by collapse and death, and a necropsy showed a rupture two inches long about two inches from the pyloric extremity. The records of St. Bartholomew's Hospital contain the account of a man, 34 years of age, who for two years had been the subject of paroxysmal pain in the stomach. At the hospital he had an attack of vomiting after a debauch, and after a sudden attack of pain at the pit of the stomach he died. A ragged opening on the surface of the stomach near the cardiac extremity was found post mortem, there being no signs of gastric ulcer or cancer. Clarke[15] reports two cases, one in a Hindoo, 22 years of age, and another in a woman who was supposed to have died from cholera. Recovery probably never occurs naturally in these spontaneous ruptures, but there are many cases on record of recovery after stab wounds.

Perforation may occur from within, as in the case of sword and knife swallowers. A remarkable case of this kind occurred at Guy's Hospital in 1807. After death there were 30 or 40 fragments of knives found in the stomach, one of which had transfixed the colon and the rectum. Needless to say that in all these cases the sooner after the injury the patient is treated the greater will be the chance of recovery. The openings will require closing with a double row of sutures—a continuous catgut suture for the mucous membrane and Lembert's silk sutures for the peritoneum. The toilette of the peritoneum must be carefully performed. If the soiling be local this is best done by sponging, but if the peritoneal cavity has become generally soiled then the cleansing is best done by lavage.

CANCER AND OTHER TUMOURS OF THE STOMACH.

Cancer of the stomach, which is more common in men than in women in the proportion of two to one, may occur at any period of life from youth to extreme old age, but it is most commonly found between 50 and 60 years of age and it may be said to be a disease of middle or advanced age. I have had to perform gastro-enterostomy for pyloric cancer as early as 21 years of age and Dr. Norman Moore has recorded an instance of undoubted cancer of the stomach at 13 years of age. Habershon, in an analysis of 79 cases of cancer of the stomach, found the growth at the pylorus in 41 cases, along the lesser curvature in 11 cases, and at the cardiac extremity in 10 cases. Brinton found 219 cases of the growth at the pylorus out of 360 cases. Cancer is by far the most common cause of tumour of the stomach. Sarcoma occurs less frequently and usually at earlier periods. Dr. E. C. Perry and Dr. L. E. Shaw out of 50 cases of primary malignant disease of the stomach found sarcoma in four patients aged 15 years, 18 years, 38 years, and 67 years respectively.

Tubercle of the stomach is uncommon except in children affected with general tuberculosis. I have only operated in one case, in a girl of 12 years of age, who besides the pyloric stenosis due to tuberculous disease had stricture of the duodenum, general tuberculous disease of the stomach, and tuberculous peritonitis.

Fibro-myoma of the stomach is rare, but it may form a pedunculated growth projecting as a polypus into stomach, and if it be away from the pyloric extremity it m produce no symptom until its size demands attention.

Polypoid outgrowths of the mucous membrane which m be termed "adenoma" or "papilloma" are uncommon; in one case that came under my care a polypus of this nati was obstructing the pylorus, the obstruction being succe fully relieved by its removal.

Hayem[16] describes a new variety of gastric polyadeno which is constructed on the type of Brunner's glands in t duodenum. The varieties of polyadenoma of the stoma previously recognised are two—(a) those that are polypo and (b) those consisting of thickened folds of the muco membrane, the constituent gland tubes being grea lengthened but never invading the muscular mucosæ. Th form also commonly occurs in a nodule and is then oft associated with chronic gastritis and with cancer elsewhe on the stomach wall. Hayem describes two cases of aden matous growth resembling Brunner's glands, and chie affecting the submucosa. It appears to be derived from t glandular cul-de-sacs of the mucosa, but it rapidly pass through the muscularis mucosæ and develops in the su mucous tissue. This form of adenoma is related in interesting manner to gastric ulcer and to maligna disease. In the first of Hayem's two cases a man died from perforating gastric ulcer which was directly due to adenoma of this form. The adenoma gave rise to atrop and separation of the muscular coat, and then itself und went infective ulceration. In the second case, in which latent gastric ulcer had been succeeded by the developme of carcinoma, the pylorus evidently became acute obstructed by an adenoma of the type of Brunner's glan Hayem regards these adenomata as benignant tumou which, however, may become malignant, and he places the in a transitional stage between innocent and maligna growths.

The stomach may also be the seat of lipoma, lymp adenoma, villous growth, and secondly malignant tumou Fibroid thickening of the pylorus may form a tumour whi can with difficulty be distinguished from malignant growt and on two occasions I have performed pylorectomy in su cases under the impression that I was removing a cance Such a tumour is dependent on the deposit of lymph arou a pyloric ulcer. The lymph becoming changed into fibro tissue not only causes great thickening of the pylorus b leads to matting of the omentum around it and to puckeri and hardening of the tissues that in some cases can only differentiated from cancer on section or on microscop examination. The long-continued history of ulcer may the only guide to the diagnosis, but in this connexion it mu be borne in mind that a chronic ulcer may end in cancer.

The following specimens from the Hunterian Museum a good examples of various forms of tumour:—No. 2411A is cancer of the pylorus producing stenosis and is from woman aged 36 years; No. 2417 is a cancer of the cardi orifice with dilatation of the œsophagus; No. 2421 ar No. 2422 are cancers of the cardiac orifice with cancer of th œsophagus also; No 2426B is a colloid cancer of the pylor producing stenosis; No. 2407 shows a perforation of th stomach due to sloughing of a cancer and is from a woma aged 36 years; No 2408 shows a very small stomach wi thickened walls due to new growth; No. 2408C shows greatly enlarged stomach from cancer which caused death six months; No. 2405 shows polypi growing from the muco membrane of the stomach of a man, aged 76 years, who suffer from constant dyspepsia; No. 2405C shows a polypus ne the pylorus producing fatal intussusception of the duodenu in a man aged 21 years; No. 2405D shows a polypus near th pylorus (pedunculated papilloma) which caused death b vomiting in a woman aged 92 years; No. 2407A is a villo growth near the lesser curvature found post mortem in a aged woman; No. A2407 is a melanotic sarcoma, two-thir of an inch by half an inch in size, from a man, aged 31 year who had other tumours in his skin and his interior organs and No. 2427 shows a cardiac orifice obstructed by gumm which also involves the adjoining part of the liver. Th patient was a military officer, 48 years of age, who had ha symptoms for 20 years and who died from starvation.

Diagnosis.—When the symptoms and signs of ulcer of th stomach—with or without stricture but with tumour—ar found at or after middle-age the probability is that th patient is suffering from cancer. Cancer of the cardia extremity can seldom be felt until it has attained a considerable size. Unfortunately, cancer of the pylorus is often quite incapable of being distinctly felt until it has formed a fairly large tumour, though in most cases an indefinite sense of fulness and hardness leads to a suspicion of growth before it can be distinctly defined. The tumour usually moves up and down with respiration, and when the pylorus is free from adhesions it may be felt quite easily and well away from the costal margin. While in cancer of the cardiac orifice the stomach is usually contracted and small, in pyloric cancer it becomes dilated and the dilatation may assume such large proportions as to be the prominent sign. Inflation will not only enable an estimate to be made of the size of the organ but it will differentiate between a retro-peritoneal and a pyloric or stomach tumour, and will show the relation of the tumour to the stomach cavity. For instance, in a case which I saw recently I thought the tumour from its size and position to be one of the body of the stomach, but on distension with air I found it to be pyloric; and another that I believed from palpation and percussion to be a growth involving the cardiac extremity I found to be a tumour of the centre of the stomach with a dilated cardiac portion sufficient to permit of a gastro-enterostomy being performed. In cancer of the head of the pancreas there are *usually* jaundice and a distended gall-bladder, and inflation will show the relation of the stomach to the tumour The bleeding in cancer of the stomach is usually shown as grumous vomit, seldom as a large hæmatemesis as in ulcer, and melæna is seldom found. The pain is more constant than in ulcer and not so distinct after food. It may be absent, but in one form or another is present in 90 per cent of cases and is usually very severe. On examining the stomach contents after a test meal the absence of free hydrochloric acid is very suggestive of cancer, as is the presence of free lactic acid, but the presence of free hydrochloric acid does not negative the existence of cancer. Loss of flesh occurs from the outset and cachexia supervenes at an earlier stage than in cancer elsewhere. It would seem almost incredible that cancer of the stomach may exist in a latent form and produce death by exhaustion without any of the characteristic symptoms, but I have seen a case of this kind in a man, 70 years of age, and others have reported similar cases Before a tumour is felt there may often be a difficulty in diagnosing between pernicious anæmia, tubercle, and cancer of the stomach, but when persistent indigestion comes on after 50 years of age for the first time it is very frequently due to cancer. At times carcinoma can only be diagnosed by the resistance present when the patient is deeply anæsthetised

---

[15] Indian Medical Gazette, August, 1885.

[16] La Presse Médicale, August 4th, 1897.

Prognosis.—As medical means can do nothing more than relieve the symptoms of cancer of the stomach, and as surgery holds out the only hope of relief or cure—moreover, *as the earlier these cases are* seen by the *surgeon* the greater is the probability of real good being done—it would seem to me that in every case where cancer of the stomach is suspected the question of surgical treatment should be considered at a much earlier period than is now the custom. It is unjust to the surgery of to day to dismiss the treatment of this terrible disease in one page, as is done by the writer of an article on the subject in a recently issued and much read work on medicine It is an important fact bearing on the future of cases operated on that out of 38 cases of cancer of the stomach collected by Dr. Perry and Dr Shaw in 18 per cent. there were no secondary deposits found in other organs. Moreover, McArdle collected 1342 cases of cancer of the stomach of which 802 were limited to the pylorus, and out of this number 496 were suitable for operation. Gussenbauer and Weinwaster, as a result of the examination of the register of 542 cases of cancer of the pylorus, state that in 41 per cent there was no metastasis of the disease to other organs, and that in 37 per cent. there were no adhesions, so that one may reasonably hope on this evidence to perform a radical operation in one case out of three or four cases of cancer of the stomach if surgical means be adopted sufficiently early. The wisdom of the radical treatment of cancer of the stomach is not yet admitted generally even by many skilful surgeons, to say nothing of the opinion of the profession at large; but I think that a careful study of the subject will show that cancer of the stomach, *quâ* cancer, is more favourable for radical treatment than cancer of the breast or of the tongue or of many other parts where *its removal* is undertaken with considerable success because it is undertaken early, and now that the technique of the radical operation is becoming more perfect I venture to predict that we shall in the future give our patients the chance of relief by operation more frequently and that the aid of surgery will be sought as soon as the disease is recognised. We must bear in mind the fact that every life saved is a life gained, so that if we only save 50 per cent. of cases by the radical operation it is well worth doing, since patients with cancer of the stomach can only at the best have a miserable and hopeless existence unless treated surgically.

Before considering the statistics of the various operations an analysis of cases in which the radical operation has been performed for the cure of cancer of the stomach by Professor Kocher, Professor Maydl, and Czerny will show that the prognosis is not so hopeless as is generally supposed.

The following are the results of operations for carcinoma of the stomach in the Berne Clinic by Professor Kocher.[17] The author has resected the pylorus in 57 cases, the mortality being only 8 7 per cent., otherwise over 50 of the cases recovered. Of these one, a woman, is still living 10 years after the operation, another five years, a third three years, and a fourth two years. Four other cases died from accidental causes or from other diseases after three years had elapsed. The results of pylorectomy for malignant disease from the Heidelburg Clinic[18] up to January, 1898, show 24 operations with nine deaths, which *gives* a mortality of 37 5 per cent. Life was prolonged for three months, seven months, nine months, 10 months, 11 months, 15 months, 20 months, and 31 months respectively in those which recovered, and in four cases the patients were alive at nine months and 11 months and at three and a half years and seven years after operation.

Professor Maydl has published the results of 25 operations which he has performed for cancer of the stomach. For the sake of comparison he divides these 25 cases into three groups The first group comprises cases in which the patients died from the effects of the operation either directly or indirectly. These were four in number. The second group includes those dismissed from the hospital as "cured," but in which within a short period thereafter a recurrence of the disease took place and death ensued. These were seven in number. The third group, which is the most important, comprising 14 cases, included those cases in which the patients still live This section he divides into sub-sections: (*a*) those patients who were living upwards of two years after operation, and (*b*) those patients who were alive less than two years after the operation. Of the first group four died—one from a sudden attack of gangrene in the right lower extremity, probably embolic from the tying of a vein, but this could not be confirmed as it occurred in a private patient and the friends declined to consent to a post-mortem examination. The other three died in two, three, and five days respectively after the operation from peritoneal *symptoms* and collapse with anæmia and exhaustion. The second group left the hospital in good health and apparently cured, but ere long had recurrence elsewhere and died. One of the seven cases may be looked upon as doubtful. This patient lived for 14 months after the operation and died from pleurisy with effusion, every other organ being found healthy at the necropsy Even the appetite was unimpaired up to the very end and no disease could be discovered in or near the stomach. The other six cases lived for 12 months, eight months, two months, 20 months, 14 months, and 12 months respectively after the operation, or *on an average for 11 3* months. Of the third group 14 are still alive. These were operated on on August 27th, 1890, on June 7th, 1893, on Jan. 27th, 1895, on March 1st, 1896, on March 20th, 1896, on Feb. 25th, 1897, on March 27th, 1897, on Jan. 30th, 1898, on Oct 29th, 1898, on Oct 31st, 1898, on Nov. 3rd, 1898, on Dec. 21st, 1898, on Jan. 4th, 1899, and on March 25th, 1899, respectively. If these be further sub-divided into two groups of over and under two years we get the patients who may be considered cured in the surgical sense of the term. Seven cases may be classed thus—eight years and eight and a half months, five years and 11 months, four years and three and a half months, three years and two months, three years and one and a half months, two years and two and a half months, and two years and one and a half months

In considering the percentages the above figures of Professor Maydl give 16 per cent. as the [illegible]rtion of those who die from the operation. In [illegible] while 56 per cent. live. It [illegible]

Berlin condemned this operation on account of the mortality, he having had 73·3 per cent. of deaths, which was certainly not encouraging; but these results far exceeded those obtained by the pioneer of the operation, Billroth, who had a mortality of only 45 per cent. Billroth's pupil, Mikulicz, reduced this mortality to 32 per cent., while other operators—Kronlein, for example—had only 25 per cent., Carl and Fantino 45 per cent., and now Maydl's mortality stands at 16 per cent. and Kocher's at 8·7 per cent. The prognosis is at present much more favourable than it was in the past. In order to still further lower the mortality it will be necessary that patients be placed in the hands of the surgeon earlier than has heretofore been the case.

SURGICAL TREATMENT.

The treatment of cancer of the stomach may be radical or palliative. Of the radical operation we must consider (1) pylorectomy, more or less extensive (partial gastrectomy); (2) almost complete gastrectomy; and (3) total gastrectomy. Of the palliative means there are: (1) gastrostomy; (2) Bernays' operation; (3) gastro-enterostomy; and (4) jejunostomy. As each operation requires careful consideration I must take them seriatim. The first procedure will in all cases thought suitable for operation consist of an exploratory abdominal section and on the condition which is found will depend the after treatment. In Czerny's clinic there were 24 exploratory operations for cancer, with a mortality of 25 per cent., and the duration of life after operation was usually less than five months. I have myself performed eight exploratory operations for cancer of the stomach, and finding enlarged glands or secondary deposits have at once closed the abdomen. All the cases recovered from the operation and lived for various periods.

Preparation.—The bowels should be cleared either by an aperient or an enema the night before the operation, and the stomach should be washed out an hour or two before if the patient be in a condition to bear it. As these patients bear shock badly it should, if possible, be prevented. The operating-room should have a temperature of 70°F. and the patient should be enveloped in cotton-wool, which may be conveniently carried out by a long-sleeved jacket and long stockings made of Gamgee tissue. These were suggested to me some years ago by a lady on whom I had operated and she made me the first suit of cotton-wool clothes. They can be made by any nurse in an hour or two at a cost of a few shillings. An artificially heated operating table is an advantage, and if a specially heated table be not at hand an oblong water cushion filled with hot water or a series of indiarubber water bottles placed under the blanket of the operating table will take its place. An injection of 10 minims of liquor strychniæ, B.P., given before the administration of the anæsthetic, supplemented by another injection if necessary during the operation, is useful. An infusion of saline solution may be required, as in the gastrotomy for foreign bodies performed in 1894 and mentioned in my first lecture. The apparatus for transfusion should therefore always be ready as it can be used by a colleague while the operation is proceeding, or the saline fluid may be steadily injected in good quantities into the subcutaneous tissue of the axilla, either by means of a large syringe or by an ordinary aspirator needle connected with an indiarubber tube and glass funnel which can be easily arranged by a nurse and used continuously for a little time. After operation the patient should be placed in a warm bed and surrounded by hot-water bottles, and I always order a pint of warm saline fluid with an ounce of brandy to be injected into the rectum immediately after the operation, the injection to be repeated if the pulse seems to indicate its necessity.

Pylorectomy.—Pylorectomy, or the removal of the pylorus and as much of the adjoining part of the stomach and duodenum as may be involved, is an operation that was first demonstrated to be feasible on dogs by Merrem in 1810, but the first operation of the kind on the human subject was performed by Péan in 1879 and the first successful one by Billroth in 1881. The operation has been much modified since it was first performed, it being then done by suturing the open end of the duodenum, after removing the disease, to the open end of the stomach and closing by sutures the remainder of the stomach opening not fixed to the bowel. In one operation of this kind that I reported before the Royal Medical and Chirurgical Society in 1891 contraction of the newly-made orifice ensued some months later, and in order to avoid a like accident I modified the operation by employing a bone bobbin around which to join the open ends of the stomach and duodenum by sutures, thus securing adequate patency of the new channel.

As time is a very important factor in any operation on the stomach the rapid procedure of making the junction by means of a Murphy's button has found favour with many operators, though Professor Kocher speaks against its use. A further modification, and one which is now frequently followed, is to close completely both the stomach and duodenal openings either by a purse-string suture or by a double row of stitches, and then to connect the bowel to the stomach, making either a gastro-duodenostomy or a gastro-jejunostomy, whichever may be thought most easy and expeditious at the time. This will depend very much on the amount of stomach that has to be removed in order to get away the whole of the disease, for if much stomach has to be removed the open end of the duodenum will be less easy to fix to the stomach than a free loop of the jejunum. This operation is the one favoured by Professor Kocher and in his hands it has proved very successful. He uses strong forceps in closing the lumen of the stomach and bowel instead of employing digital compression, and he uses silk exclusively as a suture. Doyen's method of *écrasement* is very expeditious.

The performance of the operation *en deux temps* was suggested by Tupolske in 1891. He first performed a gastro-enterostomy and then, when the patient had recovered, he removed the pylorus three months later, closing the openings in the stomach and bowel and leaving the gastro-enterostomy opening to continue the communication with the intestine. This method has been followed by Quenu, Czerny, Hahn, Franke, Kümmel, Barker, and Doyen. It may certainly be advantageous in some cases where the patient is much exhausted and unfit to bear the longer operation of pylorectomy, as after the gastro-enterostomy strength will be gained and later the larger operation may be borne. The gastro-enterostomy may, however, give so much relief that the patient cannot be always brought to see the necessity of a second operation until it is too late to perform a successful pylorectomy. Haberkant's[19] statistics show that where adhesions were extensive the mortality was 72·7 per cent., whereas where there were no adhesions the mortality was only 27·2 per cent. Guinard's thesis shows a comparison between the results of the various methods of operating. In 148 cases of pylorectomy with end-to-end anastomosis the deaths were 56, or 37·8 per cent; in 64 cases of pylorectomy with terminal and lateral anastomosis the deaths were 10, or 15·6 per cent.; in 54 cases of pylorectomy with lateral anastomosis the deaths were 24, or 44·4 per cent; in four cases of pylorectomy by invagination the deaths were four, or 100 per cent; and in three cases of pylorectomy in two stages there were no deaths.

TABLE XX.—*Cases of Pylorectomy or Partial Gastrectomy.*

	Source of report of cases.	No. of cases.	Recovered.	Died.
1.	Billroth.	19	8	11
2.	Guinard.	299	194	105
3.	Czerny.	29	18	11
4.	Kronlein.	24	19	5
5.	Carle.	14	11	3
6.	Mikulicz.	20	15	5
7.	Hartmann.	10	6	4
8.	Willmott Evans.	13	12	1
9	Morison.	5	5	0
10.	Kocher.	57	52	5
11.	Maydl.	25	21	4
12.	Roux.	12	9	3
13.	Tuffier.	9	6	3
14.	Lambotte.	5	4	1
15.	Van Kleef.	4	1	3
16.	Leeds Infirmary staff.	7	3	4
17.	Karg	4	4	0
18.	Gussenbauer.	13	7	6
19.	Mayo.	3	3	0
	Total	572	393	174*

* Equals a mortality of 30·4 per cent.

References—1. Archiv fur Klinische Chirurgie, xxxix, pp. 785 to 844. 2 Thèse de Paris, 97 98, No. 484. 3. Stendel· Archiv fur

---

[19] Archiv für Klinische Chirurgie, 1896, vol. li., p. 484.

Klinische Chirurgie, 1898, vol. lvii, p. 459. 4. Ibid., p. 449. 5. Ibid., vol. lvi, pp. 1 and 257. 6 Ibid., 1895, vol. li, p. 9 7. Terrier and Hartmann: Chirurgie de l'Estomac, Paris, 1899. 8. These are single cases collected from various sources and are not included in other series of cases 9 Transactions of the Royal Medical and Chirurgical Society, vol xxxii 10 Annales of Surgery, September, 1899. 11. Medical Press, Oct. 11th, 1899. 12. Douxième Congrès de Chirurgie, Paris, 1898, p 290. 13. Ibid., p. 311 14 Annales de la Société Médicale d'Anvers, January, 1898. 15. Med. Tijdsch voor Geneesk, 1893, No. 6. 16. Hospital Reports, Leeds Infirmary 1885 to 1899 17. Twenty-seventh German Congress of Surgery, 1898 18. Ibid. 19. Journal of the American Medical Association, 1898, vol. xxxi, p. 325.

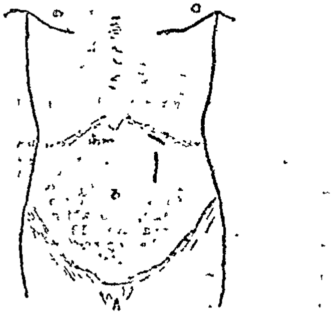
If the cardiac end of the stomach be involved the question of resection will be considered, and if decided on it may be carried out in the manner described by Levy. It presents two special difficulties—(1) danger to both pneumogastric nerves and (2) the difficulty of isolating the cardiac end of the œsophagus and fixing it to the stomach that is left. Levy[20] describes an operation devised by him, with the help of Fehlusen, for the resection of the cardiac end of the stomach. A rectangular incision is made through the abdominal wall, one limb running in the middle line from the ensiform appendage to the umbilicus, the other carried from the lower end of this through the whole breadth of the rectus muscle on the right side. The left half of the smaller omentum is separated from the stomach and the left coronary artery and vein are divided between two ligatures. After separation of the cardiac end of the stomach from the structures behind, the lower part of the œsophagus is isolated by dividing the serous membrane round this tube with scissors, exposing the anterior part of the œsophageal foramen in the diaphragm, and tying all visible vessels, mostly branches of the phrenic artery, at this part. At this stage there is a risk of wounding the pleura. The intestine being carefully protected by gauze the posterior wall of the œsophagus beyond the disease is stitched to a healthy portion of the stomach, and then the cardiac end of the stomach is divided by a succession of strokes, the cut edges of the anterior and posterior walls being stitched together after each stroke of the knife or scissors beyond the orifice left for the attachment of the œsophagus. This tube is now divided in a similar way, each portion as it is cut being stitched to the opening in the stomach. If the œsophagus be not fixed before it is completely divided it will retract and disappear above the foramen. The sutures are not carried parallel with the long axis of the œsophagus, but obliquely through its coats.

Gastrostomy.—If the disease has advanced so as to produce stenosis it will be beyond successful removal and gastrostomy should be performed, as in stricture of the œsophagus, in order to prevent the patient dying from starvation. Although Sédillot performed the first gastrostomy in November, 1849, the first successful operation was done by Mr. Sydney Jones on March 23rd, 1874. To Mr. H. G. Howse must be given the credit of greatly improving the operation by operating *en deux temps* and by splitting the fibres of the rectus so as to get a modified sphincter. The operation, however, has been, and is even yet, I fear, with many physicians still looked on as such a formidable procedure that even where it is strongly indicated the medical attendant frequently views it with so much disfavour as to lead him to discountenance its performance and to trust to sustaining existence in irremediable dysphagia by nutrient enemata Death from starvation under such circumstances is, however, one of the most terrible experiences both to the patient and his friends.

Why has the operation of gastrostomy acquired this ill repute? In the first place because it was, and even yet is, as a rule, customary to defer it until the sufferer is so reduced by starvation and so enfeebled as to be unable to withstand the shock of any operative procedure. Even if he does not die from shock, his healing powers are so impaired as to lead to failure in union and then to death from wound complications; or his assimilative powers are so impoverished that even if the operation be immediately successful death ensues from exhaustion. In the second place, where a direct opening is made into the stomach the fistula in many cases speedily enlarges and becomes patulous, leading to leakage of food and of irritating gastric secretion, so that the skin of the abdomen tends to become excoriated and the prolongation of life is attended with considerable discomfort. Do these conditions still apply? I think I shall be able to show that if the operation be performed sufficiently early, and if it be done according to the best methods, it will be found that gastrostomy may be included among the most useful and beneficent of the palliative operations which the surgeon is called upon to perform. When abdominal section was attended with a high rate of mortality it was only natural that delay should occur in advising operation; but if it can be shown that early operation is not accompanied by mortality or that the mortality-rate is only a slight one, due to accidental or unforeseen complications, it will be justifiable to perform gastrostomy early, knowing that the small opening will close voluntarily if the cause of the dysphagia should disappear or be cured by treatment.

The operation which I am accustomed to perform is very simple and only occupies a few minutes; it is a modification of the Ssabanejews-Franks method, but it differs in several details. A vertical incision of about one and a half inches is made over the outer third of the left rectus abdominis, commencing three-quarters of an inch below the costal margin; the fibres of the rectus are separated, but not divided, to the extent of the incision and the posterior part of the rectus sheath and peritoneum are divided together, the opening being an inch in length. A portion of the cardiac end of the stomach is then brought up through the wound and held forward by an assistant until four sutures are inserted into the base of the cone by means of a curved intestinal needle, so as to fix the visceral peritoneum of the stomach to the edges of the parietal peritoneum. A transverse incision of half an inch is then made through the skin, one inch above the upper end of the first cut, and by means of a blunt instrument, such as the handle of a scalpel, the skin is undermined so as to connect the two openings beneath a bridge of skin and subcutaneous tissue. A closed pair of pressure forceps is introduced through the upper incision as far as the projecting part of the stomach *and made to grasp the most prominent part, which it draws* up to and beyond the surface of the second opening, where it is retained by means of two hare-lip pins. It should just fill the opening and should require no sutures. The lower opening is now closed by two or three silkworm gut sutures or by a continuous stitch and the edges are dried and covered with collodion and gauze. If needful the stomach can be opened at once by a tenotomy knife introduced between the pins, but if possible the opening should be deferred for 24 hours, when a barrier of lymph will have been thrown out. After opening the stomach a soft catheter, from a No. 8 to No. 12, is inserted, to which a piece of tubing is fixed and by means of a funnel the patient can at once be fed with warm milk and egg or whatever liquid may be thought desirable. The catheter may be left in position for a few days, after which I find that it is easy to insert it whenever a meal is required. The annexed diagrams (Figs. 7, 8, and 9) will demonstrate the steps of the operation better than words and it can be done almost more quickly than it can be described. If the patient is much exhausted, an anæsthetic may be dispensed with and cocaine employed, as the only pain experienced is caused by the skin incisions. I have performed this operation in patients from one year of

FIG. 7.



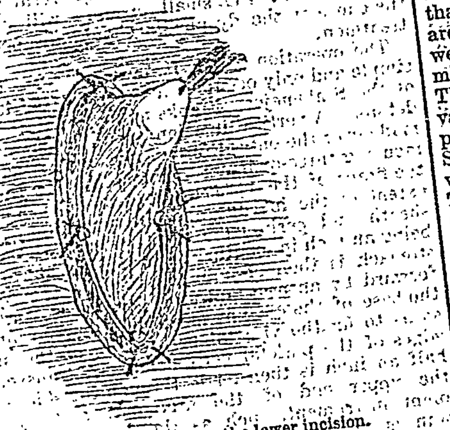
Showing the position of the two incisions.

---

[20] Centralblatt für Chirurgie, No. 31, 1894.

age to 86 years of age and with most satisfactory results.
Little or no shock is experienced, as although the peritoneum
is opened there is neither exposure of viscera nor handling of
any organ except the portion of stomach to be fixed, and I
have never known peritonitis to follow. Where the opera-
tion is not deferred until "too late" death should not occur
except from some accidental complication; for instance, I

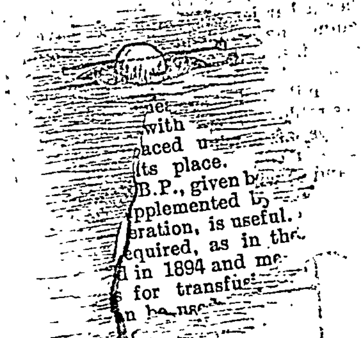
FIG. 8.



The stomach drawn out through the lower incision.

lost a patient at the end of the first week after operation
from the unusual occurrence of an abscess caused by sup-
purating cancerous glands bursting into the trachea and
flooding the bronchial tubes with pus.
Even after gastrostomy for malignant stricture of the
œsophagus I have seen as much as a stone and a half
gained in weight. In one case in which I performed gas-
trostomy three years ago for what I supposed to be a

FIG. 9.



...ne
with
paced u
its place.
B.P., given b
pplemented b
ration, is useful.
equired, as in the
in 1894 and me
for transfus
n be used

The stomach fixed by means of hair-lip pins in the upper incision. The lower incision has been closed.

and
and u
patien ant stricture the patient gained his health and weight
hot-water and some time afterwards he regained the power
fluid with an little fluid, not sufficient, however, to support
immediately after thkes use of his gastrostomy opening for
if the pulse seems to indias a mere dimple to represent the
Pylorectomy.—Pylorectomy, or o which he inserts without
and as much of the adjoining part of catheter. There is
denum as may be involved, is an operand even after so
demonstrated to be feasible on dogs by Merlead or gastric
the first operation of the kind on the human subje wear any
formed by Péan in 1879 and the first successful one ocating,
roth in 1881. The operation has been much modified of the
it was first performed, it being then done by suturinptible
open end of the duodenum, after removing the disease, to the
open end of the stomach and closing by sutures the re-
mainder of the stomach opening not fixed to the hav
In one operation of this kind that I reported befo
Royal Medical and Chirurgical Society in 1891 contracene-
the newly-made orifice ensued some months later, rough
order to avoid a like accident I modified the operaby, the
employing a bone bobbin around which to join the owith the
thus enter the

stomach by blowing it through the tube, or it may be
aspirated into the stomach by the patient's sudden respi-
ratory efforts. Mastication of food as a preliminary step to
its introduction into the stomach satisfies, at least in part,
the sense of hunger which is not always accomplished
even by liberal exclusive gastric feeding through the fistula.
It is quite impossible in the time at my disposal to describe
all the modifications of the operation of gastrostomy, nor is
it here necessary to do so, as they can be found in the text-
books. I have performed the operation in various ways, but
have had such success by the method which I have described
that I can see no need to change it. The special methods
are: (1) Greig Smith's, (2) Frank's, (3) Witzel's, (4) Mar-
wedel's, (5) Kader's, (6) Paul's, (7) Jessett's, (8) my own
modification of Ssabanejew-Frank's, and (9) Hartmann's, &c.
The accompanying diagrams exhibited illustrate the chief
varieties better than words can do. I have said that I
prefer the method to which I am accustomed, but Greig
Smith's method, Frank's method, Witzel's method, Mar-
wedel's method, and Kader's method, all give good results.
The obturators suggested by Mr. Harrison Cripps, Mr. J. M.
Cotterill, and Mr. Bond, should not be required unless the
gastrostomy opening be too large and should leak. In a case
of cancer of the œsophagus on which I performed the opera-
tion suggested by the late Mr. Greig Smith my patient lived
for 11 months in comparative comfort, during the whole
of which time he never took a particle of food except by the
artificial opening.

TABLE XXI.—*Statistics of Gastrostomy.*

Source of report of cases.	No. of cases.	Recovered.	Died.
1. Zerzas (up to 1875)	28	—	28
2. Lagrange (up to 1884) ...	163	30	133
3. Gross (up to 1884)	207	146	61
4. Powes	96	70	26
5. Mikulicz:			
Non-malignant...	10	10	—
Malignant	34	27	7
6. Rommers:			
Non-malignant...	18	17	1
Malignant	83	66	1
7. From hospitals in London	77	30	4
8. Leeds General Infirmary ...	36	17	1
9. Mayo Robson (private) ...	5	5	
10. Loison	1	1	
11. Dubourg...	1	1	
12. Trofimoff	3	2	
13. McVicar	1	1	
14. Maylard	2	2	—
15. Forgue	4	4	—

References.—1. Archiv für Klinische Chirurgie, 1885, vol. xxxii.,
p. 200. 2. Revue de Chirurgie, vol. v., p. 549. 3. Transactions of the
American Surgical Association, ii., 363. 4. International Journal of
Surgery, November, 1891. 5. Archiv für Klinische Chirurgie, 1896,
vol. ii., p. 9. 6. Centralblatt für Chirurgie, 1898, p. 1134. 7. From
hospital reports. 8. From hospital reports. 9. These cases are here re-
ported for the first time. 10. Bulletin de la Société de Chirurgie, 1898,
p. 439. 11. Société de Médecine de Bordeaux, July 15th, 1898. 12.
Annales Russes de Chirurgie, 1898, vol. iii., part 5. 13. The Lancet,
Nov. 26th, 1898, p. 1406. 14. The Lancet, August 20th, 1898, p. 475.
15. Presse Médicale, 1898, p. 145.

A comparison of the results of gastrostomy in the fore
going table shows that it is impossible to state exactly the
death-rate of the operation, for practically in all the earlier
cases the patients died and in nearly all the latter cases
when performed sufficiently early they recovered. I do not
think that it would be an exaggeration to say that if cases
of incurable stricture of the œsophagus or of obstructive
cancer of the cardiac end of the stomach were handed
over to the surgeon at a sufficiently early stage the
mortality would not exceed from 5 per cent. to 10 per cent.
If the pylorus be extensively involved there will be dilata-
tion of the stomach, and if the patient be not in a fit
ondition to bear its removal, or if there be involvement of
lands or secondary deposits, a palliative operation only can
be performed. I do not think that Bernays's operation of
opening the stomach and curetting the pylorus in order to
make a larger channel is worth considering further, as it has

already been proved to give less relief than other operations, especially gastro enterostomy, and to be attended with danger of hæmorrhage and perforation

Jejunostomy —Should the disease be so extensive as not to permit gastro-enterostomy the operation of jejunostomy may be considered. I have performed it twice but as the operation at best can only prolong life for a very short time it is a procedure that cannot be strongly advocated The following case, in which there was extensive cancer of the stomach with inability to retain food, is a good example Jejunostomy was performed, the result being a recovery from the operation, but death from the progress of the disease at the end of two months

A woman, aged 58 years, was sent to me on June 19th, 1891, by Mr A A Hamilton of Crowle, on account of an abdominal tumour accompanied by persistent vomiting and rapid loss of flesh The patient was worn almost to a skeleton Occupying the left hypochondrium and reaching into the epigastrium was a hard nodular tumour, moving up and down with respiration, the skin being quite moveable over it A tumour could also be felt beneath the liver, which was diagnosed as a distended gall-bladder On July 1st, 1891, the A C E mixture being the anæsthetic and the skin of the abdomen having been asepticised, an incision of three inches in length was made in the linea alba above the umbilicus, exposing the tumour, which was found to be occupying the whole of the anterior wall of the stomach and to be incapable of removal There was also a distended gall-bladder containing gall stones The jejunum was then found at its fixed point on the left of the spine and traced for about six inches downwards, at which spot a knuckle of the bowel was brought forward and fixed by loop sutures in the way suggested for gastrostomy by the late Mr Greig Smith A loop of silver wire was first inserted into the convex surface of the bowel at a spot where it would have to be opened The rest of the parietal incision was brought together by interrupted silkworm gut sutures in the ordinary way On the following day the patient felt quite comfortable and was fed by the rectum entirely This was continued until the 7th, when a small opening was made in the exposed bowel with a tenotomy knife and a soft catheter was passed in, through which the patient was fed with peptonised food, of which she was able to take two or three pints a day She gained flesh and was able to return home on the 27th Her chief trouble was that the skin around the artificial opening became irritable but through the opening into the duodenum she continued to be able to take a fair quanity of food, which was well retained The original disease continued to advance and after two months she died from exhaustion No necropsy could be obtained

With regard to the operation of jejunostomy my experience would lead me to conclude that life can undoubtedly be lengthened by it in cases of cancer of the stomach too extensive for removal and where food cannot be taken; but it seems to me that it ought to be clearly stated beforehand to the patient that relief can only be hoped for and that existence under the circumstances may not be particularly comfortable, although life may actually be prolonged for weeks or even for months An opening into the jejunum for feeding purposes is quite different from an opening into the stomach and is not nearly so satisfactory, as the edges of the fistula tend to become irritated by bile and intestinal secretion producing considerable discomfort Maydl has proposed a modification of the operation of jejunostomy by cutting across the jejunum, suturing the proximal end into a slit in the side of the distal portion and then fixing the cut edges of the distal end to the skin The operation can also be done by the same method that I have advocated for gastrostomy In my next jejunostomy I propose to perform the operation through the rectus and to do it in every respect as in my modified operation for gastrostomy so as to obtain a small opening with a species of sphincter, in this way the mortality ought to be very small, as the operation could be performed in a few minutes and the retention of food should be complete

Gastro enterostomy —Of all the means for giving relief in obstruction due to cancer of the pylorus that cannot be removed, as also in many cases of simple stricture gastro enterostomy is an operation which is acknowledged by the greater number of surgeons as the most satisfactory procedure Some surgeons advocate this operation to the exclusion of all others and seem to justify their conclusions by showing good results both as to immediate safety and the length of time that the patients are relieved, but it must not be forgotten that gastro-enterostomy is merely palliative and therefore cannot be considered on the same level with operations that may prove curative by the complete removal of the disease In my last lecture I considered the operation of gastro enterostomy very fully in connexion with dilatation of the stomach from pyloric obstruction It is only necessary here, therefore, to refer to the results of gastro enterostomy for cancer and especially as to the probable prolongation of life by the operation

TABLE XXII —*Statistics of Jejunostomy*

	Name of surgeon operating or compiling cases	No of cases	Recovered	Died
1	Mayo Robson	2	1	1
2	*Ogston*	1	1	—
3	Pearce Gould	1	—	1
4	Golding-Bird	1	—	1
5	Terrier	1	1	—
6	Henle	1	1	—
7	Karewski	1	—	1
8	Maylard	1	1	—
	Total	9	5	4*

* Equals a mortality of 44 4 per cent.

References —1 Transactions of the Royal Medical and Chirurgical Society, 1892 2, 3 and 4 Greig Smith Abdominal Surgery 1896, p 550 5 THE LANCET Nov 26th 1898 p 1440 6 Allgemeine Medicinische Central Zeitung, 1897 No 58 7 Berliner Klinische Wochenschrift, 1896, No 60 8 THE LANCET Dec 4th 1897 p 1454

The mortality of gastro enterostomy is much greater in cancer than in simple ulcer—e g, Haberkant gives it in cancer as 43 6 per cent and in simple ulcer as 25 5 per cent Taking all collected cases together from reports by Mikulicz, Doyen, Carle D Ewald, Czerny, Chlumskiji, Haberkant, and others, I find that the mortality is 38 3 per cent It is rare for a patient with cancer to survive the operation for a year, and the average duration is probably only for from four to six months Later statistics are much better than the earlier ones and the results in cases operated on in time are really good The reason of the high mortality is undoubtedly the low state of the patient when placed under the care of the surgeon

Total gastrectomy —If the greater part of the stomach be invaded by growth and a careful examination of the adjoining parts reveals no secondary growths in glands or adjoining organs, complete or almost complete gastrectomy may be performed Although total gastrectomy had been proved possible in animals the first attempt to remove the entire stomach in the human subject was made by Connor in Cincinnati in 1883 but the patient died on the table, and it remained for Schlatter of Zurich to perform the first successful resection of the entire stomach for cancer in a woman aged 56 years on Sept 6th, 1897 After removing the organ Schlatter fixed the œsophagus to a loop of small bowel by sutures and closed the cut end of the duodenum Seven months after the operation the patient was well and had gained 6½ kilogrammes in weight, though she died at the end of 14 months from the time of operation The second gastrectomy was performed by Ch Brooke Brigham on Feb 24th, 1898, in a woman aged 66 years, the œsophagus being fixed to the duodenum by means of a Murphy's button In April the patient was well and had gained 6 lb in weight in the previous week, but she was still below her weight at the time of operation

The subjoined list (see Table XXIII) compiled by Mr Willmott Evans I believe represents all the published cases of complete gastrectomy up to the end of 1899

If the growth be limited to the body of the stomach partial gastrectomy may be done by a free circular or elliptical incision, the opening being closed by a continuous chromicised gut suture to the mucous margin and interrupted Lembert's sutures to the peritoneal coat, all bleeding points being previously caught up and ligatured

Partial gastrectomy —In many cases both of sarcoma and cancer the disease has advanced well into the body of the stomach and to get it away an extensive partial gastrectomy has to be performed In Langenbuch's case in 1894 he excised seven eighths of the stomach and sutured the pylorus to the small cardiac portion of stomach remaining, the patient making a good recovery. This operation has been repeated quite a number of times by others and with considerable success.

TABLE XXIII.—*Cases of Complete Gastrectomy for Malignant Disease.*

Name of surgeon operating or compiling cases	No. of cases.	Recovered.	Died.	Remarks.
1. Connor.	1	—	1	Died on table.
2. Schlatter.	1	1	—	Lived for 14 months.
3. Brigham.	1	1	—	Alive and well seven weeks later.
4. Macdonald.	1	1	—	Alive and well six weeks later.
5. Richardson.	1	1	—	Alive and well "several weeks later."
6. Chavasse.	1	—	1	—
7. Koble.	1	—	1	Died on table before œsophagus was divided.
8. Bernays.	1	—	1	Lived for 36 hours.
Total	8	4	4*	—

* Equals a mortality of 50 per cent.

References.—1. Medical News, 1884, vol. ii., p. 578. 2. Correspondenzblatt fur Schweizerische Aerzte, Dec. 1st, 1897. 3. Boston Medical and Surgical Journal, 1898, vol. i., p. 415. 4. Journal of the American Medical Association, 1898, vol. ii., p. 538. 5. New York Medical Journal, 1898, vol. ii., p. 35 6. Transactions of the Pathological Society of London, vol. l. 7. New York Medical Journal, 1898, vol. ii., p. 125. 8. Journal of the American Medical Association, 1898, vol. i., p. 341.

The following is a list of cases of almost complete gastrectomy in which at least three-fourths of the stomach has been removed for cancer:—

TABLE XXIV.—*Cases of almost Complete Gastrectomy in which at least Three-quarters of the Organ was Removed.*

Name of surgeon operating or compiling cases.	No. of cases.	Recovered.	Died.	Remarks.
1. Maydl.	1	1	—	One inch left at cardia; the patient was alive six hours later.
2. Baldy.	1	—	1	Lived for 36 hours.
3. Langenbuch.	1	—	1	Lived for six days.
4. ,,	1	1	—	—
5. Schuchardt.	1	1	—	Only three finger's breadths left at cardia; the patient lived for two and a half years.
6. Ewald.	1	—	1	—
7. Hartmann.	1	1	—	Three-quarters removed.
8. Lambotte.	1	1	—	Four-fifths removed.
9. Kolaczek.	1	—	1	Three-quarters removed.
10. ,,	1	1	—	Seven-eighths removed.
11. Breitung.	1	1	—	One centimetre left at each end.
12. Tuffier.	1	1	—	Only a little left at cardia; the patient died four months later.
13. Morten.	1	1	—	—
14. Reberay Sans.	1	1	—	Two inches of posterior wall at pylorus left.
Total	14	10	4*	—

* Equals a mortality of 28 5 per cent.

References—1. Wiener Medicinische Wochenschrift, 1896, p 1565. 2. Journal of the American Medical Association, 1898, vol i., p. 523. 3. Deutsche Medicinische Wochenschrift, 1894, p. 968. 4. Ibid. 5. Beiträge zur Klinischen Chirurgie, 1597, vol. xix., p. 758. 6 Berliner Klinische Wochenschrift, 1897, p 793. 7. Centralblatt für Chirurgie, 1898, p. 204. 8. Annales de la Société Belge de Chirurgie, Feb. 15th, 1896. 9. Allgemeine Medicinische Central-Zeitung, July 23rd, 1898. 10. Ibid. 11. Twenty-seventh German Congress of Surgery, 1898. 12. Bulletin de la Société Chirurgique, 1898, p. 245. 13. Brit. Med. Jour., 1899, p. 1083. 14. Rivista de Medicina, May 15th, 1899.

It seems advisable in these cases to close the gastric openings and establish a gastro-enterostomy with the remaining portion of the stomach, but the technique will depend on the amount of stomach removed and the state of the parts left: for instance, in Schuchardt's case the duodenum was united to the small portion of the cardiac end of the stomach, of the width of two or three fingers, that was left and the patient survived two and a half years and died from cancer of the pleura. It is interesting to note that in this case the portion of stomach left had, with the help of the duodenum, formed a digestive cavity with a capacity of 500 cubic centimetres and that the patient could digest ordinary food.[21] Mr. Charles A. Morton of Clifton read the notes of a successful case of resection of three-quarters of the stomach for malignant disease at the meeting of the British Medical Association on May 5th, 1889. The patient was a man, aged 39 years, who complained that for eight months he had had pain in the epigastrium and in the back after meals. He had vomited only occasionally. The patient was extremely emaciated but was able to take a little fish. On the left side of the abdomen above the umbilicus was a large, hard, irregular mass which varied in position and no certain diagnosis was formed. An incision of four inches in length was made through the abdominal wall and the growth was found to involve the greater part of the stomach, only the cardiac end being free. There were no enlarged glands or secondary growths. The omentum was ligatured and the stomach was turned upwards; then the gastro-hepatic omentum was tied and divided. The stomach was opened and a sponge placed in the œsophagus. The growth was then removed with the greater part of the stomach and the ends were closed by Lembert's suture. The duodenum was united to a fresh opening in the stomach by means of a Murphy's button. Drainage-tubes were left in temporarily. The patient recovered completely, but the button had not been noticed to pass. The growth was sarcoma. A case of extensive resection of the stomach for sarcoma in a woman, aged 52 years, is reported by Dr. Cantwell[22] of Texas, where after the excision of the growth the walls of the stomach were united by mattress sutures. The tumour weighed 12 lb. The patient made a good recovery, but a report eight months later said that there was a return of the growth. My colleague Mr. E. Ward has done three partial gastrectomies. In two of the cases the patients succumbed to the operation, but the first patient doubled her weight in three months.

In concluding my appointed task as Hunterian Professor I venture to hope that I have succeeded in demonstrating what an important relation surgery bears to diseases of the stomach, both simple and malignant. Fortunately, this class of disease is one where the improvement is readily seen both by the patient and his medical adviser, not only in the disappearance of painful and disabling symptoms, but by gain in weight. Hence a successful operation on a diseased stomach is one that yields peculiar satisfaction all round, and I can without hesitation say that I have had more expressions of gratitude from patients operated upon for diseases of the stomach than from any other class. I have tried to prove my points, not only by the relation of some of my own cases, but by statistical evidence gathered from all sources, and in the latter my work has been lightened by the kind assistance of Mr. Willmott Evans. I know how wearisome to the average reader is the study of tables of statistics, and I must apologise for introducing them so freely in these lectures, but I venture to think that they will be found useful for reference and to show, not only the actual risk of special operation, but also how great is the improvement that is taking place in the results of stomach operations generally.

I am proud to be able to say that my last 32 operations on the stomach in my private practice have all recovered, and I can see no reason why the success in this branch of surgery should not be as great as in the surgery of the gall-bladder, which now holds a very different position to what it did when I gave my first paper on the subject before the Clinical Society of London in 1885, nay, even to which it held when

---

[21] Beiträge zur Klinischen Chirurgie, 1897, vol. xix., p. 753.

[22] Annals of Surgery, 1899.

I lectured from this chair on diseases of the gall-bladder and bile-ducts in 1897.[23] In order, however, that surgery may attain to its maximum amount of success we must ask our medical colleagues for earlier diagnoses and earlier surgical consultation, so that if the case is one that can only be cured or relieved by an operation it may be performed before the recuperative powers have been lost. Then, and only then, shall we attain the ideal.

The Lettsomian Lectures

ON

PRACTICAL OBSERVATIONS ON CANCER OF THE BREAST.

Delivered before the Medical Society of London

BY SIR WILLIAM M. BANKS, LL.D.,
F.R.C.S. ENG.,

SURGEON TO THE LIVERPOOL ROYAL INFIRMARY; EMERITUS PROFESSOR OF ANATOMY, UNIVERSITY COLLEGE, LIVERPOOL

LECTURE II.[1]

Delivered on March 19th.

SOME POPULAR ERRORS IN DIAGNOSIS.

MR PRESIDENT AND GENTLEMEN,—There are some delusions about cancer of the breast in which almost the entire public still have faith, as have, I regret to say, not a few medical men. They are partly the result of text-book statements not properly explained and partly the result of popular tradition. They are difficult to eradicate because there is just that small amount of truth in them which makes it possible to argue about them. But they are very deadly and dangerous delusions because they cause loss of time, and, as we saw at the last lecture, that is destructive of the only chance of cure which science offers—viz., early operation. I would reckon among them errors about heredity, about pain, about cachexia, and about nipple retraction.

Error about heredity.—This question we have already discussed and need not further refer to, except to repeat that the absence of any cancerous taint among relatives is to a woman a very strong inducement to say nothing about any suspicious growth she may feel in her breast, because she comforts herself with the idea that it cannot be cancer as such a thing was never known in her family.

Error about pain.—This error is a most serious one. A few internal cancers, such as those of the liver and lungs, are sometimes almost painless in their whole course, but the termination of all external cancers, at all events, is invariably accompanied by severe suffering. These dreadful cases appeal so distressingly to the minds of women that they always associate pain with cancer. But unfortunately there are no neoplasms which produce less pain in their early stages than cancer. As the female mind, then, invariably associates the presence of pain with cancer, so its absence means to the patient that there is no cancer. If she has no pain in the lump and never heard of the disease among her relatives she is very unwilling to tell her medical man what she has in her breast. This remarkable absence of early pain is regarded as all the more of good omen by reason of the fact that in a large proportion of cases the patient discovers the lump in her breast by accident. Men do not, as a rule, wash their breasts very much, but women do, and certainly the most frequent way in which the patient tells the story of the discovery of her enemy is that it occurred as she passed her hand over her breast while washing So far from regarding pain as a sign of cancer, when a patient comes to tell me that she has detected something abnormal in her breast and that it is very painful, I am always glad to express my pleasure at hearing this statement, inasmuch as the disease is then probably not malignant. Pain in certain cases is by no means an evil.

Error about cachexia.—The error about cachexia is chiefly made by medical men. Often after examining a patient with some medical friend I have been struck by his remarking: "Well, but look at her ruddy colour and healthy aspect. There is no cancerous cachexia there." As in the case of pain, we have here an old superstition, a deeply-rooted popular belief to the effect that a patient who has cancer must have a pallid, emaciated, and haggard appearance. When fœtid discharge and agonising pain and sleepless nights and mental distress and absorption of septic products have done their work, then it is true that the unfortunate patient does present the appearance of a cachexia, but certainly not at the beginning of her disease. We have already noted that the victims of cancer are usually well-nourished persons, often with a fine healthy colour in their cheeks. Many a time I have pointed out to students in the out-patient room some jolly-looking, ruddy-faced man, with hair just turning grey, a big comforter up to his nose and a tuft of cotton-wadding sticking out of one ear, and I have said: "That man has cancer of the tongue." In cancer of the external parts cachexia is practically of no aid diagnostically, because in its early stages there is none, while in the later stages the growth is apparent. But I admit that in certain forms of intestinal and other internal cancers, where the symptoms are very obscure, the facts that the patient has lost his ruddy colour and has become pale and waxy, that his aspect is pinched, and that he has lost flesh and shrunk in his clothes—in short, the existence of cachexia—are important points.

Nipple retraction and skin adhesion.—Any error with regard to these can only be made by the practitioner and not by the patient, Perhaps the majority of text-books have hitherto somewhat misled the student on these points. It has been given out too broadly that retraction of the nipple is a sign of carcinoma, while the statement has not been sufficiently qualified by clearly indicating to the tyro that the sign is only of the least value when the disease happens to be situated immediately beneath the nipple. If the tumour has its site at any distance from the central point then retraction naturally does not occur. To persons thoroughly conversant with the matter it seems strange that it should be necessary to point out to anyone that the central point of the mamma can only be interfered with by disease that underlies that central point. As an actual fact, however, I know that the mere presence or absence of nipple retraction, without reference at all to the position of the cancerous mass, is too often appealed to by young practitioners. But if the absence of nipple retraction is no diagnostic sign in cases where the disease is situated away from the centre of the gland, it is, on the other hand, practically pathognomonic when it lies beneath it.

As we all know, adhesion of the skin is a very grave indication of a sub-lying cancer. It does not occur with any other tumour, except with an inflammatory swelling of the nature of an abscess. But there is a different appearance in the skin in the two cases. In the inflammatory adhesion the skin is fairly smooth over the abscess or whatever of an inflammatory nature underlies it. But over a carcinoma, if you try to pinch the skin up between the finger and thumb, immediately a number of fine points appear which are the hair follicles caught and tucked down by the cancer. It is exactly like the leather of a saddle, insomuch that I have always demonstrated it to students under the name of "pigskin." I regard this "pigskin" appearance as almost certainly indicative of subjacent carcinoma.

WHAT ARE THE CONDITIONS WHICH MOST CLOSELY SIMULATE MAMMARY CANCER?

Chronic mastitis.—To recount one's own mistakes is the most telling way of communicating information to others. I know that I have several times confounded a piece of chronic inflammatory induration with carcinoma. I can recall very clearly three cases. Curiously enough, the three patients were all married women between 35 and 40 years of age, comparatively spare in form and childless—a kind of person, by the way, who has always seemed to me more prone to chronic mammary induration than the stout, plethoric woman who has had a big family. When the condition becomes pronounced the whole breast comes to resemble a hard, flat cake. You can lift it off the pectoral muscle in a mass. Here and there throughout it are points of extra hardness, like knobs or bosses; one of these bigger than its fellows is the suspicious object. The question arises: Is that hard knob [illegible] of extra hard chronically indurated [illegible] as I mentioned in my last lecture, the statements of patients concerning the direct connexion of their cancerous growths with injury and the presence afterwards of slight pain or uneasiness at the point thereof have appeared to me to be worthy of more serious consideration than has been given to them and should not be dismissed at once as mere silly tales.

---

[23] THE LANCET, May 29th (p 1451), June 5th (p. 1525), and June 19th, 1897 (p 1666)

[1] Lecture I was published in THE LANCET of March 10th, 1900 Lecture III. will be delivered on April 2nd.

The principle of treatment of chronic mastitis by pressure, gentle friction, and the use of local remedies, such as used to be called "discutients," seems to be reasonable. I have a routine practice which is distinctly serviceable and which, I imagine, most practical surgeons employ also with variations. The patient is directed to bathe the breast for five minutes morning and evening with very hot water applied by means of a big cone-shaped sponge. Then there is rubbed into it mercurial ointment during one week and liniment of iodide of potassium with soap during the next week, the inunction being done with the greatest gentleness. After a while this treatment is apt to make the skin of the breast very tender and to produce crops of painful little pustules. It should be entirely left off and ointment of zinc should be smeared on until the skin irritation has subsided. Stays must be abandoned and the breast must be covered with a layer of cotton wadding. Pressure is applied by means of a broad elastic webbing bandage. The first turn is brought round under the armpits and fastened with a safety pin, and then the patient can pull on the remaining turns as they go down over the mamma as tightly as she can bear, fixing the bandage at the short ribs with another pin. The patient may take a moderate dose of iodide of potassium morning and evening, unless it proves very disagreeable to her; but after all it is without doubt in the local treatment that confidence is to be placed. Of course, I know that mercury and iodide of potassium are very old-fashioned remedies, but I still have belief in them and in their efficiency as "discutients" of chronic inflammatory indurations. But probably these simple views will not find favour with the practitioner of to-day for whom a new drug has to be provided once a week from the pill and capsule blast furnaces of America and Germany.

Only a generation ago the universal teaching was that an innocent or non-malignant tumour remained so always and never changed its character, while a cancerous or malignant one was so from its very earliest inception and never could be anything else. Surgeons have been compelled slowly to work themselves round to quite the opposite belief. It would almost seem with our present knowledge that with the exception of simple cysts and pure fibromata or myomata there is no neoplasm, however innocent in its commencement, which may not in time, perhaps after very many years, degenerate into malignancy. I have seen on two occasions even that most simple of all tumours, the lipoma, followed by what is called fat-sarcoma, requiring two or three operations of most extensive character for its extirpation.

Now, the degeneration of chronic interstitial mastitis into cancer is of course perfectly familiar to all operating surgeons. But I very much doubt if this knowledge is as thoroughly diffused throughout the profession as it ought to be, or rather I should say that I question whether medical men at large attach to it the immense importance which the matter deserves. A little while ago I said that I thought that attention might now be diverted from the devising of new operations for mammary cancer, for I believed that for the present they had in the majority of cases reached the limit of real use and that the whole energies of surgical teachers should be thrown into the propagation of the gospel of early diagnosis. For there is no more difficult case in the range of breast surgery than to know what to do with a breast, obviously the subject of chronic mastitis, in which among several very hard poin[illegible]re are one or two which are of such special [illegible] it is impossible to tell whether they have degenerated into [illegible] or not. My own practice is that if the preponderance, the [illegible] [illegible]derance, of evidence makes for nothing worse than chronic [illegible]s pure and simple, naturally the treatment above referred to [illegible] be at once put in practice, but even then the patient should be seen at regular intervals until all hardness is quite gone. For I have repeatedly seen the breast clear up from all induration, to the great delight of the patient, except at one spot, and there the cancerous limit had been reached and overpassed. When, on the other hand, the balance of probability is that the cancerous limit is being reached, even when to the touch no absolute certainty thereof is communicated, I have for many years practised and taught that removal of the breast is a justifiable proceeding. The way in which I have done it is by making a semilunar incision along the lower border of the mamma, dissecting up the skin and nipple, and laying them down again after the gland is removed, provided there is no sign that palpable carcinoma exists. How is this to be known? By cutting through any suspicious mass or nodule. I am quite sure that the section which an experienced surgeon makes with a knife through a fresh piece of carcinoma will enable him to give a far more decided and certain opinion than anything which the microscopist can give. Not that for a minute I would speak disparagingly of the value of microscopical examination. When it coincides with the naked eye view of the clinician so much the better, but when they differ I hold that the history of the tumour and the look and feel of the fresh section constitute the most trustworthy guide. An error may always be made by taking a microscopical section from a limited portion of the tumour where the process of growth is not actively going on. Moreover, there are inflammatory conditions of organs which so simulate in appearance certain malignant states that the ablest microscopist will admit himself unable to give a positive opinion about them. But the colour, the resistance to the touch, and the feel to the knife of a fresh mammary tumour section, however small that tumour may be, are the most certain guides of all as to its nature. With regard to the retention of the nipple and areola it must be remembered that they are to a woman the signs and symbols of a mammary gland which is a distinguishing feature of her sex. There are many women whose breasts when past middle life are so small and shrunken that but for the nipple and areola it would hardly be known that any breasts existed at all. I have an "impression" that chronic mastitis is more common in small breasts than in big ones, but it may well be said that this may arise simply from the disease being more easily detected in a small breast than in a big one. Still, having made a very great many naked-eye sections of cancerous breasts, the apparently sound gland tissue (away from the cancer) in a big, fat breast has rarely the tough hardness characteristic of a piece of chronically inflamed material. Referring again to the nipple and areola, if these be left to the patient she does not think so much of the loss of the gland itself. A man, similarly, will be quite content with a very wooden-nutmeg kind of testicle which is certainly useless functionally if only he be allowed to retain it in his scrotum as the badge of his sex. Assure the patient that her breast will not be materially disfigured and she will generally consent to anything to get rid of the haunting dread of that terror of her life—mammary cancer. But what if there should be more than mere mastitis? When the skin is being raised any suspicious point or points should be cut into, and if any one of these look cancerous then skin and nipple as well as the breast can be swept away too and the axilla cleared out, just as for an ordinary well-recognised case. A short time ago this very case happened to myself. Yet the patient's first shock of disappointment when she learnt what had been done was soon relieved by her satisfaction at feeling that she had been freed from her enemy. It is many years ago since I first proposed to the surgical profession that in every case of cancer where the breast was removed in the hope of ultimate freedom from disease the axillary glands should be removed as a necessary part of the operation. My argument was that it was impossible to tell whether they were involved or not, particularly in well-nourished persons. That argument has eventually prevailed over much opposition; and now to day I would desire to impress upon the profession that it is a right and proper thing in many cases to remove breasts the subjects of chronic mastitis even before cancer has been definitely diagnosed in them. The questions, and proper ones, at once arise, To what excesses may a doctrine like this not lead? What absurd and unnecessary surgery at the hands of the "enterprising surgeon" may not arise from this? Nay, may it not be a direct incitement to certain of the more needy class of surgeons to do operations for the sake of fees? I admit these possibilities, and yet I have such confidence in the good judgment and probity of the English surgeon beyond all other surgeons in the world that I believe yet the evil that may occur in this way will be far outcancelled by the saving of life affected by the removal of nascent [illegible] the a[illegible]. We know how absurdly overdone the removal of [illegible]ndix has been in some countries, until it became positively the subject of public merriment. And yet with all this misuse many lives have been saved by it, while the operation is meantime quietly finding its proper level and sphere of usefulness.

I have seen several cases of chronic mastitis in men and curiously enough they have all been in private practice. One of the things that, I think, produces it in them is the rubbing of braces and brace-buckles and these, of course, must be at once removed and a belt must be worn. The course of treatment above mentioned seems to be perfectly successful. One case of this nature occurred in the person of a healthy young man who was going abroad to a distant part of South America where he would be far from surgical assistance and that, too, if obtained, of a very poor order. Some few months before his departure he developed a chronic mastitis but did not take any notice of it as he had no pain from it. But very shortly before he was about to leave the swelling increased somewhat and he became very much alarmed in case anything dangerous should occur to him abroad in his out-of-the-way location. I told him that there was no time for any treatment and that the gland, which was a mere rudimentary and useless affair, could be removed with the certainty of a cure in a week. The removal was done by the semilunar incision, preserving *the skin, areola, and nipple so that no disfigurement resulted,* and he went away feeling quite happy in his mind.

At this stage the question naturally arises, If the transition from chronic interstitial mastitis into cancer is a thing the occurrence of which is admitted by all surgeons, can we guess in what proportion it occurs? Here it seems as if statistics were of no avail whatever. What attempts have been hitherto made have lost weight by reason of the fact that they have included all kinds of mastitic trouble. Now, my contention is that the mastitis out of which, or in which, carcinoma develops is of one kind and of one kind only—viz., the chronic interstitial mastitis which arises spontaneously about the middle period of life and has nothing to do with any previous inflammatory condition. Putting aside infantile and adolescent mammary abscess the only other acute inflammatory condition which arises in the breast of moment is milk abscess. It occurs in women during the active child-bearing period between the ages of 18 and 35 years When opened, drained, and cured all traces of inflammatory induration disappear in their sites. I have seen breasts the subjects of "rabbit warren" milk abscesses which I have literally cut in pieces which have healed so remarkably that the scars of them have been no great disfigurement, while the breast tissue has been as supple and soft as if nothing had been wrong with it. Again, in examining all kinds of female breasts for all sorts of trouble I have found the scars of incisions few and far between and of a very simple nature.

Mr. Bryant[4] says: "My own statistics tell me that out of my 360 cases of women who had borne children mastitis had occurred at some antecedent period in 80, but it is almost impossible to make out that the cancerous tumour originated at the seat of scar or induration. The tumour in the majority of cases appeared many years after the mastitis, even in one case 30 years." I cannot, therefore, agree with the statement copied from one book to another that acute milk abscesses leave behind them permanent indurations which degenerate into carcinoma or that the scars of incisions made for their relief are similarly dangerous. *Chronic interstitial mastitis* of the menopause—*voilà l'ennemi*

My friend and colleague Mr. F T. Paul has long studied this question and has an unrivalled collection of specimens illustrating it. It is from his stores that the most beautiful of the specimens which I shall show you to night have come and I hope that he will lay before the profession some day the results of his histological work. I would wish publicly to thank him for his courtesy and also my friend Dr. R. J. M. Buchanan (whose work on the Cancer Parasite will come into my next lecture) for the trouble which he has taken in arranging and preparing the lantern demonstration for to-night. Mr. Paul, like myself, while unable to fix a percentage believes most firmly that a much larger number of cases of chronic interstitial mastitis are allowed to drift into cancer than is commonly believed. The suggestion has been made and has been carried into practice by not a few surgeons that, where there is a doubt about the nature of a hard piece of chronic mastitis, the patient should be anæsthetised and that a piece of the tumour should be removed and subjected to microscopical examination. I have done this twice, but it does not seem to be a satisfactory proceeding, although theoretically it appears to be a very sensible thing to do. The truth is that what the patient dreads is chloroform and an operation of any kind. If the microscopist declares in due time that the disease is malignant then another chloroforming and another operation have to be faced. To everyone, and more especially to a woman, it is the prospect of a surgical proceeding that terrorises, and however much we may tell our patient that the removal of a small piece of her breast for examination is a mere trifle, to her it does not appear in that light, for she is no judge of the comparative severity of operations. In my first case I felt practically sure that the lump was cancerous, but the relatives were in doubt and would not allow removal until they were satisfied by the microscope that it was so. As the microscope did pronounce it cancerous the breast was duly removed and the patient had all the anxiety of the exploratory operation for nothing. In the second case the microscopic sections were so dubious in character that they were practically of no help and the diagnosis by the hand was just as good. It does not seem as if the exploratory examination will become popular. The best way is to tell the patient *and her friends the true state of the case* and the sources of doubt and to ask permission to proceed as you think fit on the strength of a naked-eye section made under an anæsthetic.

It is universally admitted that the essential feature of carcinoma consists in the escape of epithelium from the interior of the acini into the surrounding connective tissue and its subsequent proliferation there, this cancerous epithelium differing but slightly from the normal variety. It is clear that the ultimate reason for its proliferation must always be incomprehensible to us, involving as it does the principles of life and growth. Gland epithelium is always growing and always perishing and always being eaten up or discharged. So long as the balance between growth and waste is even there is health; when growth exceeds waste there is neoplastic disease. Apparently as soon as the epithelial cells escape from their normal habitat and get into the spaces that exist between the connective tissue fibres they increase at a great rate. Why? This is the crux of the whole question. Some hold that the irritation produced by parasitic bodies excites the growth of epithelium in ultimate alveoli or tubules and carries on the excitement when the epithelium has burst its bounds and has escaped into the cellular tissue.

In the *Journal of Pathology* of August, 1899, is detailed
very remarkable experiment by Dr. H. L. Lack. His view
that there is no necessity for such a view as a parasite and t
carcinoma is simply the result of the entrance of the *nor*
epithelium of the body by some means (probably traum
into the lymphatic spaces and its continued growth the
The peritoneum of a rabbit was opened, the ovaries wer
open, and the milky juice from the cut surfaces was al
to diffuse through the peritoneal cavity. An opinio
received from Professor J. McFadyean that the rabbi
developed cancer spontaneously in his experience.
normal epithelium cells from a healthy animal were
duced into its own lymphatics. The rabbit remain
for nearly a year, after which it became thin and we
suffered from dyspnœa. It was killed at the end
months. White, hard, round nodules were found
mesentery. Great masses of tumour-like tissue were
all about the thorax and abdomen, so that the
kidneys, and one or two other organs were alone fo
be normal. Sections showed "the typical structu
columnar-celled carcinoma." Alluding to the fac
malignant disease of the peritoneum has been kno
follow the removal of ovarian tumours, the fluid of
contains free epithelium, Dr. Lack does not adm
explanation that these tumours were necessarily mal
Presently came a counterblast from Mr. S. G. Shattoc
showed to the Pathological Society of London on Jan
1900, a rabbit whose uteri were full of cancer, wh
peritoneum contained growths also, this animal not
been the subject of any experiment. Why might th
have been the case with Dr. Lack's rabbit? He note
that after the rupture of an ovarian dermoid m
cysts may form in the peritoneum, but the
simple circumscribed cysts and not malignant
such as should arise were Lack's hypothes
mechanical origin of carcinoma in the displ

---

[4] Diseases of the Breast.

normal epithelium into a lymph space or lymph cavity correct. In this condition we must leave the matter for the moment, acknowledging the almost startling nature of Lack's experiment but feeling that we cannot trust to a solitary example.

Let us see, then, if it be possible to trace the gradual development of a piece of carcinoma in a chronic interstitial mastitis. The earliest change probably consists in the appearance of quantities of leucocytes which constitute a round-celled infiltration distributed in the neighbourhood of the ultimate lobules. The single-layer epithelial lining of the tubules and acini which compose the ultimate lobules then begins to proliferate and grow into the interior of these cavities. At the same time there is a production of a new and very delicate connective tissue which surrounds the tubules and acini of each ultimate lobule. The normal connective tissue outside of that also increases largely in bulk, by reason of all which things many tubules are so squeezed and strangulated that, their distal portions being cut off, there is no exit for their contents, and they therefore become distended and form the innumerable little closed cysts which are found all through the cirrhotic breast of chronic mastitis. Matters may remain thus for long enough, the breast shrivelling more or less. This is the cirrhotic change already alluded to. But another change may occur. The growth of the epithelial cells in the tubules and alveoli may go on to such an extent that they become completely blocked up and appear as black areas on microscopical section. The fine interacinous connective tissue does not increase much in this case, but the ducts and acini, becoming more and more distended, eventually meet and fuse into each other. So that, in place of a number of small black areas we now see large ones, still giving slight evidences of the agglomerated acini of which they are composed. These masses of cells, however, are still held together by the surrounding interlobular tissue and by the limiting membranes of the original ducts and acini. But finally even these give way and the cells pour out into the strata of the connective tissue. They creep along between the bundles of connective tissue, following the tracts of what are probably the very earliest commencements of the lymphatic system, and rapidly reproducing themselves by the process of karyokinesis. They are now cancer cells, although between them and the original epithelial cells lining the tubules and alveoli there is not a great difference. There is certainly nothing absolutely distinctive. The normal glandular epithelial cell is of very regular shape and size and has one well-marked nucleus, being an orderly growing cell. The cancerous epithelial cell varies a good deal in size and shape, being a young, rapidly growing, erratic cell. There is some difference in the way in which certain stains affect with more or less intensity the cytoplasm of the two kinds of cells, but this is not improbably due to the difference in their age. Mr. Plimmer notices that in all actively growing cancers there is a zone of round-celled infiltration at the margin of the tumour where growth is most intense, and this zone does not exist in simple tumours. Near the more central parts of the tumour these round cells are converted into large mononuclear cells and later into fibrous tissue which surrounds the cancer cells. This stroma next causes a degeneration of the cancer cells, a digestive or phagocytic process. As time goes on the stroma hardens and serves the function of protection against invasion. So that the centre of a carcinoma is the hardest and most fibrous, and thus comes to pass the fact also that the harder the tumour—in other words, the more fibrous tumour there is in it—the less is the chance either of generalisation or recurrence. So, too, we arrive at the explanation of the atrophic cancer where he cells have been really all devoured by the connective issue. (These changes may be seen in the accompanying late.)

In the Transactions of the Pathological Society of London a very interesting paper by Mr. Cecil F. Beadles which has t been accorded the prominence which it deserves. It is certain histological changes found in association with ndular carcinoma. He examined microscopically nearly breasts which had been removed for primary carcinoma. came to the conclusion that 'breasts in which such ours are found are never in what may be called a nal state. It is often possible to make out with inger small, hard nodules situated at a distance he tumour and having no apparent connexion with it es, however, only slight thickenings can be felt in some parts of the breast. The acini show proliferative and other changes in the epithelium and there are to be noticed also changes in the stroma, which comes to resemble that seen in some rapidly-growing scirrhous tumours in which connective tissue-cells with their elongated nuclei run parallel around the acini, having between them what appear to be small uniform cells with round nuclei. The changes are both of the nature of chronic interstitial mastitis and, in the case especially of the thickenings and small nodules, of the nature of a condition intermediate between simple adenoma and carcinoma, extremely suggestive of commencing malignant disease. Mr. Beadles is of opinion that these changes in the apparently sound breast tissue are not produced by infection from the existing carcinoma but are most likely due to the same causes which started the tumour. Clinically and quite apart from all microscopical examination this is the opinion which I have always held myself—in plain language it means that there is a pre-cancerous state of the whole breast which, however, only blazes up into full-grown cancer at one or two points. It was this view which made me utterly disbelieve in the removal of the tumour alone and which prompted me many years ago to press vigorously upon the attention of the medical profession the advisability of free removal of the entire breast and with that the clearing out of the axilla.

Explanation of the Illustrations.—Chronic Interstitial Mastitis.

Fig. 1 represents chronic interstitial mastitis affecting a lobule. The lighter part with the dark area in it is a lobule. *a* shows tubules and acini of a lobule filled with proliferating cells, but they are being compressed by the growth of a young, fine, interlobular connective tissue *b*. *c* is the older interlobular connective tissue of the breast, also much hypertrophied.

Fig. 2 shows a much hypertrophied condition of the connective tissue, so that the glandular structure is almost squeezed out of existence *a*, atrophied gland tube and acini; *b*, large duct partially filled with cells with an empty one close by; *c*, hypertrophied connective tissue Cirrhosis

Fig. 3 at the upper part shows ducts and acini dilated owing to their compression by connective tissue at other parts. These produce the innumerable small cysts found in chronic interstitial mastitis. *a*, dilated ducts and acini; *b*, hypertrophied connective tissue; *c*, mass of acini with others close by produced by the proliferation of epithelium dilating them to such an extent that they press against each other and practically become fused. The lower part might become dangerous in time Cirrhosis.

Fig. 4 shows progression rather towards cancer than cirrhosis The old interlobular connective tissue *a* is considerably hypertrophied. The centre of the figure is occupied by the greater part of a lobule. There is no great overgrowth of young interacinous connective tissue. At *b* the acini are still separate, although filled with proliferating epithelium. *c* shows a large mass of cells formed by acini which have swelled out under cell pressure, have met, and then have fused The white holes, from which cells have dropped, evidence the sites of the former acini. The cells are still well limited.

Fig. 5 represents mastitis becoming cancerous. *a*, connective tissue; *b*, a lobule with acini filled with proliferating epithelium of which some has dropped out, not much interacinous connective tissue; *c*, masses of cells composed of fused acini still well defined; *d*, cells from a similar large mass bursting into the connective tissue and becoming cancerous at *e*. Cancer.

Fig 6 shows mastitis become cancerous. *a*, large fused mass of acini with two neighbouring ones (the central cells have degenerated and some have fallen out); *b*, cells escaping from this mass into the surrounding connective tissue. *Cancer.*

NOTE ON THE CAUSATION OF CANCER.

By Sir JAMES SAWYER, M.D., F.R C P. Lond,
F R S. Edin.,
CONSULTING PHYSICIAN TO THE QUEEN'S HOSPITAL, BIRMINGHAM.

Like Sir William Banks, whose admirable lecture[1] I have read with much interest and instruction, I have been in practice about a third of a century, and, as he has done, I have been led to form some decided "impressions" as to the etiology of cancer in our midst, he forming his ideas from a surgical standpoint and I from a medical one. While statisticians, clinicians, microscopists, and medical geographers are continuing their good work in adding to our knowledge of the incidence and pathology of cancer, and while we are not quite without increasing knowledge even of its successful therapeutics, and while we await the full light which research and observation will assuredly shed some day to make plain the causes and cure of cancer, in the meanwhile the impressions of thoughtful practitioners are of the greatest value as working hypotheses in preventive

---

[1] The Lancet, March 10th, 1900, p. 684.

practice. The probability of the truth of such impressions is strengthened when it is found that many minds arrive at the same conclusions. I have long thought that the accepted increase of cancer in England in recent years is due to the increased feeding of the population, and especially to increased feeding upon meat. It appears from the reports of the Registrar-General that the mortality from cancer in England and Wales has almost exactly doubled during the 31 years immediately preceding the year 1895. It also appears, as stated by Sir William Banks in his quotation from and summary of the figures of Mr. Haviland, that the increase in cancer mortality amongst us has risen more amongst males than amongst females If we desire to reason by the method of concurrent variations on the *causation of cancer we shall be led to inquire as to* what great and widely spread change has happened in the habits of life of the population of England and Wales during the last 30 years or so, and the fact of the enormously increased consumption of meat by the great masses of the people will be forced upon our attention. This generally increased consumption of meat has followed the continued importation of huge quantities of more or less fresh meat from America and from the antipodes. I do not mean that vegetarian feeders—if there be any who are strictly such—escape cancer. The intimate cause of cancer we do not yet know, but the malady has many of the features of a local overgrowth of tissue elements, and such appears to be favoured by excessive feeding and especially *by feeding excessively and for a long time upon meat.* In my experience cancer has not increased of recent years amongst the upper middle classes. In that class the general tendency seems to be towards refinement and variety of food, with the consumption of less meat and with slower and more complete cooking of meat than formerly; but for the men of the "masses" of our people meat is more a prevalent food than before, and with them meat is eaten in single dishes, in relatively large quantities, often, and undercooked. I think it likely it will be found that it is amongst the men of the masses in England and Wales that the progressive increase in cancer in the period under consideration is mainly to be found. Steam appears to have brought us cheap food, and cheap food has multiplied our cases of cancer *by two.*

Birmingham.

ON THE INFLUENCE OF THE TEMPERATURE OF LIQUID AIR ON BACTERIA.[1]

BY ALLAN MACFADYEN, M.D. EDIN.

THE experiments of *Dr. Horace T. Brown* and Mr. Escombe[2] have shown that no appreciable influence is exerted upon the germinative power of seeds when exposed for 110 hours to the temperature of liquid air (− 183° C. to − 192° C.). The results were *equally negative* in the recent experiments of Sir W. Thiselton-Dyer,[3] in which seeds survived exposure for upwards of six hours to the temperature of liquid hydrogen (− 250° C to − 252° C.).

The *following investigation on the influence* of the temperature of liquid air on bacteria was carried out at the suggestion of Sir James Crichton Browne and Professor Dewar. The necessary facilities were most kindly given at the Royal Institution. The experiments were conducted under the personal supervision of *Professor Dewar* and he has asked me to put the results on record, although it must be acknowledged that the essential features of the investigation are due to him. The bacteria employed were selected from the stock of the Jenner Institute of Preventive Medicine, where the results were also controlled. Pure cultures of the several micro-organisms were employed and the series included typical representatives of saprophytic and parasitic bacteria. The organisms chosen possessed varying degrees of resistance to external agents—the extremes in this respect being represented by the very sensitive spirillum of cholera Asiatica and the highly resistant spores of bacillus anthracis. Ten organisms were used for the experiments—viz, bacillus typhosus, bacillus coli communis, bacillus diphtheriæ, *spirillum choleræ Asiaticæ, bacillus proteus vulgaris, bacillus* acidi lactici, bacillus anthracis (sporing culture), staphylococcus pyogenes aureus, bacillus phosphorescens, and photobacterium balticum. The cultures of the organisms were young and vigorous and were tested both on solid and in fluid media—viz., nutrient gelatin, agar-agar, potato, and peptone broth. The cultures on these media were simultaneously exposed to the temperature of liquid air for 20 hours (− 182° C. to − 190° C.). They were then carefully thawed and examined. The results may be briefly stated. In no instance, whether on solid or in liquid media, could any impairment of the vitality of the micro-organisms be detected. The fresh growths obtained from the exposed tubes were normal in every respect, and *the functional activities of the bacteria were equally* unaffected. The colon bacillus produced its typical effects—such as the curdling of milk, the fermentation of sugar, and the production of indol; the staphylococcus pyogenes aureus retained its pigment-producing properties and the anthrax spores their pathogenic action on animals. The photogenic bacteria preserved their normal luminous properties. These photogenic properties are intimately connected with the functional activities of the cells. The cells emit light which is apparently produced by a chemical process of intracellular oxidation and the phenomenon ceases with the cessation of their activity. These organisms therefore furnished a very happy test of the influence of low temperatures on vital phenomena Their cultures, when cooled down in the liquid *air for 20 hours, became non-luminous, but on re-thawing* the luminosity returned with unimpaired vigour as the cells renewed their activity. Watery emulsions of the photogenic bacteria, on immersion in liquid air for a few minutes, ceased to emit light, but on withdrawal the luminosity re appeared in a very short time. Strips of filter paper soaked in the watery emulsion and brightly luminous were immersed directly in the liquid air with similar results. The sudden cessation and rapid renewal of the photogenic properties of the cells, despite the extreme changes of temperature, were remarkable and striking

The following experiment was made:—50 litres of the laboratory air about six feet from the ground were liquefied at atmospheric pressure in a glass bulb by means of boiling *liquid air in vacuo. The temperature reached was about* − 210° C. The bulb was then sealed off, the contents being still at a temperature below zero, and was subsequently opened and washed out with sterile broth A series of plate cultures were made from the broth on nutrient gelatin, agar-agar, and sugar agar, *and* were *incubated* under aerobic and anaerobic conditions at 22° and 37° C. for a period of ten days. The anaerobic plate cultures remained sterile. The aerobic plates yielded 44 organisms which had survived an exposure to − 210° C. The organisms were representative types of those to be usually met with in the air—viz., moulds, bacilli, cocci, torulæ and sarcinæ It may also be mentioned that a sample of yeast cell plasma (Buchner's zymase) subjected to *a temperature of from* − 182° C. to − 190° C. *for 20 hours* retained its peculiar properties unchanged—viz, as regards the production of CO_2 and alcohol.

The above experiments show that bacteria may be cooled down to − 190° C. for a period of 20 hours without losing any of their vital properties Further experiments are in progress with the above-mentioned, and with other micro-organisms exposed to the temperature of liquid air for still longer periods of time, as well as to that of liquid hydrogen. These experiments will form the subject of a future *communication.*

Chelsea, S.W.

ROYAL INSTITUTION.—The Friday evening discourse at the Royal Institution on March 16th was delivered by Sir Benjamin Stone, M.P., the founder and president of the National Photographic Record Association. The discourse was on the subject of Pictorial Historical Records and was illustrated by a large number of lantern slides showing views in Windsor, in Windsor Castle, and in the Tower of London, and antiquities in the Record Office. Modern survivals of ancient customs were also represented, such as well-dressing in Derbyshire, horn dance (with reindeer horns) at Abbot's Bromley in Staffordshire, mop or statute fair at Stratford-on-Avon, and the payment of "wroth money" to the Duke of Buccleuch on St Martin's Day in Warwickshire

---

[1] A paper read before the Royal Society on Feb. 1st, 1900. Communicated by Lord Lister, Pres. R S

[2] Proceedings of the Royal Society, vol lxii, 1898, p 160.

[3] Ibid, vol. lxv., 1899, p. 361.

PHOSPHATIC DIABETES.

BY GUTHRIE RANKIN, M.D. GLASG., M.R.C.P. LOND.,
PHYSICIAN TO THE SEAMEN'S HOSPITAL SOCIETY (ATTACHED TO THE "DREADNOUGHT" HOSPITAL, GREENWICH); AND ASSISTANT PHYSICIAN TO THE ROYAL HOSPITAL FOR CHILDREN AND WOMEN, WATERLOO ROAD, S.W.

THE demonstrable presence of phosphates in the urine is a clinical fact with which we are so familiar and which in its more usual manifestations is apparently of such little importance that we are apt to neglect it entirely as being an element of no more than passing and trivial interest. Phosphorus is essential for the growth and nutrition of the tissues, but the physiological part which it plays in the processes of metabolism is still imperfectly understood. It exists in a neutral form in the blood and is eliminated as a normal constituent of urine in the proportion of 1 part per 1000. The average daily excretion ought to amount to from 35 to 50 grains. It appears in the urine in three principal varieties:—1. The phosphates of potassium and sodium—the acid phosphates—are the chief cause of the acidity of the urine. They are extremely soluble and never form any part of the phosphatic deposit so frequently met with. 2 The phosphates of magnesium and calcium—the earthy phosphates—form about one-third of the whole normal phosphatic constituent of the urine; they are much less soluble than the acid phosphates and are precipitated if in excess on boiling or when the urine becomes neutral or alkaline. 3. Triple phosphates. These salts are formed by the combination of magnesium phosphate with carbonate of ammonia. The only source of ammonia is urea and therefore triple phosphates can only be found in urine which has undergone decomposition.

The occasional presence of phosphates which only become manifest on boiling the urine is not properly understood but is believed to be frequently concerned with undue wear and tear of the nervous system. The condition is not serious and disappears under the influence of rest combined with suitable tonic and dietetic treatment The persistent presence of phosphates which appear spontaneously as a more or less dense cloud in undecomposed urine of neutral or alkaline reaction is the rarest form of phosphaturia, but is also one which must be looked at suspiciously as capable of mischief. In this connexion it must be remembered that a spontaneous deposit of earthy phosphates in the urine is *not* necessarily evidence of their excess, because when normal urine becomes alkaline a deposit of phosphates may take place even when the amount of phosphorus eliminated is within physiological limits. Indeed, it has been frequently pointed out, first by Bence Jones and subsequently by others, that after the principal meals of the day the urine may become neutral if the character of the meal has been such as to lead to the formation in the intestines of large quantities of carbonates. The presence of triple phosphates at the time of, or immediately after, micturition is always indicative of local mischief in the urinary tract somewhere. All phosphatic deposits are at once dissolved by acetic acid and are thus distinguished from other forms of urinary precipitate.

The clinical importance of phosphaturia varies according to the chemical variety which the phosphorus presents in the urine. The temporary variety where the phosphatic salts are amorphous is not of present importance, nor is the local disorder which results in the production of the triple form of deposit; but the third variety in which the urine contains a deposit amounting, it may be, to a third or more of its whole bulk of stellar crystals of phosphate of lime is full of interest, not only because it is little understood, but also because it is rare and not infrequently fatal. In cases of this type the phosphates are present permanently in excess, but periodically the daily average of the amorphous salts is increased by a more or less copious shower of stellar crystals. The patient complains of thirst, polyuria, and languor. In cases where there is an increase of the urea as well as of the phosphorus emaciation may become a feature The urine is of low specific gravity and contains neither albumin nor until the later stages sugar; often not then. This form of phosphaturia was first called attention to by Tessier of Lyons in 1877 under the designation of "*diabete phosphatique*." It is usually met with either in young adults of neurotic heredity or in men at middle life who have lived freely, curtailed themselves of the requisite amount of sleep and relaxation, and pursued brain work under conditions where exercise was neglected and open air treated as a luxury. The disease may run a course symptomatically resembling diabetes mellitus but without sugar in the urine; or it may alternate with true diabetes, there being at some times an excess of phosphates and no sugar and at others sugar but no remarkable excess of phosphates. The initial polyuria may excite suspicion in the patient's mind and lead him to see his medical adviser, but if the case be one in which no sugar is found on application of the usual tests it is apt, and very naturally, to be looked upon as trifling and as wholly explained by a passing condition of nerve or digestive disturbance. Especially is this likely to happen if the urine chances to be examined at a time when the phosphates are only present in the amorphous form. As time goes on the patient's thirst increases, he is conscious of progressive failure of his general vigour, and not infrequently he is annoyed and puzzled by an unreasonable irritability of temper which is new to him. Neuralgia is a source of much misery in some cases, and may attack any nerve, but is specially prone to invade the branches of the trigeminal or facial; in others, the prevailing discomfort is a liability to recurring attacks of unaccountable drowsiness which no effort of will-power can shake off. When emaciation ensues there is always risk of the onset of phthisis.

Such is a short outline of the usual sequence of events in this variety of phosphaturia, and it is related to elucidate the following case which was recently under the writer's observation.

The patient was a medical man who had suffered for some years from kidney colic and had on more than one occasion passed a small uric acid calculus. He was of full habit, lived well, worked very hard, and abstained from every form of exercise. In the month of August he wrote to me: "Doubtless you are familiar with urinary deposits, but did you ever hear of a urinary scum? I have one, and I want to know all that is known about it, for it is attended with a remarkable symptom—sleepiness, not drowsiness, but prolonged, sound, pleasant sleep lasting for 12 or 14 hours. I have it about every six or eight weeks and there is positively no other symptom. I know exactly when I shall get it and as I slept last night and the night before nearly 12 hours each I knew I should have it this morning, and it is better marked than I ever saw it—quite a thick scum, so that I caught it easily on a slide. At first it is quite transparent and in an hour or so it glistens or iridesces on the top of the urine like oil, then solidifies like fat, just as you see it on the enclosed slide. At these times I have about from 100 to 110 ounces of urine in 24 hours, alkaline, with a specific gravity of from 1010 to 1018, and containing abundant phosphates. I have had chronic phosphaturia for some years, but cannot find out that it means anything." The deposit on the slide consisted almost wholly of stellar phosphates, with which were associated a few epithelial cells and one or two renal casts. A sample of urine was analysed two days after the receipt of the above letter and was found to possess a specific gravity of 1017 and to be neutral in reaction. It contained a trace of mucin, a haze of albumin, and an excess of uric and phosphoric acids, but no sugar.

At a later period this gentlemen again wrote to me: "No alteration occurred in my condition for several months, but I then had occasion to visit P——, and when there paid a visit to a farm owned by the gentleman who was my host. In the farm kitchen I saw some butter-milk and tasted it. A craze of the most extraordinary kind seized me at once—a feeling as if I could not do without it. I drank nearly three gallons that day and two the next, and so on as long as I could get it. I now travel with a quantity of it always and drink never less than two quarts a day, but without the intolerable longing for it. That has disappeared a month ago and so have the phosphates *absolutely*. I still have the abrupt violent polyuria as I have all my life. I have not gained in weight with the butter milk. During the craze I often took no solid food for 20 or 30 hours." This condition of apparent improvement continued till the following April when he again wrote: "I have but ill news to give you of myself. Three weeks ago the phosphaturia came back, has increased to an extent it never has reached before, and the butter milk is no good. My bladder is getting irritable and I evacuate every three or four ounces, often much less, with great heat and straining every time at the neck." At this date the urine analysis recorded an alkaline reaction, a specific gravity of 1015, a minute trace of albumin, no sugar, a large deposit of amorphous and triple phosphates, and some epithelial cells. A subsequent acute attack of renal colic was the prelude to a short illness in the course of which he had much trouble with his bladder, and which terminated fatally from sudden and unexpected coma.

The details of this case are so interesting and the record of symptoms is so graphic that I hope no apology is necessary for the length of the extracts which I have quoted. The entire disappearance of phosphaturia during the time he was taking butter-milk suggests that the acids which it contains so abundantly had probably something to do with neutralising the excess of phosphates, and if this be so it raises the question whether the large quantities of butter-milk which during his craze he was tempted to drink does not convey a hint that in the use of acids in ordinary forms of neutral or alkaline phosphatic urine we perhaps err in dealing with inadequate doses.

The presence of triple phosphates in the last analysis and the co-existence of pain, heat, and straining on micturition too clearly showed that the bladder had become the seat of a calculus, most probably a rapidly accumulating mass of phosphates outside a uric acid nucleus. He died comatose and this could hardly be ascribed to the condition of either his bladder or kidney. It more closely resembled the coma so often met with in diabetes mellitus. The urine was persistently excessive in quantity but it never contained sugar. If the uric acid element in this case be left out the picture of Tessier's phosphatic diabetes is almost complete. Most of the leading features of ordinary diabetes present themselves but the urine contains as its abnormal constituent an excess of phosphates instead of sugar.

Cases of this disorder are rare, but their diagnosis is easy if due attention is given to the urine, which is always neutral or alkaline in reaction, excessive in amount, usually of low specific gravity, and loaded with phosphates often of the stellar variety. The diseases with which it is most liable to be confused are diabetes mellitus, diabetes insipidus, and chronic interstitial nephritis. The urine of diabetes mellitus contains sugar and that of interstitial nephritis albumin, so that in straightforward cases either may be readily distinguished from the urine of phosphaturia. The latter condition, however, may occur in association with either or both of the former, when the urine will be found to contain phosphates, together with sugar or albumin, or with both.

The effect upon the general health tends to be ultimately serious and the prognosis should always be guarded. The occurrence of attacks of drowsiness, the onset of emaciation, the alternation of sugar with stellar phosphates, or a permanent increase in the urea excretion are the more important points which add to the gravity of the prognosis.

Treatment is summed up, according to Ralfe, in rest and improvement of the general nutrition. Drugs seem to be of little avail in checking the undue excretion of phosphates; even opium, which is of such value in true diabetes, has no effect and is, on account of the tendency to drowsiness, not altogether free from risk. Butter-milk may be added to the daily dietary and will be found of considerable nutritive value. This case suggests that it may also possess some direct power over phosphates when these are present in marked excess.

Chesham street, Belgrave-square, S.W.

CLERICAL, MEDICAL, AND GENERAL LIFE ASSURANCE SOCIETY.—The report of this society for the year ended June 30th, 1899, shows that the new assurances consisted of 810 policies, assuring £641,353, and yielding in annual premiums £21,797 Re-assurances were effected to the extent of £46,000, with annual premiums of £1741. The net new business of the year was therefore £595,353 in sums assured, yielding annual premiums of £20,056. The total premium income was £293,773, showing an increase of £5448 over last year, and the whole income of the society was raised from £422,006 to £431,776. The claims arising from the death of 235 persons, assured under 299 policies, were for the aggregate amount of £239,897. The excess of revenue over all expenditure amounted to no less than £106,900 and raised the assurance fund at the close of the year to £3,590,305. Three vacancies occurred in the board of directors caused by the death of Sir John Mowbray (the chairman) and the resignation of Lord Curzon and Lord Lister. Sir Thomas Smith, F R C S. Eng., was elected in Lord Lister's place.

A CASE OF IRREDUCIBLE DISLOCATION AT THE ELBOW.

BY R. HAMILTON RUSSELL, F.R C.S. ENG.,
SURGEON TO THE MELBOURNE HOSPITAL FOR SICK CHILDREN.

ON June 27th last a little boy, aged eight years, while playing at football fell with the left arm twisted under him and sustained a dislocation of both bones of the forearm backwards at the elbow. He was attended by Dr. Loosli of this city, who was at once struck by certain peculiarities in the case; he also found that all efforts at reduction, even under chloroform, were of no avail, and asked me to see the patient with him.

On examination the fact of dislocation backwards of both bones was very obvious, but there were unusual features which, as the accident is one that, so far as I can ascertain, is now recorded for the first time, I will describe with some minuteness. First, the arm was markedly straighter than usual—so nearly straight, in fact, that it had been found possible to put the limb up somewhat loosely in straight cardboard splints; secondly, there was an absence of the usual marked fixity of the arm, so that the forearm could be moved through a considerable angle but could hardly be made to approach so near to a right angle with the humerus as is usual in such a dislocation; thirdly, on attempting reduction, the sensation imparted to me was quite novel: the forearm yielded to the pull quite easily, and the deformity could be very nearly reduced but not quite, while directly the force was withdrawn the bones sprang back into their false position with a kind of elastic rebound. There was also occasional slight crepitus. I was unable at the time to make a correct diagnosis of the exact anatomical nature of the injury which produced these phenomena, but I advised, with Dr. Loosli's concurrence, an operation which was undertaken the next day.

Through a longitudinal incision over the extensor aspect of the joint the triceps and aponeurotic investment of the joints were divided and the interior of the articulation was exposed to view. It was then found that the interior was occupied by a mass of muscle which further investigation made evident as the brachialis anticus. The internal epicondyle was separated, which explained the slight crepitus during examination. The humerus at the time of the injury had pushed its way through the anterior ligament of the joint and passing to the outer side of the brachialis anticus had become lodged on the front of that muscle; so that when viewed through the operation wound the muscle lay strapped over the back of the lower end of the humerus and pinched tightly between that bone and the coronoid process of the ulna. It was necessary to divide a portion of the displaced muscle, and when that was done a strong curved spatula was passed between the remainder of the muscle and the bone and the humerus was easily pulled into place. The divided triceps was then sutured, the skin wound was completely closed, and the arm was put up straight in a stiff bandage. Six days later the bandage was taken off for the removal of the stitches. The wound was quite healed, and the little boy was able to bend his arm without assistance to near the right angle, in which position it was put up again in plaster-of-Paris for a further fortnight. Three weeks from the operation all apparatus was removed, but the child was directed to wear a sling for one week more, with permission, however, to take the arm out to use it when so inclined, but to return it to the sling when not using it; this was out of consideration for the partially divided brachialis anticus muscle. No passive motion was performed, although the elbow remained very stiff for some weeks. When last seen, five months after the accident, however, the movement had all returned and the result was perfect as to the utility of the arm, but on close inspection during flexion of the arm I had reason to think that the brachialis anticus had never completely recovered and that the other muscles passing from the condyles to the forearm and wrist were called upon for a somewhat larger share than usual in the production of flexion at the elbow. This seemed, however, to make no difference, as the child was able to play cricket and other games, and there was no perceptible weakness or defect in the limb.

Melbourne.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

A CASE OF CHRONIC INTESTINAL OBSTRUCTION; NECROPSY.

(Under the care of Dr. D. B. LEES.)

INTESTINAL obstruction is a rare but very important complication of appendicitis. It is specially likely to occur in cases in which localised abscesses have formed and Hawkins[1] describes four deaths as due to this cause in ten fatal cases of local abscess; these are generally acute cases. Obstruction of the intestine, when chronic in character, if due to appendicitis, is more likely to result from matting together of the bowel[2] as in the case recorded below. In this instance it is not improbable that tuberculous disease of the appendix was the cause of the adhesions. Fitz[3] met with eight cases of perforation of the appendix resulting from tuberculosis in 257 cases of appendicitis. For the notes of the case we are indebted to Dr. Hugh Thursfield, medical registrar and pathologist.

A boy, aged two and a half years, was admitted into the Hospital for Sick Children, Great Ormond-street, under the care of Dr D. B. Lees, at the end of June, 1899. He was brought to the hospital on account of constipation and was treated in the out-patient department. The constipation was followed by a bad attack of diarrhœa for which he was made an in-patient The history given by his mother was that till the age of 18 months he was a healthy child, but he then began to suffer from attacks of diarrhœa. Three months later his stomach was noticed to be getting larger and the diarrhœa was now accompanied by abdominal pain. He was treated by a medical man and improved, but about Easter, 1899, he began to have attacks of abdominal pain in which the stomach was, as his mother said, "drawn up in cords." He twice passed blood by the rectum and vomited dark-brown fluid. He went to the country and improved for a time, but the abdominal troubles recurred and he was taken to the hospital As well as could be ascertained the family history and the surroundings of the child were fairly good, though his mother's father was stated to have died from "consumption"

On admission the child was very thin and fretful but had no fever and at first no diarrhœa; his appetite was fairly good and he did not appear to be very ill. The heart and lungs were apparently sound, but the abdomen was enlarged; there was visible peristalsis, and on the right side rather low down there was a mass which felt like a mass of enlarged glands. From time to time this mass could be felt in slightly different positions, the most constant being just to the right of, and below, the umbilicus. At first the child improved greatly, but at the end of July diarrhœa with some fever set in and he began to lose ground. The motions were pale, slimy, and drab-coloured. There was never any blood. In August and September he had several severe attacks of abdominal pain, which were accompanied by visible peristalsis, the small intestines being especially concerned. The diagnosis lay between enlarged tuberculous glands with matting together of coils of intestine and a chronic intussusception of the bowel. In the hope of relieving the obstruction laparotomy was performed by Mr. T. H. Kellock on Sept 28th. He felt some large glands and saw a few yellow tubercles on the peritoneum; some adherent coils of intestine were separated and a small band of fibrous tissue was divided. After the operation the child was completely relieved of the attacks of abdominal pain but his condition otherwise remained unaltered The diarrhœa recurred, he began to have an intermittent temperature, and gradually sank, and died on Oct. 12th

Necropsy.—The post-mortem examination was made 48 hours after death. In the head and thorax no abnormal condition was observed. On the parietal peritoneum in a few places there were small scattered granular tubercles but no general tuberculous peritonitis was present. On the right side the liver was bound to the abdominal wall by dense adhesions. The lowest part of its right lobe was involved in a mass which consisted of liver, intestine, peritoneum, and mesentery and they were so bound together that even careful dissection could scarcely separate the various parts. This mass lay to the right of, and rather below, the umbilicus, lying, in fact, over the lower half of the right kidney. On dissecting the mass the appendix was found lying in a line pointing vertically upwards behind the colon. Its tip, however, on the inner side of the colon was adherent to the lowest part of the right lobe of the liver; and matted round this point were loops of small intestine, the mesentery, the ascending colon, and several large glands, in one of which there was a caseous focus. In two places at least there was a fistulous communication between the appendix and the small intestine which was much ulcerated. The ascending colon showed very little ulceration and no fistula was found. On opening the loop of small intestine two small brownish bodies fell out which resembled the kernel of some fruit, such as an apricot. The small intestine above the portion involved in the tumour had its walls remarkably thickened and hypertrophied. The descending colon was the site of very numerous small ulcerations, some of which showed tubercles on the peritoneal surface, and all were transverse to the gut and had edges slightly raised and much undermined The lowest portion of the sigmoid flexure was caught up and fixed by strong adhesions to the tumour above. The spleen showed a few granular tubercles and one small caseous patch. The mesenteric glands were rather larger than normal and in one of these there was a *focus of caseation, but no mass of large glands was found.* The glands elsewhere were normal.

Remarks by Dr LEES.—An accurate diagnosis of this case may fairly be said to have been impossible. The mass felt on admission was thought to be composed of caseous glands and intestine matted together by a chronic tuberculous process. The history given by the mother seemed to be in accord with this view, the blood passed on two occasions per rectum and the diarrhœa being ascribed to tuberculous ulcerations of the bowel. The attacks of abdominal pain and the visible peristalsis were ascribed to the obstruction caused by the implication of the intestine in the mass which could be felt. But when the peristalsis became extreme, coils of small intestine pushing forward the abdominal wall in prominent ridges during the attacks of pain, it was determined to try whether any relief could be given by operation. The laparotomy revealed adherent intestine, enlarged glands, and some tubercle. As much separation of the adhesions was effected as seemed possible without incurring the risk of rupture of the bowel But the facts that a coil of small intestine was adherent to a diseased appendix vermiformis, with two communications into it, that the tip of the appendix was adherent to the liver, and that the adherent bowel contained two foreign bodies, were revealed only by the necropsy. It may be added that the foreign bodies were precisely similar to one another, being oval in shape and quite unlike the "fæcal concretions" which often perforate the appendix.

Remarks by Dr. THURSFIELD.—Pathologically the points of interest seem to me to be the unusual position of the appendix and the question of the sequence of events—that is, whether the tuberculous *infection* preceded and determined the formation of the adhesions between the liver and appendix or whether the tuberculous infection took place in a part of the intestine which was already the seat of inflammation. I do not think that it is possible to advance beyond speculation, but probability appears to me to point to the first solution The presence of the foreign bodies I regard as accidental and quite recent.

BEDFORD COUNTY HOSPITAL.

A CASE OF SUPPURATIVE APPENDICITIS WITH SECONDARY LIVER ABSCESSES.

(Under the care of Mr. W. GIFFORD NASH.)

ABSCESS of the liver occurring in the course of appendicitis is nearly always the result of a septic thrombosis or of a pylephlebitis, but, as in the case here recorded, it may be due to direct extension of the suppuration. Hepatic abscess was present in 11 out of 257 cases published by Fitz,[1] Hawkins met with one case in 38 cases of appendicitis,[2] and Mynter[3] saw one case in 75 cases. For the notes of the following case we are indebted to Mr. F. H. Allfrey, house surgeon.

---

[1] Diseases of the Vermiform Appendix, p 94.

[2] Mynter Appendicitis, p 89

[3] American Journal of the Medical Sciences, October, 1888.

A boy, aged 15 years, was admitted into the Bedford County Hospital on Sept. 27th, 1899, with abdominal pain and high temperature He had been in gaol for some weeks and on Sept 12th Mr. Nash had been called in because the patient had some diffuse abdominal pain. On the next day the pain was chiefly in the right iliac fossa and vomiting had occurred five times, but there was no rise of temperature. On the 14th there were tenderness and increased resistance in the right fossa; the temperature was normal, but during that night he shivered. On the next day the tenderness was very marked; the bowels were opened after a small dose of castor-oil. The morning temperature was 103° F. and the pulse was 108. On the 16th he was sick once; the temperature was 102° in morning and rose to 103° at night. For the next three days he seemed better, the temperature remained down, and the pain was less; except for some tenderness there was nothing to be felt in the right fossa, and the percussion note was resonant. On the 20th the patient sweated during the night and the temperature again rose to 101°; the bowels were not open; the tongue, which had been thickly coated, was cleaner. During the next four days the temperature rose to 102° at night; sweating was noticed at times; the bowels were open several times, the motions being loose on the 23rd. On the 25th increased resistance was felt over the ascending colon. While in gaol he was treated with small doses of calomel and with sodium salicylate and bismuth.

When admitted to the hospital on Sept. 27th the boy looked ill and complained of general abdominal pain. Nothing abnormal was found in the chest except that the liver dulness in the mid-axillary line began at the upper border of the seventh rib. The abdomen moved slightly all over; no prominence or fulness was to be seen. Slight tenderness was complained of on firm pressure in the right iliac fossa; the right half of the abdomen was slightly more resistant than the left. No tumour could be felt in the appendix region, but beneath the right costal margin was a firm swelling extending about two inches from the ribs; it felt like liver, but did not move on respiration. The abdomen was everywhere resonant except over this area in the right hypochondrium The tongue was thickly coated, the pulse was small and rapid, and the temperature was 103°. A simple enema was given with good result. On the 28th the temperature, which was 103° at 2 A.M., fell to 96° at 6 A.M. The patient passed a fairly good night but sweated freely.

On Sept 29th Mr. Nash operated. An incision was made from the right linea semilunaris about an inch above the crest of the ilium to the mid axillary line; at the hinder end of this wound pus was seen flowing from behind the colon. A cavity was opened up extending upwards and downwards, and a concretion of the size of a large pea was felt in and removed from the lower part of the abscess cavity behind the cæcum. The pus had a strong fæcal odour and contained fæcal matter On irrigating the cavity with 1 in 2000 perchloride of mercury solution a slough about four inches long came away, which proved to be the remains of the appendix. The cavity was plugged and the wound was left open. About an hour after the operation the temperature rose to 105° and the patient had a rigor lasting several minutes. For two days the temperature ranged from 98° to 104°, the sweats and rigors continued, and the pulse averaged 108 and respirations 26. Quinine was given every four hours On Oct. 2nd the patient became rapidly worse; the wound showed no sign of repair, being covered with a green slough, and there was no discharge from the abscess cavity; the respirations rose to 40 and the pulse to 140. He died the next morning, five days after operation and 21 days from the onset of the symptoms.

Necropsy.—Post mortem there was no sign of general peritonitis, but, extending upwards from the cæcum behind the colon was an abscess cavity between the layers of the mesocolon; the mesocolon at the hepatic flexure was adherent to the liver, and on separating these adhesions the under surface of the liver was found to be rough and ulcerated. A section through the portion of liver in the neighbourhood showed numerous abscess cavities, the largest having a diameter of about half an inch. The stump of the appendix, about an inch in length, was found lying curled upwards behind the ileum. About two inches above the ileo cæcal valve on the posterior surface of the colon was another perforation leading into the abscess cavity. There were three suppurating retro-peritoneal lymphatic glands.

Remarks by MR. ALLFREY.—The most noticeable fact about the case was the absence of physical signs, but this is accounted for by the course which the pus took behind the colon. An operation in gaol could not be easily managed, and even after the patient's admission into hospital there was some doubt as to where to operate in the absence of any swelling or dulness. It is possible that the temporary improvement after Sept 17th was due to the discharge of the pus into the colon through the second perforation. The abscesses in the liver were evidently due to direct infection from the original abscess cavity and not the result of infection by the portal system, for they were confined to the region of the impressio colica. It is quite possible that if an early operation had been performed the result would have been different, for the pus would then have been liberated before it had reached the liver.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Forms and Significance of Proteids in the Urine.

A MEETING of this society was held on March 20th, Mr. A. PEARCE GOULD, the acting President, being in the chair.

Dr. T. G. BRODIE resumed the debate on the Forms and Significance of the Proteids met with in the Urine. He fully endorsed Professor W. D. Halliburton's explanation of why serum albumin was usually more abundant than the globulin. It was largely a question of the relative size of the two molecules. When a simple proteid solution was filtered through ordinary filtering-paper the resulting solution became weaker and this weakening of the solution by filtration was more marked in the case of globulin than serum albumin. He then proceeded to describe some experiments which tended to explain the variations observed in the nature of the proteid present in cases of albuminuria. In the first place he instanced the evidence gained by filtration. All experiments tended to show that the albumin molecule was of smaller size than that of the globulin, that a filter having finer pores was necessary to hold back albumin molecules than one which completely prevented the passage of globulin. In the next place he described the results as to the artificial production of albuminuria when the excised kidneys of an animal were kept alive by perfusion of defibrinated blood through them. In these cases it was found that at first the urine was often proteid-free. In a short time, however, hæmoglobin made its appearance. Later—i.e., in about two hours' time—the urine contained a considerable quantity of proteid which was found to be chiefly serum albumin, only a very small quantity of globulin being present. In another series of experiments he used dead kidneys, injecting various hardening reagents (commencing with warm methylated spirit) to keep the renal tissues *in situ* and intact. Starting from these and similar points he argued that the usual variation in the nature of the proteid could to a great extent receive an explanation based upon the physical conditions of filtration present and the different size of the molecules of the various forms of proteid. Turning to the clinical aspect of the question he had found that in the renal disorder attending cardiac disease the proteids in the urine were pretty much in the same proportion as they existed in the blood. In large white kidney and the granular contracted kidney there was mostly very little globulin compared with the albumin in the urine.

Mr. P. J. CAMMIDGE (Leeds) read a paper entitled Some Observations on the Proteids Excreted in Albuminuria. After describing the method he had employed in separating the proteids from the urine, he exhibited charts of the excretion of total proteids, serum albumin and serum globulin, in eight cases of albuminuria. These included cases of acute and chronic Bright's disease, amyloid disease, albuminuria of pregnancy, and eclampsia. He then made some remarks on these cases and pointed out that, as a rule, the most marked variations in amount took place in the serum albumin, the serum globulin being more constant, but that when the serum globulin did show marked variations the case tended to be more severe. He had examined altogether 198 specimens of albuminous urine taken from 28 cases. It would not, he thought, be right to draw any general rules from these, but the facts certainly had some bearing on prognosis and tended to show in the first place that the amount of the albumin in any given specimen of urine alone was not a safe guide as to the severity of the case. The total proteids in the 24 hours was, however, a better guide; but he regarded the presence and the amount of serum globulin as the most important indication of the extent of the disease of the kidney itself. Marked rises and falls in the amount of globulin seemed to indicate the probable approach of a fatal issue.

---

[1] American Journal of the Medical Sciences, 1886.
[2] *On Diseases of the Vermiform Appendix*, p. 97.
[3] Appendicitis and its Surgical Treatment, p. 90.

Dr. F. G. **Hopkins** (Cambridge) said he would confine his remarks to a case of physiological albuminuria which he had observed in a man aged 21 years. This man habitually passed small quantities of albumin. The albuminuria was closely related to diet—i.e., it only occurred three or four hours after a meal. The amount was small, never exceeding from one and a half to two parts per 1000. The curious part of the case was that the proteid that was passed was not always the same. It was always some form of albumin, but on at least one occasion, when he was confined to a diet of bread and milk, the proteid when separated by coagulation was found to contain no loosely combined sulphur, as it did when he was on ordinary animal diet. The patient was preparing for an examination and he (Dr. Hopkins) did not like to try the effects of different dietaries; but the facts elicited seemed to show how important it was in such cases to examine carefully the nature and quality of the proteid substance excreted. Such cases induced him to turn his attention to the intestines and the processes going on there. The intestines had to deal with, to disintegrate, and to build up by a process of synthesis, many different kinds of proteids from many different kinds of materials taken into the body in the form of food. He thought that much could be learned from an attentive study of cases of physiological albuminuria.

Dr. W. **Lee Dickinson** wished to confine his remarks to the clinical aspect of the question which he admitted was less precise than the laboratory results. His remarks would refer chiefly to the peptones or albumoses, and particularly that form known as hetero-albuminose, by which he wished to indicate a collection of bodies, amongst them Bence Jones's albumin, very like to each other, their common feature being coagulation at a low heat and re-solution at a higher one. The presence of these substances in the urine was not only associated with diseased bones, but had also been found with glycosuria, with myxœdema (by an American physician), and with leucocythæmia (of which he had met with one case). This kind of albuminosuria was always followed by death in the course of a few months. More ordinary kinds of albuminosuria or peptonuria had been described in connexion with measles, scarlet fever, typhoid fever, scurvy, the puerperal state, rheumatism, and cerebro-spinal meningitis. This change in the urine was also found in cases marked by suppuration or extensive inflammatory exudation, especially pneumonia and empyema. In observations made some years ago, among the class of cases usually found in the wards of a general hospital, he had found it limited to these two last-named diseases, and especially in severe cases a few days after inception, when the amount of peptone might be very large, in some cases reaching as high as 1 per cent. A rough examination might fail to find it in other cases. The best test was the cold nitric acid and biuret test, which required considerable care in the proportion of the reagents. Peptonuria was not an infallible evidence of suppuration; it had also been met with in fibrinous pleurisy and in purulent bronchitis. It only indicated extensive and severe inflammation with the formation of proteolytic products. It also indicated excretive activity in the kidneys. It was less frequent, he believed, than formerly. It seemed to be absent from abdominal inflammations, with the exception of an abscess bursting into the peritoneal cavity.

Dr. **Archibald E. Garrod** referred to certain circumstances attending paroxysmal hæmoglobinuria. Formerly this process was looked upon as the turning out of a foreign proteid, but from Dr. Brodie's observations it followed that the kidneys were not able to keep back hæmoglobin, or only in very small quantity. As regards what might be termed "foreign" albumins they seemed to be thrown out very readily. Egg albumin, for instance, if taken raw in very large quantities appeared in the urine, and he referred to a case in point. In reference to the general question of albuminuria perhaps in some cases the proteid itself was at fault, the albuminuria being due to a kind of "chemical malformation" in the individual.

Dr. F. **Parkes Weber** alluded to the frequent obvious presence in clear urines (generally of extremely low specific gravity) of what he believed to be a trace of mucin (nucleo-albumin). He likewise referred to the occasional presence of a substance which he supposed was a "bile mucin" in the urines of very grave and chronic cases of icterus (due to malignant disease or chronic obstruction of the bile-duct from cholelithiasis).

Professor W. D. **Halliburton**, in summing up the discussion, congratulated the society on the wide range and value of the contribution. He especially referred to Dr. Brodie's experiments. It was these which lent greatest support to the hypothesis he had advanced concerning the size of molecules and the permeability of cells as explaining the different forms of albuminuria. He thought Dr. Brodie's experiment of making a dead kidney in a bottle pass water added great confirmation to the physical as against the vital explanation. Mr. Cammidge's observations were interesting, but were open to numerous fallacies both in regard to the presence of pus and albuminose and also to certain fallacies in the processes employed. They only showed that serum albumin came through more readily than did globulin. Turning again, in conclusion, to the size of the molecules it was clear that some of the ordinary proteids possessed molecules of immense size, since hæmoglobin which was most easily diffused, possessed a molecular weight of over 1600.

OPHTHALMOLOGICAL SOCIETY.

Family Tendency to Ophthalmoplegia Externa.—Meningitis followed by Panophthalmitis.—Pigmented Tumour of the Eyeball removed; death from Multiple Pigmented Carcinoma nearly 14 years later.—Green Vision.—Exhibition of Cases and Card Specimens.

An ordinary meeting of this society was held on March 8th, Mr. **G. Anderson Critchett**, the President, being in the chair.

Mr. W. M. **Beaumont** (Bath) read details of a series of 12 cases of Ophthalmoplegia Externa occurring in Four Generations of an otherwise Healthy Family. This was no doubt due to nuclear disease limited to a small area. It was never congenital, but came on in adult life and slowly progressed until all the external ocular muscles were affected. Ptosis occurred in all and was an early symptom, but there was never ophthalmoplegia interna. In the advanced cases there was great weakness of the orbicularis palpebrarum. There was no other paralysis nor were any of the special senses affected. The first case—the ancestress of the family—died in extreme old age, her son died aged 90 years, while another died at the age of 85 years. One of the family had been shown to the society by Mr. J. B. Lawford and the case was recorded in Vol. VII. of the Transactions. Photographs of most of the others were shown and they all had ptosis. Mr. Beaumont thought that this was the first time that a family of 12 had been recorded suffering from this condition and he regretted that time and space—time because the cases were spread over four generations and space because they were spread over four quarters of the globe—prevented him from giving fuller details.—Mr. **Richardson Cross** (Bristol), who had seen one of the affected members, said the hereditary tendency was well marked and he had made a diagram of the relationships at the time. All the external eye muscles were affected.

Mr. A. **Quarry Silcock** read a paper on Meningitis followed by Panophthalmitis. He said that the interest in this case lay chiefly in the fact that both eyes were affected by a diffuse inflammatory change (panophthalmitis) the result of general septicæmia, and in so early a stage of the latter as to constitute one of its most prominent signs. The man, aged 35 years, was admitted to St. Mary's Hospital under the care of Dr. W. B. Cheadle on Oct. 14th, 1899. He was well and at work until Oct. 4th, when he was taken with shivering fits, pains in the chest, headache, cough with blood-stained sputum, and delirium at night. Since Oct. 7th he had persistent pain in the back of the neck. He answered questions intelligently; he complained of headache and pain in the chest. The temperature was 101° F. There were no symptoms of cardiac lesion or any obvious lung changes affording an explanation of the patient's condition. On the 15th, the day after admission, it was noticed that the right eye was inflamed (uveitis and hypopyon, chemosis of the conjunctiva). In the left eye the media were turbid, impeding a view of the fundus. The right eye was proptosed. On the 16th Mr. Silcock, after consultation with Dr. Cheadle, excised the eye, hoping that its examination would throw some light on the nature of the infection. This was done by Mr. H. G. Plimmer, who found that the infection of the eye was due to the streptococcus lanceolatus. The man became rapidly worse and died in a semi comatose condition on the 17th. The post-mortem examination showed extensive basic meningitis and subarachnoid hæmorrhage in the lower dorsal and lumbar regions; there were recent vegetations on the aortic valves and embolic lesions in the lung and the spleen. The proptosis of the right eye was clearly due to œdema of the orbit. The examination of the eyes (the left was examined by Mr. C. D. Marshall) showed purulent panophthalmitis, but whether this condition was secondary to meningitis or was a part of the septicæmic condition was uncertain.—The PRESIDENT remarked on the extreme rarity of the case and said that he had never seen one in which both eyes had been affected.—Mr. RICHARDSON CROSS said that though he had never seen a case in which both eyes were affected he had one case under his care in which one eye was lost during an attack of epidemic cerebro-spinal meningitis, and he read notes of this case.—Mr. NETTLESHIP said he had seen cases like that recorded by Mr. Cross. In one, a girl aged 10 years, attacked with a sister with symptoms attributed to influenza but closely resembling meningitis, there were iridocyclitis and lymph in the anterior chamber. Vision was recovered to the extent of [illegible]. In another case recorded in Vol. V. of the Transactions a child aged two and a half years had iridocyclitis in one eye with pains in the limbs and joints and the vitreous became opaque and degenerated. There was meningitis and death occurred after six weeks. Such cases had been called pseudo-glioma. Coagulated lymph was smeared over the iris and the eye usually become soft and shrunken.—Mr. E. TREACHER COLLINS had met with a similar case exhibiting iridocyclitis with yellow exudation into the vitreous. The eye was excised and the patient died with meningitis and otitis. The inflammation could be traced by way of the optic tracts and nerves to the papilla and eye.—Mr. HOLMES SPICER mentioned one instance in a woman aged 40 years in whom nodular iritis followed by shrinking of the globe occurred in one eye after the other in the course of a week, with loss of both, as a result of infective embolism derived from septic abortion.

Mr. HERBERT FISHER and Dr. CHARLES R. BOX related a case of Primary Pigmented Tumour of the Eyeball for which the eye was excised in 1885, the patient being a man at that time aged 42 years. 14 years later he was re admitted into St. Thomas's Hospital with great enlargement of the liver, accompanied by jaundice, abdominal pain, sickness, and diarrhœa, and œdema of the lower extremities. For 15 months the abdominal swelling had been progressing with general weakness and loss of flesh. The patient died and a post-mortem examination showed that the liver was almost replaced by a nodular mass of melanotic growth weighing 12 pounds 6 ounces. There were also a few pigmented growths in the left parietal pleura. A small pigmented growth of the size of a pea sprang from the myocardium and projected into the right ventricle. Microscopic examination of the liver growths proved *them to be melanotic carcinoma* and not sarcoma as had been expected. The eye containing the growth had been preserved and Mr. Trencher Collins was able to obtain sections of it. He reported the growth to have originated in the ciliary processes and to have extended thence into the iris and through the sclerotic. The cells were pigmented to a varying degree; they were small, polygonal and of an epithelial type and from their arrangement in rows Mr Collins gave it as his opinion that this growth was carcinomatous in character. It was decided to submit the sections to a pathological committee of the society for further examination and report.—The PRESIDENT remarked on the extreme rarity of the case.—Mr. COLLINS supported his view as to the origin and nature of the primary growth.—Mr. DEVEREUX MARSHALL, although expressing no opinion as to the nature of the primary growth, said he had never heard of a case in which a true cancer had remained dormant for 14 years, though he had seen and published a case in which a patient had died from metastatic sarcoma 11 years and five months after an eye had been removed for sarcoma.—Dr. BOX added some details of the case, and Mr. H. FISHER briefly replied.

Mr. H. WORK DODD said that some months ago he exhibited to the society a patient who saw everything green, and since that time he had collected 13 published cases of this condition. In reviewing these he came to the conclusion that neither sex nor age had to be specially considered, and that errors of refraction and their effects might be excluded. The condition of the general health was noticeable in seven of the cases; two suffered from migraine, two from syphilis, and three from chronic lead poisoning. 10 of the cases showed some departure from the normal in their ocular structures, such as wounds, detachments of retina, choroiditis, optic atrophy, neuro-retinitis, as well as tortuosity of the retinal vessels. With the exception of two cases following one a wound and the other an operation for cataract the abnormalities were connected with the optic nerve and retina. As to the reason why these people had green vision these cases gave but little information. It should, however, be noted that the macular region of the retina in three of the cases was the part affected, and in two of the others the temporal side was indicated as being particularly disturbed. Looked at in the light of our knowledge of the conditions existing in tobacco amblyopia, possibly the same tissues were affected in the two conditions. Two of the cases in which green vision was noted only when the patients were in-doors seemed to depend on the character or degree of the illumination.

The following cases and card specimens were shown:—

Mr. J. B. LAWFORD: Growth (? tuberculous) in the Macular Region.

Mr. E. TREACHER COLLINS: Unusual Changes in the Macular Region.

Dr. N. BISHOP HARMAN: Central Choroiditis.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

The Effect of Heredity on Disease.

A MEETING of this society was held on March 7th, Mr. A. G. MILLER, the President, being in the chair.

Professor D. J HAMILTON of Aberdeen read a paper on the Effect of Heredity on Disease. He drew attention in the first place to the enormous amount of literature which had arisen on both the biological and medical aspects of the question. The mere congenital transmission of a disease from parent to child was not heredity. Most of such alleged cases were merely the result of contagion applied to the fœtus—the direct inoculation of the fœtus through the blood of the mother. Two theories had received *most acceptance as regards heredity*: (1) the pangenic theory *of Darwin*, or the transmission of acquired features; and (2) the theory of Weissmann, or the continuity of the germ plasm. With reference to what were generally known as hereditary *diseases*—e g., *tuberculosis*—it was undeniable that that disease affected members of the same family and that the tendency to it had persisted in preceding generations, yet it was now asserted that the disease was not hereditary in young animals. The tendency depended either on direct inoculation or in the inheritance of a tuberculous predisposition to the disease. These could not, however, be the only causes. The conformation of the body showed it, as did also the liability of such individuals to certain other diseases. It was the habit of body which was inherited. Professor Hamilton thought that the epithelial coverings of the body in such individuals were too easily penetrated—that they did not resist the attacks of the tubercle bacilli sufficiently. It had been shown that when tuberculosis had been introduced amongst savage nations they had been decimated. No member of any community was immune to tuberculosis and there were few who could not be inoculated successfully. The lungs were the organs of the body which were chiefly affected and the epithelial coverings of these organs were very thin and delicate. Amongst children who exhibited the tuberculous form of body it was found that catarrhal pneumonia and attacks of bronchitis were frequent and this might be due to an abnormal penetrability of the epithelium. It was not yet known whether the epithelium in other parts of the body in those predisposed to tuberculosis was preternaturally vulnerable. The great point to note was the great vulnerability of the epithelium and this was handed down from generation to generation. The dark olive appearance of the skin, the colour of the hair, the length of the eyelashes, the lanugo-like hair along the course of the spine and on the legs, all pointed to an abnormal condition of the epithelium, and this might be a cause for the predisposition. How had this habit of body arisen? Could it be generated by vicious surroundings or would such agencies produce such a condition? Professor Hamilton thought not. They must go much further back. These tuberculous features were due to a variation which had taken place far back in their history and which had been propagated. It might have been confined to one race at first, and so that certain type of constitution might have arisen. Gout was said to be engendered by high living and to be transmitted. It might, however, skip a generation and re-appear in the succeeding one. In many people no amount of food or drink would excite gout. Were the complex phenomena really due to high living? Might they not be a reversion to an earlier type? For example, birds and reptiles normally excreted large amounts of uric acid. The gouty habit had arisen as a variation and so was transmissible. Mental diseases, neuroses, &c., all showed a vulnerability of the nervous system and it was possible that this might be related to the vulnerability of the epithelium. Nerve cells being so highly complex easily underwent degeneration. Such cells might break down as a result of strain due to an acquired lessening of resistance. Could external agencies bring about changes in the nerve-cells and might these be transmitted? Professor Hamilton referred to Brown-Séquard's experiments on guinea-pigs and the transmission of the epilepsy so produced to the offspring. Was there absolute proof to show that nervous diseases could be produced by, e g, alcohol, and could these be transmitted? He thought that they had not this proof. In such nervous diseases there was probably an acquired weakness which was excited by some stimulus. Syphilis was not hereditary, but it certainly was congenital. It tended to die out in the early life of the first descendant. Hæmophilia was often truly a hereditary disease. It was a disease of the blood-vessels and not of the blood. This peculiarity was transmitted, as was also the tendency to hæmorrhoids. In hæmophilia, however, Professor Hamilton thought something more was transmitted and that it might be related to menstruation. The disease usually affected males and so it might be allied to the condition of fever, congestion of the genital organs, &c, which was seen occasionally in men at intervals of about a month (male menstruation). Might not hæmophilia be a manifestation of this menstruation in the male? Was there any evidence of the hereditary tendency to disease becoming eradicated by the breeding of certain strains liable to certain diseases with other strains having no such tendency to those diseases? As regarded variation in constitution, if a vicious line were introduced it might die out by breeding with pure stocks As a cause of malformations in the fœtus Professor Hamilton believed that so-called maternal impressions had no effect. There was no evidence to show that a diseased first father might so influence the mother that the children of a second father might be affected. There was no evidence proving that a diseased condition of the body excited by external agencies could be transmitted.

Dr. T. S. Clouston said that Weissmann in his work on heredity made three striking admissions: (1) he admitted that the germ cells could be infected as by syphilis and so a disease might be transmitted; (2) that the law of non-transmission of effects of external agencies did not apply to the lowest organisms—that when they went low enough external agencies did act; and (3) that environment, especially climatic environment, had an effect on the nutrition of the germ cell so that it might be altered and thus the fœtus might be different from the parent. These admissions went a long way to satisfy the widespread medical opinion that heredity existed, as seen, for example, in five or six generations of tuberculous families. Again, the psychopathic constitution all its varieties might be studied for generations. Through environment and evil climatic and dietetic conditions the germ cell might be affected. What could a good heredity give to an individual? A normal development was the greatest power given to an organism. If they had a debasement they got the origin of a vast number of the neuroses. By far the largest number of the neuroses developed during the developmental stage—e g., epilepsy and St. Vitus's dance. Congenital defects likewise showed themselves at this period. Insanity occurred in its most marked forms in the developmental stages. When they thought of the immense complexity of each brain-cell they had only to realise that a very slight debasement of the developmental process would cause many of these lesions. Hereditary defects were due to an arrest of the maturation of the nerve-cells and these might give rise to many of the neuroses. The sexual and reproductive instincts threw an enormous strain on the constitutions of young men and girls. Growing old and dying were normal processes, but many became insane owing to an unphysiological mode of growing old. One set of tissues grew old in advance of others. In certain families there ran a tendency to an excessive use of alcohol. Many people had a lack of higher mental inhibition. The worst class of dipsomaniacs were adolescent cases. The disease arose during development. It was not a craving for alcohol but the controlling power was quite deficient. It was a hereditary weakness in reacting to alcohol and a very small amount had an intense effect upon them.

Professor Cossar Ewart congratulated Professor Hamilton on the orthodoxy of his teaching from the point of view of the biologist. He stated that variation was enormously common now; there were even epidemics of it. If they mixed up two different strains of wild animals they got a variation. Amongst the human race there was a constant mixing up and so there was a constant production of variations, and thus tuberculosis, gout, &c, might arise at any time. As regarded the influence of environment on germ-cells Professor Ewart stated that his experiments showed that the germ-cell was excessively sensitive but that they did not show that there was any transmission of acquired characters Examples were cited to show that the maturity of the egg determined the condition of the adult. Professor Ewart believed that reversion did exist.

Dr. J. W. Ballantyne said that he had never believed in the theory of maternal impressions There was evidence to show that fœtal tuberculosis did exist and that congenital cardiac disease might be due to tuberculosis in the mother. Malformations were more frequent in the descendants of those who had been alcoholic, gouty, rheumatic, or insane. The ultimate solution of the question of heredity must be arrived at through the germ

Professor Stewart Stockman, after some preliminary remarks, said that in all probability what was called the "tendency" to tuberculosis in human beings was the real disease and that if treated by tuberculin they would react. In the slaughter-houses of Edinburgh about 6000 calves were killed yearly and only one showed evidences of congenital tuberculosis. Of cows, from 12 to 80 per cent. were tuberculous Of bullocks slaughtered not 1 per cent were found to be tuberculous Tubercle bacillus from one species often failed to produce the disease in another, as, for example, fowls seldom took human tuberculosis. Cancer was never thought by veterinary surgeons to be hereditary in animals; and glanders, though it ran a very chronic course, like tuberculosis, was not hereditary.

Dr Alexander James, Mr. Joseph Bell, and Professor Schafer took part in the discussion and Professor Hamilton replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of State Medicine.

Presidential Address.—Infantile Insanity.

A meeting of this section was held on Feb. 16th.

Sir Charles A Cameron, C B., on taking the Presidential chair, thanked the Council of the Section for having nominated him as President and the Academy for having elected him. He then gave a short historical account of the origin of the section. The Academy was formed in 1882 by the amalgamation of the Medical, Surgical, Pathological, and Obstetrical Societies. At that time there was in existence a Society of Metropolitan Officers of Health, which met monthly and of which he was President. He suggested that as the various medical societies were being amalgamated it would be desirable that their society should enter into the union under the title of the Section of Hygiene. There was considerable opposition to this proposal on the grounds that it would unduly increase the number of sections, but ultimately the proposal was adopted in a modified form and a sub-section of hygiene was constituted. The four sections were each to have a president, but the sub section was to have only a chairman. Some years subsequently the sub-section was elevated to the dignity of a section and the chairman was converted into a president. He was the first chairman, and now, after an interval of 18 years, he again filled the highest office under the title of president. While commenting on the notification of infectious diseases he said that the Corporation of Dublin had included measles and whooping-cough in the schedule, but whooping-cough had since been eliminated, as no good had resulted from notification of that disease. Measles was hardly notified in any town save Dublin, but it was desirable that it should be notified. With regard to the use of preservatives in food he believed that some of them, such as boric acid, if used in moderation, would be useful. It was better to consume food kept fresh with a very moderate amount of preservative rather than food in a state of incipient decomposition and containing deadly ptomaines.

Mr. WALTER BERNARD delivered an address on Infantile Insanity. He said that the importance of studying the science and art of influence in the peculiarly impressionable epoch of infant life, during the many-sided, rapid periods of evolution, had hitherto been practically disregarded. Here it was not to the specialist that aid and the solving of difficulties must be looked for. The family practitioner alone was placed in the position for disciplining the faculties by his observed facts, and while engaged in this work for the future culture of the world he elevated those who carried out his directions on mental sanitation, practical life, knowledge, and truth. Besides, he held the key to the family pedigree and ancestral history. His insight, extended experience, and close observation enabled him, at this very early stage, before mental action and mentation were evolved, to control inherited conditions. By judicious training those born with insane propensities could be made not only able to take care of themselves, but could be converted into good citizens.

Dr. DOYLE thought that self-control was the point needing greatest emphasis. He had seen very marked improvement effected in a case which had been sent to an institution in Holland where the patients were taken charge of by farmers and where no education was attempted, the patients being chiefly employed in manual labour.

Sir FRANCIS CRUISE said that he had seen children of two and three years of age whose mental condition pointed to insanity and who ultimately proved to be insane. He was strongly convinced that a great many children were insane.

Dr. LITTLE agreed that a great deal could be done in the training of children who had a tendency to grow up imbeciles, About 15 years ago a boy came under his notice who was growing up an imbecile He was sent to an institution near London and he was now in a good position.

The PRESIDENT referred to the work which was being done by the London School Board in the training of children with impaired intellects. The children were examined by the medical officers of the Board and special classes had been formed for the purpose of teaching those who were the subjects of mental disease.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.—A meeting of this society was held on March 5th, Sir William Dalby, the President, being in the chair.—The President announced that the council had appointed an investigating committee, consisting of himself, Dr. Herbert Tilley, and Mr. Arthur Cheatle, to inquire into the Condition of the Ears in School-children —Dr Dundas Grant showed a case of old-standing Perforation in the Postero-Superior Segment which had been healed by means of the application of trichloracetic acid and in which there was improvement in hearing.—Dr. Urban Pritchard showed a patient who had had the Malleus Removed for long-standing Suppuration with Perforation in the Membrana Flaccida. Sound healing had occurred and the hearing was improved.—In discussing the case Mr. Richard Lake and Mr. Cheatle advocated the operation of removing the remains of the membrane and ossicles in cases of chronic suppuration in which healing did not occur as a result of thorough ordinary treatment and in which there was no indication for the complete post-aural operation. If the operation failed to cure it served demonstrate that more radical measures were necessary.—Mr. C. A. Ballance had seen a good many of Mr. Lake's cases and had been highly pleased with the results.—Mr. Richard Lake showed a patient who had an Exostosis growing from the Posterior Wall of the Right Meatus and almost filling the canal which was periodically blocked by cerumen.—The President and Mr. Cheatle advised chiselling the growth away after turning the auricle forwards —Mr. Lake also showed a patient with Destruction of both External Attic Walls resulting from chronic suppurative trouble in that region. The disease was soundly healed and the remainder of the membranes was intact.—Dr. Herbert Tilley showed a child with Congenital Dimples in Front of each Auricle. The condition was present in the father, in three of the aunts, in an uncle, and in a cousin.—Mr. Arthur Cheatle related a case under his care in which a Dimple was present on one side and a Sinus on the other. The sinus extended upwards, backwards, and inwards for some distance; an abscess formed periodically, leaving an ulcer which would heal, but the sinus remained. Healing occurred after laying the various branches freely open, dissecting away lining membrane, and applying pure carbolic acid —Dr. William Milligan had seen a similar case which was tuberculous.—Mr. Cheatle also showed two patients on whom the Complete Post-aural Operation had been performed, in the first case five weeks previously and in the second case three weeks previously. Packing had been left off in both, and they were being treated by daily syringing with carbolic lotion, 1 in 60, and instillation of spirit, nitrate of silver being applied to any exuberant granulations. There was little discharge in either case —Mr. Ballance recommended epithelial grafting and stated that the bone surface could thereby be completely healed within a fortnight of the original operation, possibly in less.—Dr. Milligan and the President concurred.—In reply to Mr. E. B. Waggett, Mr. Ballance said he had used small grafts, but they were not at all comparable in results with the large grafting method.—Mr Arthur Cheatle showed specimens from Fœtal to Adult Life of the Recess under the Fallopian Aqueduct. The space had been described by Steinbrugge and named by him "sinus tympani." Mr. Cheatle also described a recess outside the eminentia pyramidalis which sometimes ran outside the Fallopian aqueduct and dipped downwards for some distance —Mr. W. C. Bull showed a Sequestrum of the Petrous Bone which had been exfoliated spontaneously from a child, aged three years, leaving a smooth healed cavity.—Mr. Ballance suggested that it was tuberculous in origin.—Mr. L. A. Lawrence showed an elderly woman with a Papillomatous Growth in the Meatus. The opinion was expressed that it was probably malignant and that radical operative measures were necessary.—Dr. StClair Thomson showed a man with a Perforation in Shrapnell's Membrane with Cholesteatomatous Formation.—Cholesteatoma was also packed down behind the posterior segment.—Mr. Ballance and Mr. Cheatle advocated removal of the membrane, the malleus, the incus, and the outer attic wall, and if these measures were not successful the complete post-aural operation. In discussing the cases shown by Dr. Dundas Grant and Mr. Arthur Cheatle at the last meeting of Recovery from Thrombo-Phlebitis of the Lateral Sinus following clearing out of the Sinus without Ligature of the Internal Jugular Vein, Mr. Ballance thought that if a localised abscess was present in the sinus it was not necessary to ligature the vein.—Dr. Milligan alluded to a similar case described by Mr. A. Young in the *Glasgow Medical Journal* —With regard to Mr. Cheatle's case of Adeno-Carcinoma of the Meatus the President said it was rare for malignant disease to attack the meatus in that way. All the cases he had seen of epithelioma commenced in the tympanic cavity with the exception of one, which commenced in the skin over the mastoid process —Mr. A. E Cumberbatch related a case of Malignant Warty Growths of the Meatus in a woman aged 64 years —Dr. Milligan and Mr. Secker Walker related cases of Epithelioma of the Auricle.—Mr. Cheatle stated that cancer was much more frequent on the auricle than in the meatus, as many specimens of the former were found in the museums of the London hospitals and exhibited in the International Congress Museum, while of the latter the number was very small.—In discussing Mr. Waggett's case of Exfoliation of the Cochlea the President and Mr. Lake alluded to similar cases.—Mr.

Ballance said that as there was still suppuration from the petrous portion further operation was necessary in view of the danger of possible infection of neighbouring parts. He had healed cases of suppuration in the same situation.

British Gynæcological Society.—A meeting of this society was held on March 8th, Dr. W. J. Smyly, the President, being in the chair.—Mr. E. Stanmore Bishop (Manchester) showed the following:—(1) Sclero-cystic Ovary, History and Symptoms simulating Ectopic Pregnancy; (2) Double Papilloma of the Broad Ligament; (3) Large Pyosalpinx, the symptoms of which simulated Appendicitis; (4) Sloughing Fibro-myoma; and (5) Multiple Uterine Fibro-myoma, with central suppuration in one mass.—The discussion on these specimens resolved itself mainly into a discussion of Mr. Stanmore Bishop's final proposition—namely, that whilst some fibroids such as those discovered by accident having given rise to no symptoms whatever are best ignored entirely, whenever a fibro-myoma shows signs of growth it is wisest to remove it, and with it the organ in which it has developed, the uterus; the removal or otherwise of the appendages to depend entirely on their diseased or healthy condition.—After some remarks by Dr. Mansell Moullin and Dr. C. H. F. Routh Dr. Macnaughton Jones said that it had been laid down as an axiom in surgery that if the risks attendant upon an operation were not in themselves greater than those arising out of the disease for which it was proposed to operate, then operation was advisable and justifiable. The mortality from fibroids which were left alone was probably at least equal to 8 per cent., which was the percentage of fatal results from supra-vaginal hysterectomy in skilled hands. Of course, there were tumours which gave rise to no troublesome symptoms and which no one would operate upon and in which operation would not be justifiable.—Mr. Bowreman Jessett expressed his surprise at the paper recently published by Dr. F. H. Champneys in The Lancet[1] giving the mortality of hysterectomy for fibroids at 18 per cent. It was to be remembered, as had been pointed out by Mr. Harrison Cripps, that many of the patients who were operated on in St. Bartholomew's Hospital were already *in extremis* before operation; such cases should not be included when estimating the mortality of the operation; they, however, amply supported Mr. Stanmore Bishop's contention that cases which gave rise to symptoms should be operated on early.—After some observations by Dr. Herbert Snow and Mr. Charles Ryall, Mr. Christopher Martin (Birmingham) remarked that the question of the early removal of fibroids turned very largely on the risk of malignant changes supervening in these tumours. As to the choice of operation, he preferred panhysterectomy, of which the results were very good; he had now done 35 of these operations with one death.—Dr. William Walter (Manchester) advocated the *via media;* further they had to be influenced by the position of the patient. If she were a working woman, whose family depended on her work for their maintenance, operation should not be insisted upon unless the tumour were altering in consistence or increasing in size.—Dr. T. M. Dolan (Halifax) said that the difficulty experienced by general practitioners in the matter resulted from the fact that such wide divergence of views obtained among the leaders of the profession. He deprecated the attitude of those who advocated that the patient should wait for the "change of life"; by the time that this came about the patient was in many cases moribund and all that was left for the general practitioner to do was to sign the death certificate.—Dr. Inglis Parsons pointed out that among working women an operation was often urgently required in order to enable them to do the work on which their very existence depended; but it was often permissible to do no operation in the case of a patient who could afford to be an invalid.—The President expressed his belief that the mortality of the operation depended not only on the dexterity, but also on the views, of the operator: one who believed that most cases should be operated upon would probably have a mortality of from 5 to 8 per cent.; one who held the views of Dr. Champneys would probably reach a mortality of from 18 to 20 per cent.; whilst the surgeon who held an intermediate position would have an intermediate mortality. He congratulated Mr. Christopher Martin on his excellent results and expressed his own preference for the operation of panhysterectomy.—Mr. Stanmore Bishop replied.—Dr. Macnaughton Jones exhibited the Right Appendages of a patient in whom there had been a complication of symptoms—renal, uterine, and peritoneal—making the diagnosis of the actual condition difficult. She suffered from endometritis and had been recently married. Operation by posterior colpotomy revealed a cyst in the right mesosalpinx lying upwards and to the left side, while the ovary, enlarged and cystic, was in the normal position. The cyst was tapped and the adnexa were removed. The patient was now well. Dr. Macnaughton Jones also showed a large solid tumour of the ovary complicating cystoma. The solid mass filled the entire pelvic cavity. A diagnosis had been made of fibroma of the uterus, but laparotomy proved that it was ovarian. A report on the nature of the tumour would be made by Mr. J. H. Targett. The patient was doing well. He showed also a large Fibroma of the Uterus removed by Supra-vaginal Hysterectomy from a patient who had been several times operated on for sarcoma of the breast, with recurrences in the side of the thorax. From this she had perfectly recovered and it was feared that the pelvic tumour was also sarcomatous, but it proved to be a fibro-myoma. The patient made a good recovery.—Dr. William Walter showed a specimen of Uterine Myoma complicating Pregnancy.—Mr. Skene Keith showed a recent specimen of a large Uterine Myoma weighing 36 lb. The patient was progressing favourably.

Liverpool Medical Institution.—The fourth meeting of the Pathological and Microscopical Section of this society was held on March 15th, Mr. F. T. Paul being in the chair.—Mr. F. W. Bailey showed specimens of a Carneous Mole and of a Nasal Polypus expelled by sneezing.—Dr. J. Lloyd Roberts showed an Aortic Aneurysm from a man who had been under observation for a long time and who died from other causes. During expiration the pulse in the right radial artery disappeared and it was suggested by Dr. Hay that as the aneurysm was on the posterior region of the aortic arch it was pressed during expiration against the innominate artery and so caused the right radial pulse to disappear.—Dr. J. Wiglesworth showed a case of Double Porencephaly.—Dr. A. W. Campbell showed specimens and drawings illustrating the arrangement of the nerve-cells and nerve-fibres in the cerebral cortex in cases of idiocy. The drawings, which were of special excellence, were made to scale with the aid of an Abbé's drawing apparatus.—Dr. Alexander showed specimens of a Round-celled Sarcoma of the Testicle and Tunica Vaginalis of nearly three years' growth.—Dr. K. A. Grossmann showed specimens from a Tumour of the Orbit of six years' growth. Partial removal in 1894 resulted in recovery of sight; in October, 1899, it was found necessary to remove the new growth and the eyeball. The growth consisted of spindle cells, fibrous tissue, and muscle fibres.—Mr. Larkin showed specimens from an Epithelioma of the Penis. The growth was accompanied by extreme pain, and Mr. Larkin drew attention to the fact that it had extended along the perineural sheaths of the nerves, separating the lamina and causing proliferation of its cells, and that this would account for the pain. Mr. Larkin also showed a specimen of Multiple Carcinoma of the Scalp. Between 20 and 30 small tumours were present, varying in size from that of a small pea to that of a hazel nut. They were all quite separate. The occipital glands were secondarily affected. The structure resembled rodent ulcer.—Professor Sherrington showed normal specimens of the Organ of Corti and sections of the Brain from the Olfactory Region of the Rabbit.—Dr. R. J. M. Buchanan showed a specimen of a Nipple from a case of Early Cancer of the Breast. The nipple was clinically healthy, but the microscopic examination proved it to be profusely infiltrated with cancer.—Dr. Bradshaw showed specimens of a rare Crystalline Urinary Deposit.—The specimens were discussed by Mr. Paul, Dr. Alexander, Dr. Hay, Dr. J. Lloyd Roberts, Mr. O. Bowen, Dr. Grossmann, and Mr. Larkin.—Dr. Hay read a note on a Series of Hearts containing Thrombi. The thrombi were old-standing and not of the cadaveric or "agony" type. The series served to illustrate (1) the usual sites of thrombi; (2) the forms of thrombi; and (3) the associated conditions, and they included thrombi in the left auricle, left auriculo ventricular orifice obstructing the blood flow, in the apex of the left ventricle, in the infundibulum of the left ventricle giving rise to signs of aortic obstruction, and attached to the aortic valves.—In the series there were solid, dense thrombi, cystic thrombi, stratified flat thrombi, and pedunculated thrombi. The note was illustrated by specimens, photographs, and lantern slides.—*Dr. J. Barr discussed the note and Dr. Hay replied.*—Mr. F. T. Paul read a short paper on Congenital Cysts of the Neck. Attention was specially drawn to cysts arising from the sinus præcervicalis, the thyro glossal duct, and lymph angiomata. Mr. Paul considered that owing to the dual character of the structure of the cysts arising from the second branchial cleft the cysts were derived partly from the surface and partly from pharyngeal structures, the latter containing much adenoid tissue in the form of small nodules. Cysts from the thyro-glossal duct were lined with columnar ciliated epithelium and were situated in the median line.—In the discussion which followed Mr. Larkin recognised in the cysts from the second branchial cleft structure resembling the tonsil.—Professor Sherrington stated that in 30 thyroid glands from dogs examined by him he only remembered one having ciliated epithelium.—Mr. Paul replied.

---

[1] The Lancet, Jan. 20th, 1900, p. 147.

British Laryngological, Rhinological and Otological Association.—A meeting of this society was held on March 9th, Dr. Barclay Baron, the President, being in the chair.—The President alluded with regret to the loss sustained by the association in the death of Dr. MacNeill Whistler, one of its founders and a former president.—A vote of condolence with Mrs. Whistler was unanimously passed.—Mr. Mayo Collier showed a case of Abductor Paralysis of the Left Vocal Cord in a young woman, the cause of which was undetermined.—Mr. Lennox Browne opened a discussion on the Conditions of the Throat and Larynx Simulating and Predisposing to Tuberculosis. He began with the statement that although it did not so frequently fall to the lot of the laryngologist to decide doubts as to the tuberculous, non-tuberculous, or pre-tuberculous condition of a throat or larynx as was the case with physicians devoting themselves to disease of the chest the responsibility was no lighter nor was the issue less vital. It was, however, a fact that occasionally the prodromata of tuberculosis could be discerned with the laryngeal mirror before the ear could detect them with the stethoscope. In such circumstances it was possible to arrest the disease in the higher situation. Dismissing shortly instances of simple inflammations, of syphilis, and of lupus in the larynx which might be mistaken for tuberculosis attention was drawn to the influence of nasal obstruction and faucial irritation in bringing about conditions not only liable to be mistaken for tuberculosis but as distinctly forerunners of that disease. Many cases were reported showing that there were no definite laryngeal evidences which could be accepted as criteria of a tuberculous condition or tendency thereto and the same might be said with regard to physical signs in the chest and even of the bacteriological features, for one case was related of a patient in whom, with a history of hæmoptysis, want of resonance, moist râles, and old adhesions, together with the presence of bacilli, complete recovery of health took place after efficient treatment of faucial irritation. In this case an eminent physician, without committing himself to the statement that the patient was free from the danger of tuberculous trouble, was of opinion that "looking at the progress of the case the consolidation had been mainly of a broncho pneumonic nature set up by the violent cough from which the patient had suffered and which had been so remarkably checked" by faucial and laryngeal treatment. The indications for treatment of the class of case considered were: (1) to clear away all obstruction to free nasal respiration; (2) to remove all source of irritation in the palate and fauces; (3) to correct the products of catarrh by suitable intra-laryngeal treatment (Mr. Lennox Browne preferred sprays of guaiacol diluted 50 per cent. with almond oil carried deeply into the larynx and trachea under pressure); and (4) while recognising the value of the open-air treatment he thought a warning was due not to surrender entirely, as there was a tendency to do, attacking the disease by drugs, and especially where, as was the case in the throat, the site of infection was well within reach.—Dr. Thorowgood observed that prominence of the arytenoids and infiltration of the commissure were valuable indications of pulmonary tuberculosis, with which disease also an anæmic condition of the pharynx and laryngeal region was often associated.—Dr. J. Macintyre (Glasgow) expressed his belief in a pre-tuberculous condition in the larynx before a bacillary diagnosis could be made.—Mr. Mayo Collier spoke of the increasing rarity of tuberculous affections the higher the respiratory tract was ascended.—Mr. St. George Reid discussed the significance of micro-organisms in sputa, notably of the micrococcus tetragonus, as a possible forerunner of tubercle bacilli.—Dr. Dundas Grant spoke of cases which simulated tuberculosis.—The discussion was continued by Mr. Foster Palmer, Dr. P. Abercrombie, Mr. Wyatt Wingrave, and the President.—Mr. Lennox Browne replied.

Forfarshire Medical Association.—An additional meeting of this association was held in the University College, Dundee, on March 7th, Dr. C. Templeman, the Vice-President, being in the chair.—Mr. D. M. Greig showed a patient, a man, after Excision of the Left Upper Jaw for Sarcoma and pointed out the slight deformity following such an operation.—Mr. Greig also showed a boy with Coxa Vara, pointing out the altered movements of the hip-joint and the attitude in standing and lying which was exhibited by patients suffering from this affection.—Mr. Greig also showed several specimens: (1) The Upper Jaw with Tumour attached removed from the patient previously shown; (2) a Femur removed by Amputation for Acute Osteomyelitis; and (3) two specimens with Loose Bodies in the Tunica Vaginalis Testis removed after death from a case of Lympho-sarcoma.—Professor C. R. Marshall read a paper on the Nitrites and Allied Substances, giving his classification of them and illustrating by means of the blackboard and sphygmographic tracings the actions of the members of the various classes. He explained how it could be shown by experiment that these substances only acted on the blood-vessels and not on the heart. He also pointed out the various steps that had been taken in order to find a substance with a similar action to nitroglycerine or glycerol-nitrate but which had a more prolonged or lasting action. The toxic effects of these substances were then shown to be due to their power of forming methæmoglobin in the blood and the sodium nitrate was in doing this more rapid than nitro-glycerine. The therapeutic uses of these substances were next touched on—in angina pectoris, in cardiac failure, and in arterial sclerosis.—Professor A. M. Stalker, in some remarks on the paper, emphasised the beneficial effects of iodide of potassium in arterial sclerosis.—The Chairman also commented on the paper and Professor Marshall replied.—Dr. George Whyte gave an account of a case of Corrosive Sublimate Poisoning which had resulted in recovery partly due to vomiting being induced early and partly to its solubility in alcohol. The quantity taken was equal to 9 6 grains. The symptoms, severe vomiting and purging, were treated by 20 minims of tincture of opium every four hours to begin with. The patient resumed his occupation on the fifth day after taking the poison.—Professor Marshall and the Chairman made some remarks on the subject and the difficulty in knowing the exact amount taken.—Professor Stalker gave notes of a case of Subacute Endocarditis which he had had under his care. The case showed some difficulty in the diagnosis. There were a persistent temperature and some cough, and later a mitral systolic murmur was made out, but for a time the case resembled one of pulmonary tuberculosis. There was no rheumatic history and the case did not present the appearance of a cardiac case.—Professor L. R. Sutherland showed the Heart from this case which had vegetations in the mitral cusps. Several of the chordæ tendineæ had given way, causing the valve to flap during the heart's action and infect the endocardium in the auricle. He pointed out that the orifice, though in life it must have been narrowed, still admitted two fingers. He considered that the separation of chordæ tendineæ was not such a rare affection as was generally made out.—Dr. W. E. Foggie emphasised the importance of watching the temperature in such cases.

Folkestone Medical Society.—A meeting of this society was held on March 2nd, Dr. T. Eastes (Vice-President) being in the chair. The minutes of the last meeting were read and confirmed. Mr. H. A. Powell then played "Rule Britannia" and the members sang the chorus with much enthusiasm. A musical programme was then gone through and Dr. C. E. Perry, Dr. Eastes, Dr. E. Norton, Mr. A. J. Gore, and Mr. Yunge-Bateman sang, while Mr. W. F. Chambers played the mandolin and Dr. Chubb the flute. Dr. J. H. Ewart gave a recitation and Mr. Thornton Gilbert a demonstration on card tricks and thought-reading. After "Soldiers of the Queen" had been sung by Dr. Perry a collection was made on behalf of the Royal Army Medical Corps Fund and the sum of £2 15[illegible] was collected. The meeting was one of the most [illegible] the annals of the society.

Reviews and Notices of Books.

A Text-book of Physiology. By WINFIELD S. HALL, Ph.D., M.D. Leipsic, Professor of Physiology, North-Western University Medical School, Chicago. Illustrated with 343 Engravings and six Coloured Plates. London: Rebman, Limited. 1900. Pp. 671. Price 20s. net.

IT speaks well for the progress of education in America, as well as in this country, that the author of the volume before us, which is the most recent work on physiology, should expect that the student who takes it as his text-book has received what may be termed a liberal education, that he is familiar with the elements of physics, that he has acquired a fair knowledge of mathematics and of chemistry, and that he only requires to be reminded of recent work in histology. Without this amount of preliminary education he will hardly be able to comprehend the reasonings or the clinical applications of modern physiology. It could not be supposed that in the compass of less than 700 pages the varied functions of the body could be equally satisfactorily given. If some are dilated upon others are curtly treated, and it must rest with the individual teacher to determine what subjects he considers it to be most important for a student to know. For example, as a rule we think too much space is devoted to the special senses in text-books, and Dr. Hall has done wisely and well for the ordinary student or general practitioner in curtailing the chapters on these organs. On the other hand, he has dwelt at much greater length, and with advantage, upon the processes of digestion, upon the functions of circulation and respiration, and upon the nervo-muscular apparatus.

Dr. Hall's Physiology is valuable because it presents to the reader the physical side of the several functions to a large extent, and at the close of some of the sections problems are given with the mode in which they should be worked out. Thus, to give an example, the following amongst other problems are required to be solved in regard to the circulation: (*a*) How much (work) does the left ventricle perform in each systole if 120 cubic centimetres of blood are ejected against 14 centimetres of pressure? Answer: $W = 13.6 \times 120 \times 14 = 22{,}848$ gramme centimetres (*b*) How much work does the heart perform at each systole if the right ventricle expels the same quantity of blood against two-fifths as great pressure? Answer: $W = [13.6 \times 120 \times 14] + [13.6 \times 120 \times \frac{2 \times 14}{5}]$ or $\frac{7}{5}$ of work done by left ventricle alone $= 31{,}987$ gramme centimetres. *In speaking of the cause of the sounds* of the heart Dr. Hall can scarcely be said to commit himself positively to the opinion—now, we thought, agreed upon by all—that the second sound is caused by the closure or sudden tension of the semilunar valves, for he only says that the cause of the second sound "is quite generally interpreted in that way"; but in regard to the first sound he is positively heretical, for he does not admit that the auriculo-ventricular valves have anything to do with it. He gives four factors—viz., vigorous muscular contractions, friction of blood rushing through the semilunar valves, friction of heart incident to its change of shape within the pericardium, and, lastly, friction of heart against neighbouring structures in the thorax incident to its change of position in the thorax; but if the second sound is essentially caused by the sudden tension of the semilunar valves we can scarcely discard the bicuspid and tricuspid valves as of no importance in the production of the first sound. The whole of the section on the Circulation seems to be short, and, if only to introduce the name of Harvey to the student, we should have liked to see a line or two devoted to the "proofs of the circulation of the blood" as well as to the mention of other circumstances than the coagulation of the blood by which death from hæmorrhage is prevented.

A small and handy instrument is depicted, which Dr. Hall names the "hæmatocrit," by means of which the proportion of the corpuscles can be determined by centrifugal action. A coloured plate shows the varieties of blood-cells, though, perhaps, properly they should be called blood corpuscles. These are (1) normal red cells, (2) normoblasts, (3) microblasts, and (4) megaloblasts. Another coloured plate gives the varieties of leucocytes. These he names (1) polymorphonuclear neutrophiles; (2) myelocytes; (3) eosinophiles; (4) eosinophilic myelocytes; (5) large lymphocytes; and (6) small lymphocytes. In regard to the coagulation of the blood the author adopts the explanation advanced by Schmidt and Hammarsten that it is due to the nucleo-albumins prothrombin and thrombin. Both of these are derived from the katabolism of nuclei acting in presence of the alkaline earths on fibrinogen, and the fibrinogen is derived from cytoplasm that has successively generated cytoglobulin, preglobulin, and paraglobulin.

We like the mode in which Dr. Hall has attacked the several subjects. As a rule there is a short histological introduction which is well illustrated by figures usually borrowed from well-known and accredited sources, such as Klein, Schäfer, Piersol, and others of equal reliability, but it is evidently anticipated that the student has already completed a course of histology and hence such subjects as the internal ear and retina only occupy a page or two.

If we select such a subject as respiration, we find there is first a short introduction showing the object of respiration and giving its comparative physiology and its performance through the skin, by means of gills, and by lungs. No allusion is made, however, to the tracheal respiration of insects. Then the mechanical phenomena of respiration are considered, and it may be remarked in passing that the author regards the costal type of respiration observed among women of European races as a peculiarity developed by a mode of dressing which hampers the movements of the diaphragm while permitting the elevation of the ribs, a view to which we should be disposed to demur. There is a physical introduction giving the solution of various gases in liquids, which is followed by a section on the Mechanical and Physical Features of Respiration. Original drawings are here given of the stethograph and thoracometer, of the belt spirograph and the chest pantograph, with the graphic tracings obtained from their application to the chest, and there is an original and ingenious diagram showing the relations of tidal to complemental reserve and residual air in the acts of respiration. A section on the Chemistry of the Respiration follows, and a section is devoted to the Control of the Respiration, in the course of which experiments are briefly given from which the functions of the nerve trunks and centres implicated in respiration are deduced. The rest of the chapter is occupied with the Chemistry of Respiration.

It is remarkable that the author nowhere alludes to the average number of respirations per minute, or to the relation of the number of respirations to the number of cardiac beats, or to the modifications in number that are consequent on exercise, food, sleep, and other conditions. We have noticed some want of care in the correction for the press—Hammarsten, for example, being twice spelt erroneously—but as it is a first edition and the errors are sufficiently patent and are not of much importance we forbear to mention them, since they will no doubt be corrected in the next edition. In the meanwhile English students and teachers may purchase the work with the certainty that they will obtain a thoroughly sound and reliable exposition of the present state of physiological knowledge.

Clinical Studies in Vice and Insanity. By GEORGE R. WILSON, M.D. Edin., Medical Superintendent, Mavisbank Asylum. Edinburgh: William F. Clay. 1899. Royal 8vo. Pp. 234.

THE relations of insanity and vice to the social and hygienic conditions under which we live have attracted much attention in recent years. In Professor Clifford Allbutt's System of Medicine (vol. viii.) Dr. Charles Mercier has published a most important memoir on the subject of insanity, vice, and crime, the inclusion of which in a System of Medicine is an indication of the direction in which the current of psychological medicine is moving. Dr. Wilson's work is conceived on somewhat different lines, and though the main thesis is devoted to the morbid mental and moral conditions resulting from alcoholism the work has in its limited sphere a distinct value and usefulness. Part I. deals with drunkenness and alcoholism and contains evidences of careful thought and observation. The practical diagnostic sign of drunkenness is laid down as the inability of the patient to control his habit. "Drunkenness is a disease which primarily affects the purposive functions. It spreads so as to involve parts of all the functions of intelligence ...... and the lesion is of progressive nature." The effect of this dissolution of mental and moral capacity is that the patient sinks to the level of a being of a lower order of intelligence while the general character grows childish and puerile. Instances are given in support of this statement and the method of treatment of drunkards is then briefly dealt with.

The alcoholic diathesis is next touched upon. As the result of inquiry it is stated that what may be called "low-class" drunkards are probably moral imbeciles, but that the average drunkards, who are in a large majority, are neither more weak-minded nor more strong-minded than their neighbours. Interesting clinical accounts and histories follow of various classes of alcoholics—e g., high-class, average, and degenerate alcoholics. There is much interesting information in these histories, easily and pleasantly written in a somewhat discursive vein. A clinical study of insanity from the records of 15 cases follows and concludes the work. The chapters comprising this part of the work deal with cases of special interest, eight being of male and seven of female patients, each illustrating some interesting feature, social or medical. The work is on the whole suggestive, but there are a dogmatism and a directness of statement and opinion in it which make it an exposition of the author's individual views rather than a presentation of the various difficult and controversial facts and views regarding insanity and crime which are so strongly pressing on modern public opinion. It will be read with interest by alienists and by intelligent laymen who are interested in the medico-sociological aspects of insanity and crime, and should meet with success as a useful little introduction to the subject.

Physiology: A Manual for Students and Practitioners. By HOWARD D. COLLINS, M.D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, Columbia University, New York; and W. H. ROCKWELL, jun., M.D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, Columbia University, New York. Series edited by BERN B GALLAUDET, M D. Illustrated with 153 engravings. London: Henry Kimpton. 1900. Pp. 323. Price 7*s*. 6*d*. net.

THE majority of teachers of physiology appear to find it requisite to write a compendium of their lectures, which may serve the students who attend their classes for home study, which shall contain the more important facts which it is desirable to remember, and which shall form a ground-work of facts that in their oral discourses they can supplement and expand. In this country there are several such manuals, and the professors at the different universities in America are beginning to pursue the same plan. By the steady avoidance of doubtful facts and of theoretical views a very considerable quantity of information can be compressed into a small space, and in reading the present volume it seems to us that much discretion has been exercised in the way in which each subject is handled. The chapter on Respiration, though short, contains most of the facts which the student needs to know, though we should be inclined to demur to the statement that at the close of each expiration the vagus filaments are mechanically pinched. In the section on Circulation it is stated that the non-regurgitation of the blood from the auricles into the veins is due to four causes—the insufficiency of the auricular contraction to produce a reflux, the contraction of the muscular coat of the great veins near the heart, the opposition of the weight of the incoming blood, and the opposition offered by the valves in the veins. But regurgitation is often seen in patients under chloroform when the force of the auricular contraction must be weakened and when the influence of the valves can be in no way interfered with. In reality the second of the above-mentioned causes is the most important. The pulse tracings are not satisfactorily executed and the dicrotism of the normal tracing is not referred to at all. The danger of compression to too great an extent is, of course, that important points may be overlooked. We notice that the vascular glands are all dismissed in ten lines with the bald statement that they agree in having no ducts, that they do not seem to be associated in either secretion or excretion, and that they have no definite functions, though their extirpation is attended with serious results. An opportunity is here missed of impressing upon the student the probability of internal as well as of external secretion. The adrenals are not even mentioned. The measurements are correctly given and the book will hold a good position amongst other works of the same size.

JOURNALS.

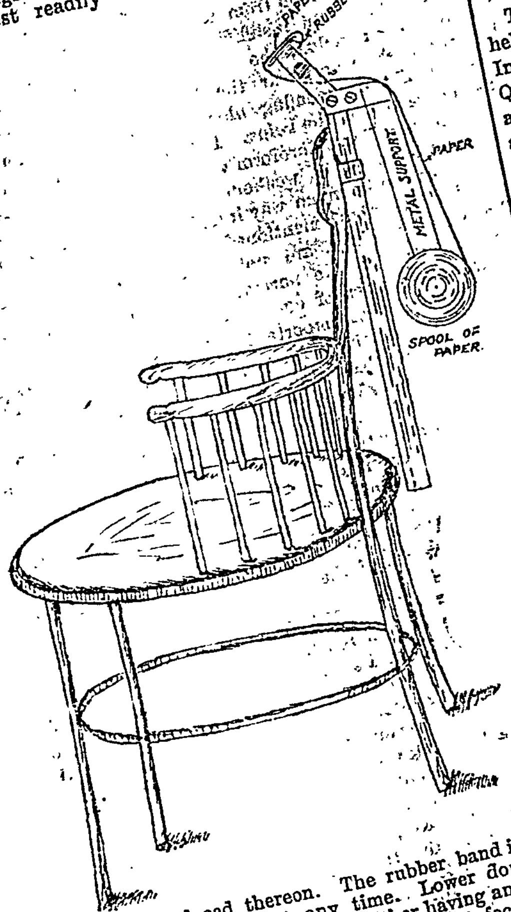
The *Veterinarian* for February commences with a couple of translations of lectures delivered by Professor Cadiot of Alfort, these being rendered into English by Mr. John A. W. Dollar, M.R C.V.S, the subjects chosen being Blennorrhœa in the Dog and Amputation of the Penis in the Horse. The symptoms and treatment of the former are fully discussed and in the article upon the latter the various methods of operating, sequelæ, &c., are thoroughly entered into. Locomotor Ataxia in the Horse is commented upon; there is an original article by Mr. S. N. Ranina, an Indian graduate of the Bombay Veterinary College, on the Inoculation of Horses for the Preparation of Anti-plague Serum, and a continuation of an article on Sheep Scab summarised from the American Government report on the subject. Under "The Month's Progress" are extracts of interest from foreign literature. A report of the proceedings of the Council of the Royal College of Veterinary Surgeons and reviews of new books conclude the number.

The *Veterinary Journal.*—The February number of this journal contains editorial comments upon the inequality of the preliminary educational test in England and Scotland required to be passed by a student before entering any of the veterinary colleges. Original papers are written upon the Unsexing of Animals and Oöphorectomy in the Mare (a further comment on which we publish elsewhere), Non-contagious Skin Affections, and Certain Laboratory Methods for the Diagnosis of Certain Micro organismal Diseases.

New Inventions.

A HEAD-REST.

THE objections to the head-rest on a barber's chair are manifest and manifold. The same rest is used for any number of people suffering possibly from all manner of skin and other diseases. The material (cloth, velvet, or leather) which is used to cover the wooden rest becomes the possible disseminator of various contagions. The head-rest described below is free from this danger. Instead of a hard wooden rest covered with cloth or some such material a piece of rubber band hung from two points (on the principle of leather springs or hangers for carriages) is used, so that the rest readily conforms to the shape of the head when placed thereon. The rubber band is detachable and can be washed at any time. Lower down than this rubber rest is a spool of paper, either having an oiled surface or having been saturated with some disinfecting medium. This paper is perforated in suitable lengths so that it can be torn off as required. The paper is taken from the spool (as is shown in the above illustration) and is passed over the rubber band and then secured. The person who is being shaved rests his head on the paper which covers the rubber band. When the operation of shaving is completed the paper which has been used is torn off and a fresh piece is substituted by simply pulling paper off the spool of the necessary length. The papers can bear distinctive numbers, so that they can form a check on the assistants in the shop as to how many people they have attended to. The inventor of the head-rest is Mr. F. B. Smith, architect, of Port Talbot.



A NEW CHIMNEY COWL.

WE have received from Mr. John Spring, of 413, Cleethorpe-road, Grimsby, a photograph and description of a new pattern of chimney cowl, terminating above in four lateral outlets directed to any four equidistant points of the compass. Each outlet is covered by a sloping (nearly vertical) door or flap hinged at a point above its upper margin, each pair of opposite doors being rigidly connected to one another by means of the bars from which they are suspended. When the air is still each door stands out from the corresponding opening in the cowl for a distance of three inches at the bottom, diminishing to one and a half inches at the top. When a gust of wind strikes a door it shuts it and opens the opposite or leeward door three inches wider. A strip of indiarubber along the bottom edge of each opening renders the closing of the door noiseless. There are no internal parts to get out of order, and the sweep's brush can be passed right in.

THE IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE St. Patrick's festival dinner of this association was held at the Hotel Cecil on March 17th, the President, Inspector-General Lloyd, R.N., honorary surgeon to the Queen, being in the chair. This was one of the best attended and most successful dinners of this important and increasing association. A large number of guests were present, the guests of the evening being Mr. W. H. Lecky, M.P., and Sir Dennis Fitzpatrick, K.C.S.I. After the health of the Queen and Royal family had been proposed and enthusiastically received Dr. J. Holmes Joy gave the toast of "Our Defenders," which was responded to by Surgeon-General Jameson, C.B., Director-General of the Army Medical Service, Fleet-Surgeon Delmege, M.V.O., and Surgeon-Captain Bourke. "Our Guests" was proposed in an able speech by Mr. P. J. Freyer, who was frequently interrupted by outbursts of applause, and responded to by the Right Honourable W. H. Lecky, M.P., and Sir Dennis Fitzpatrick, K.C.S.I. The toast of "Ourselves," proposed by Dr. W. S. Playfair, was responded to by the President. Dr. T. Monillot gave the toast of "Our Lady Guests," for whom Mr. T. Lean Wilkinson responded. During the evening a selection of Irish songs was given by Mr. W. Nichol and Miss Elsie Nichol which was much appreciated. Mr. J. J. De Zouche Marshall also contributed much pleasure to the association by singing two appropriate and well-rendered Irish songs. Mr. J. W. Ivimey accompanied at the piano. Much credit is due to the dinner secretary, Dr. Swanton, for the success of the evening, also to Mr. Freyer and Mr. James Stewart, the general secretary. During the evening the following telegram was forwarded to Her Majesty:—

THE QUEEN'S MOST EXCELLENT MAJESTY, WINDSOR CASTLE.

MADAM,—On behalf of the Irish Medical Schools' and Graduates' Association here assembled I beg to offer your Majesty our heartfelt gratitude for your Majesty's gracious recognition of the services rendered in South Africa by your Majesty's Irish soldiers, our fellow-countrymen, and for the highly prized permission to wear the shamrock on Saint Patrick's Day.

I humbly convey to your Majesty our full appreciation of your Majesty's gracious thought of our country at this time and earnestly pray that your Majesty's approaching visit to the Irish metropolis may be all that our loyal Irish hearts can wish for our beloved Queen.

I am, your Majesty's most faithful subject,
INSPECTOR-GENERAL LLOYD, R.N.,
Honorary Surgeon to your Majesty, President of the
Association.

Hotel Cecil, St. Patrick's Day.

The following is a copy of the reply which through ar
accident was not delivered during the dinner:—

TO INSPECTOR-GENERAL LLOYD, HOTEL CECIL.

The Queen desires me to thank the members of the Irish Medi
Schools' and Graduates' Association for their loyal and kindly mess
which alludes to the national appreciation felt at Her Majesty's
mission for the future wearing of the shamrock by her Irish troop
this day.

The Queen is gratified by their good wishes expressed for her co
visit to Ireland, to which event Her Majesty looks forward with
pleasure.

(Signed) Bi

A telegram was also sent to Lord Roberts who had
guest of the society on a former occasion:—

Accept our Patrick's Day wishes. Kindly convey them t
countrymen under command. We drink health, safe return.
LLOYD, President Irish Medical Graduates, n
Hotel Cecil.

THE LANCET.

LONDON: SATURDAY, MARCH 24, 1900.

THE proceedings of the meetings of the Executive Committee which occur in the interval of the sessions of the General Medical Council are of interest as showing the continuity of the work of the Council in respect of certain questions in which the profession is interested. Several such questions came up for consideration at the meeting of the Executive Committee on Monday, Feb. 26th. The vacancy on the Executive Committee created by Mr. Brudenell Carter ceasing to be a member of the Council was filled by the appointment of Dr. Donald MacAlister, the representative of the University of Cambridge on the Council. There can be little doubt that this appointment will be approved by the Council at large. Dr. MacAlister takes a very active and valuable part in the proceedings of the Council, especially in his capacity of chairman of the Business Committee. It is obviously convenient and proper that the chairman of such a committee should be a member of the Executive Committee. Another personal matter of much interest is to be noted in the proceedings of the committee. Mr. Farrer, whose firm have acted as the solicitors to the Council since 1859, and who has personally filled the office since 1886, has in a letter to the President expressed his wish to resign at an early date on the score of age and the state of his health. At the request of the Council Mr. Farrer has consented to hold his office till the next meeting of the Council, when a successor will have to be appointed. The amount and nature of the legal business of the Council alter with the development of the Council's work and require knowledge and qualities of a kind which every good solicitor does not necessarily possess. The Council must be careful in its selection of a successor to Mr. Farrer. Much of the power for good of the Council depends on its lawyers and a good and strong solicitor may save it money and gain it credit. It is impossible to deny that in some recent legal proceedings the Council has not appeared to such advantage as it usually did in earlier days. This may not be altogether the fault of its lawyers. The Medical Acts are so loosely drawn that they admit of much bad litigation; but this is only another reason for having the best legal advisers who can be found.

The minutes of the Executive Committee are not very explicit in regard to the probability of legislation for amending the penal powers of the Council and of the medical bodies which grant degrees and diplomas, but the committee carried a motion authorising Mr. Farrer and Mr. Muir Mackenzie to prepare a Bill "in accordance with the clauses submitted to and approved by the Council on Dec. 2nd, 1899." We may remind our readers that the President at the meeting in December was requested to f the same to the Privy Council and to express the desire of the General Medical Council that the Government should prepare or support a Bill for passing them into law. It may be assumed, from the statement made by the President of the General Medical Council to the Executive Committee and from the Committee's instructions to the lawyers, that Sir William Turner has had satisfactory assurances of support from the Government. So it may be hoped that the clauses in question, together with one for securing that fines for offences under the Medical Acts shall be paid to the credit of the General Medical Council, instead of, as at present, to the credit of the Metropolitan Police, will before long become law. One of the great evils of a state of war such as the present is that it interrupts all ordinary legislation. It would be too sanguine to expect just now such an amendment of the Medical Acts as is implied in the clauses approved by the universities, by the medical corporations, and by the General Medical Council, but we may nevertheless hope for some modest measure of success.

A subject of some difficulty and of much importance is that of reciprocity in the recognition of medical qualifications between this country and Italy. The General Medical Council at its last meeting instructed the President to ascertain if the Italian Government had arrived at any fixed determination to alter the law by which hitherto British practitioners have been allowed to practise in Italy. The President called the attention of the committee to the fact reported to it, that the Italian Government has under its consideration a Bill to exclude from practice in its territory foreign practitioners belonging to countries which do not grant reciprocal rights. The committee requested the President of the General Medical Council to call the attention of the Privy Council to this fact, which will doubtless also be referred to the General Medical Council for its consideration in May.

Medical practitioners know too well that any carelessness on their part in answering letters of inquiry from the Registrar in regard to their addresses or other matters is apt to be followed by their removal from the Register under the 14th section of the Medical Act of 1858. Such removal, though easily set right, is felt to be a great inconvenience. At the recent meeting a gentleman who had been removed under this clause applied to have his re-registration antedated "on account of serious legal disability under which he would suffer loss owing to the absence of his name from the Register from 1897 to Feb. 5th, 1900." The resolution of the Council was to the effect that the name was now restored and had been re-registrable at any time since its removal. This shows, what we should expect, that the Council cannot antedate a re-registration, and it emphasises the importance of more attention on the part of practitioners with regard to answering the letters of the Registrar.

We see with satisfaction that in noting the introduction of the Midwives Bill into Parliament the Executive Committee have represented to the Privy Council that the Bill does not make provision as advised by the General Medical Council for requiring licensed midwives to apply for qualified medical assistance in every case attended by danger, or disease on the part of the mother or child, and have expressed to his lordship their opinion that such a provision is one of imperative necessity for the safety of lying-in women. We venture to hope that upon such a grave expression of opinion by the Executive Committee of the General Medical Council the insertion of such a provision in the Midwives Bill will follow. There are many inherent objections to the Bill with such an addition; without it we regard the measure as unmitigatedly dangerous.

WE have before us a copy of the report and certificate submitted by an alderman of the Northamptonshire County Council under the Housing of the Working Classes Act of 1890, recommending his council to sanction the adoption of Part III. of the Act by the Brixworth District Council in respect of a Northamptonshire village named Spratton; and we have also before us an account, taken from a local newspaper, of the county council's debate on the adoption of the report. These documents form interesting reading. The Act in question has been of substantial benefit in metropolitan areas and possibly in urban districts outside London, but rural districts have hitherto made but little, if any, use of Part III., a portion of the Act which particularly applies to them. Part III enables local authorities to build lodging-houses, an expression which includes separate houses or cottages for the working classes. In rural districts the local authority is the district council, which may, with the sanction of the county council, acquire land, compulsorily if need be, build, let, regulate, and if necessary sell again, houses for working men, raising the money for these purposes by a rate levied on its district, or on such portion of it as may appear just. There are various reasons why rural districts should not hitherto have availed themselves of these provisions. Most of our villages are peopled by agricultural labourers and afford habitations to a diminishing rather than an increasing population, while a large proportion of them are "close" villages. With regard to this term we cannot do better than cite two quotations made in the report before us from a document published by the Royal Commission on Labour of 1892-93. They are: "In villages which are owned, chiefly or entirely, by one landlord, or where cottages have been provided as part of the equipment of a landed estate for the housing of those who work on that estate, the cottages are almost invariably superior in character to those in open villages, or wherever they are held apart from land, and of owners who depend to some extent upon cottage rents for their living." "The action of the local sanitary authority, though vigorous in some districts, is in many places ineffective, and it is everywhere impeded and sometimes arrested by the knowledge that the owners of insanitary dwellings have not the means to remedy the defects, and that the consequences of closing such dwellings would be to make the present inhabitants homeless." Spratton, we may add, is not a "close" village.

At the meeting of the Northamptonshire County Council the idea of a local body supplying dwellings for the working classes in a rural district found one or two strenuous opponents, some of whose arguments have force, although we cannot think that they ought to prevail, but the landed interest as represented on the council found an enlightened spokesman in Lord SPENCER, who strongly supported the resolution put forward on behalf of the village under discussion. His lordship professed a warm interest in the experiment about to be made, referred to his observation of the needs of rural districts in Ireland, and pointed out that as far as Northamptonshire went his own interests as a ratepayer were largely affected by the subject of discussion. His liberal-minded advocacy of the needs of Spratton had no doubt considerable effect on the result of the debate, which ended in the resolution for the issuing of the necessary certificate to the district council being carried by a large majority. Spratton appears to be a good instance of what is known as an "open" village. Its 187 dwellings, of which 147 are cottages, are said to be owned by no less than 83 different persons, some of them quite unable to spend money on improving their property. The majority of the insanitary tenements were originally erected by squatters whose occupation of neglected land by the roadside had been acquiesced in until it became too late to dispute the ownership. Anyone acquainted with common lands in England where there is anything to support a population will recall instances of squatters' cottages and will have noted their inadequacy as dwellings. Frequently a neighbouring landlord bears the blame dealt out by hasty observers with regard to them. Of the cottages in Spratton five were reported as beyond being made fit for human habitation and four of these were overcrowded, while of 11, of which three were overcrowded, it was thought that they might be made inhabitable by repair. The remedy proposed for this state of affairs and now to be adopted includes the allowing of two months to the owners of the dwellings capable of repair in which to make them decent and sanitary, with the alternative of having them compulsorily closed; while in the case of the others a similar period is to be allowed to the tenant to find accommodation elsewhere, and they are then to be closed. Meanwhile the Brixworth District Council will raise the necessary funds in order to replace them with cottages of its own.

In the report already referred to, which was made by Mr. C. K. WOOLSTON, an alderman of the Northamptonshire County Council, with assistance, which he gratefully acknowledged to the council, from Mr. C. E. PAGET, the county medical officer of health, we note among the cogent reasons laid before the council to aid them in arriving at their decision the statement that no evidence was gathered by Mr. WOOLSTON to show that any plans for new cottages had been submitted to the local authority for approval, or that there was any intention on the part of any person to erect such cottages, or that any improvement of existing dwellings was in progress or in contemplation by their owners. We ought, perhaps, to add to what we have said about Spratton as an "open" village that its inhabitants are not purely agricultural or engaged in one pursuit; some of them are connected with working ironstone, a few with the railway, and one seems to be a bootmaker at Northampton. Good cottages are not "paying" property and the landlord who provides them as accessory to the occupation or working of his land is not necessarily able or willing to supply them for the use of men not employed in connexion with his own estates. In such instances, or in cases where the landlord (or landlords, should there be many) is neglectful or impecunious we conceive that it is the duty of the district council to obtain for the working men within its area suitable, sanitary, and inexpensive homes, and we recommend to district councillors in general the consideration of the action of their congeners in Brixworth. The guardians of this locality, we note, rendered aid to the Commission on Labour in 1892 by the "very complete tables" which they furnished for its information and an intelligent and liberal spirit would seem to prevail here with regard to questions affecting the public health and welfare.

THE subject chosen this year by Dr. F. J. WALDO for his Milroy Lectures, which have just been delivered before the Royal College of Physicians of London, is one full of interest and importance in preventive medicine. Epidemic diarrhœa, to choose one of its many synonyms, is a chief cause of the vast infantile mortality that has hitherto eluded the control of the public health reformer. It has not shared in the decrease that has taken place in this country in plague, cholera, tuberculosis, typhus fever, and small-pox, but has maintained its rate of mortality. A point brought out clearly by the lecturer was that its incidence was not necessarily influenced by the factors favourable to the spread of enteric fever—an observation of some moment when we consider the strong analogy that exists between the two diseases.

Epidemic diarrhœa has well-marked peculiarities which point to special methods of origin and distribution. Among them may be mentioned its main occurrence in the third quarter of the year, the terrible mortality it causes in children under five years of age, its urban incidence, and its prevalence in dry summers. One of the most interesting discoveries in its etiology was the demonstration by the late Dr. BALLARD that the summer rise of the disease did not commence until the mean temperature recorded by the four foot earth thermometer reached somewhere about 56° F. To this observation Dr. WALDO added one of almost equal significance in demonstrating the local distribution of the malady in counties. From the analysis of a vast array of statistics he arrived at the conclusion that diarrhœal diseases were first and foremost the result of strictly local conditions. To put the matter in another way, the great variation in the diarrhœal death-rate in different districts of one and the same county excludes climatic conditions as the essential factor in causation. Another suggestive feature in the history of the malady is the fact of its vastly greater incidence upon hand-fed as compared with breast fed infants. With regard to the ultimate origin of the disease Dr. BALLARD suggested the presence of a specific microbe or microbes with a probable habitat in the superficial layers of the soil. The theory now generally accepted is that epidemic diarrhœa is the result of the invasion of one or more micro-organisms, such as the proteus vulgaris, and various micrococci and bacilli, while several constant bacteria of the human intestine appear at times to acquire pathogenic properties. Our knowledge of the bacteriology of epidemic diarrhœa, however, is still in an imperfect condition and its prosecution is surrounded with great technical difficulties. Dr. WALDO has now come forward with a theory of causation that is in some respects novel, though he does not claim originality for it. He suggests that epidemic diarrhœa is probably due in no small measure to the pollution of street-dust by horse-dung. The chain of proof is admittedly imperfect, but it must be admitted that the theory explains many of the peculiarities that mark the natural history of the disease. Dr. WALDO'S words in his Milroy Lectures were: "In casting around for a possible source of what may be regarded as a manifold infection of epidemic character the idea occurred to me, as it has to others, that organically polluted dust might be the vehicle of distribution. A further consideration of the circumstances of the case led me to form the opinion that horse-dung may be the specific polluting material." The composition of the dust of towns—and it must be remembered that it is only in towns that epidemic diarrhœa is rife—plainly differs from the dust of country roads in one important particular—namely, in the infinitely greater proportion of horse-dung which it contains. With the wonderful power of penetration possessed by dust we are all familiar. It is universally diffused through every part of the town-dweller's environment and presumably where it goes it carries any organic germs with which it may have been charged. If the bacilli present in dry horse dung will cause diarrhœa Dr. WALDO'S supposition becomes feasible. The theory also explains why hand-fed children suffer especially. Milk, which forms the staple article of infantile diet, is freely exposed to invasion by town dust, both in the shop of the retailer and in the larder or cupboard of the consumer. As dust the contagious material would settle on surfaces or float in the air, and in either case would be washed away by rain, a fact that accounts for the diminution of diarrhœa in wet summers.

While on reflection it appears that other points in the etiology of the disease may be cleared up by assuming the cause to be the aerial distribution of dust charged with the infections of horse-dung, we do not need to be convinced of the correctness of the theory to approve of any pathology by which impetus will be given to the progress of street sanitation. The desirability of wide streets with smooth, impermeable roadways capable of frequent flushing, always apparent to medical men, will be more apparent to sanitary authorities after learning the tenour of the Milroy Lectures. The need of frequent and systematic town scavenging will be greatly emphasised, as well as of the absolute supervision of milk supplies from the udder of the cow to the mouth of the consumer. The necessity of approximately dust-proof larders will be evident, and even the substitution of mechanical for horse traction will be advanced. Whether the theory be ultimately established or otherwise it cannot fail to attract attention to the importance of street sanitation and the domestic storage of food. We hope to publish in full in early issues of THE LANCET Dr. WALDO'S Milroy Lectures.

Annotations.

"Ne quid nimis."

WINDOW CLEANING AND FLASH-LIGHTS.

ON March 20th the London County Council passed some by-laws which the Home Secretary has intimated his intention to approve. They deal with the custom of servants or other employés standing on window-sills for the purpose of cleaning windows or for any other purpose, at any height over six feet from the ground without a sufficient support. The penalty for breach of this by-law is fixed at £5 for the employer and £1 for the employé offending. The second by-law deals with those abominations which have recently come into use for advertising purposes—namely, flash- and search-lights. We have on previous occasions[1] expressed our opinion of these things and are sincerely glad to see that the Council has at last put its foot down. The following are the by-laws on lights:—

> No person shall exhibit any flash-light so as to be visible from any street and to cause danger to the traffic therein. Nor shall any owner or occupier of premises permit or suffer any flash-light to be so exhibited on such premises:
>
> "Flash-light" means and includes any light used for the purpose of illuminating, lighting, or exhibiting any word, letter, model, sign, device, or representation in the nature of an advertisement, announcement, or direction which alters suddenly either in intensity, colour, or direction.
>
> No person shall exhibit any search-light so as to be visible from any street and to cause danger to the traffic therein, nor shall any owner or occupier of premises permit or suffer any search-light to be so exhibited on such premises.
>
> The expression "search-light" means and includes any light exceeding 500-candle power, whether in one lamp or lantern or in a series of lamps or lanterns used together and projected as one concentrated light, and which alters either in intensity, colour, or direction.
>
> Any person who shall offend against any of the foregoing by-laws shall be liable for every such offence to a fine not exceeding £5.

We really seem to be getting within measurable distance of the time when London will be a comfortable city to live in. The by-law to stop street shouting which was passed upon Feb. 6th has now, we presume, become law. The German band, however, still flourishes, and the hawkers of newspapers still make night hideous with their unveracious screeching. But we are a slow-moving nation and cannot expect too much at once. Meanwhile, let us be thankful for what the London County Council has already done.

QUALIFICATIONS OF PUBLIC ANALYSTS.

UNDER the amended Sale of Food and Drugs Act a wider interpretation to the word "food" is given. The term now embraces any article which ordinarily enters into or is used in the composition or preparation of human foods, including flavouring matters and condiments. This will considerably increase the work of the public analyst and it is all the more necessary, therefore, that all future candidates for this position should possess suitable qualifications. The Local Government Board have for some time had this matter under consideration and have now issued a statement of their requirements in this respect. Intending candidates for public analyst appointments will now, if they have not previously held such an office, have to furnish proof of competent skill in, and knowledge of, analytical chemistry, therapeutics, and microscopy. To meet these requirements the Institute of Chemistry has added a special examination in therapeutics, pharmacology, and microscopy to be taken in conjunction with the analysis of food and drugs section of their final A.I.C. examination. The possession of this certificate together with the diploma of Fellowship or Associateship of the Institute has now been definitely accepted by the Local Government Board as sufficient evidence that the holder possesses the knowledge necessary for the office of Public Analyst. The value of microscopy in every class of analysis has been so long recognised that it should certainly form an important part of the training of analytical chemists. A general knowledge of therapeutics and pharmacology is desirable, not to say essential, for a public analyst, but it should be borne in mind, nevertheless, that he is not in any sense a medical man. Any questions of a therapeutic character based on the results of chemical analysis should be referred to the medical officer of health of the district concerned. In this connexion it is to be hoped that the number of samples of drugs taken under the Act will in the future be largely increased, as the purity of medicaments is of the utmost public importance.

THE AFTER-EFFECTS OF UNSEXING ANIMALS.

IN the *Veterinary Journal* for February there are two interesting articles upon this subject. One, written anonymously, treats of the subject in a general way, and the other, a paper read by Professor Hobday before the Lancashire Veterinary Medical Association, deals particularly with oöphorectomy in the mare. On the smaller animals—such as the pig, the sheep, the dog, and the cat—the operation has been practised for many years, but the unsexing of the females among the larger animals has been allowed to fall into disuse in England until somewhat recently. It is practised upon mares which are continually in œstrum, those which have nymphomaniac tendencies, and upon those which are pronounced kickers. In America it is done upon racing mares in order to ensure that they can be kept in good condition and can be brought to the starting-post without fear of œstral troubles when amongst other horses. For hunting mares of uncertain temper and known to be excitable and dangerous in the field it possesses the same value. According to the observations of Professor Hobday, who practically demonstrated the operation on a vicious mare before the members of the Lancashire Association, the vaginal method of operating is by far the best from all points of view, and the ultimate improvement in temper is much more likely to ensue in a young animal than in an old mare in which the habit of kicking has become firmly established. On the stallion the effect of the removal of the testicles in rendering the animal more docile and tractable for the service of man is too well known to need comment. Calves are usually unsexed when they are a few months old; the operation upon the female is then performed through the flank, but this operation is not regularly practised except in certain districts. The object is to make them fatten more quickly. In heifers and milkers the vaginal method is the best; with the latter the objects are to prolong and increase lactation, to cause the animals to fatten quickly, and at the same time to render the meat more palatable for human food. The average of successful results is very good. The pig is almost always operated upon when young; in some counties, particularly in Norfolk, Suffolk, and Essex, many dealers will not buy female animals that have not been spayed. The operation is often done by a travelling gelder, and so expert do these men become that it is no uncommon thing for the whole process, from the time when the incision in the flank is made until the wound is completely sutured, to occupy only 30 seconds, both ovaries and horns of the uterus being removed during that time. No antiseptic precautions are taken and the percentage of deaths is practically *nil.* It is a commonly accepted idea that unsexed pigs fatten better, that their flesh is more palatable, and that the bacon takes the salt better than when the animal is entire. In the sheep the male lambs are castrated, oöphorectomy in the female having completely fallen into disuse not only in England but on the Continent. The males of the canine and feline varieties are operated upon in order to curtail their wandering propensities and also in the case of the cat to do away with the very objectionable odour of the urine of the uncastrated "Tom." In the females oophorectomy, or frequently ovaro-hysterectomy, is performed in order to keep her from attracting friends of the opposite sex and prevent the consequent multiplication of species Avoidance of the latter point, can always be ensured, but if the bitch or cat has once had young ones or even been in œstrum this troublesome period is apt to occur again once or twice, although as a rule it is not so prolonged as when the ovaries are present. In the female cat, particularly the long haired breeds, there is another advantageous sequel in that they do not change their coats twice a year in the same manner as before; they remain in good coat at a time of year when other cats are losing their hair and generally looking out of condition. It has been said that the unsexed dog and cat become fat, lazy, and useless for all work, but both writers in this number of the *Veterinary Journal* assert that this is not the rule if the animals are properly dieted and exercised afterwards. The after-effect of the operation upon the shape of the head and neck is curious. The castrated male always takes the form of the female, the spayed female not being noticeably altered in appearance except in the case of the cat; in this animal an unsexed female, if operated upon when young, will often develop the head, size, and form of an uncastrated "Tom" In pheasants, too, it is said that a hen bird will acquire cock's plumage if the ovarium is pricked or twisted. What can be the cause of the influence exercised by the generative organs on these points, and why should not emasculation have the same effect on the shedding of the male cat as on that of the female?

---

[1] THE LANCET, Oct. 22nd, p. 1077, and Nov. 26th, 1893, p. 1418

A TESTIMONIAL TO THE RESIDENT MEDICAL OFFICER OF ST. GEORGE'S HOSPITAL,

For 25 years as resident medical officer at St. George's Hospital Mr. F. J. Marshall has exercised an influence at that institution not necessarily associated with his official post. In addition to the general supervision which he exercises over the working of the hospital he has been throughout the guide, philosopher, and friend of every house physician and house surgeon who has held office during this period. It is not surprising, therefore, that the past and present residents of St George's Hospital decided to commemorate Mr. Marshall's completion of 25 years service at the hospital. In furtherance of this object a dinner was held at the Café Royal on March 14th when Mr. Marshall was the guest of between 60 and 70 of his friends, every one of whom owed him some debt of kindness, hospitality, or advice incurred during the last 25 years. Dr. A. P. Sherwood of Eastbourne was in the chair by right of seniority, and the company included many of the surgeons and physicians to St. George's Hospital who had been in residence at various periods during Mr. Marshall's occupancy of office. Mr. W. H Bennett and Mr. Adams Frost were two of the four residents holding office when Mr. Marshall first went to St. George's, and those of later date included Dr. Lee Dickinson, Dr. Cyril Ogle, and Dr. A. C. Latham and Mr. George Turner, Mr. Marmaduke Sheild, Mr. H W. Allingham, Mr. W. C. Bull, Mr. H. B Grimsdale, and Mr. F. Jaffrey, to mention those only who are on the staff at St. George's Hospital. The chairman in a capital after-dinner speech described the apprehension with which the advent of a resident medical officer was viewed by the residents 25 years ago and the steps taken to insure his discomfort, steps hurriedly retraced when at the end of a few days it was realised that "one of the best fellows in the world" had taken up his abode at St. George's Hospital. Telegrams were read from past residents now at Wynberg Base Hospital, South Africa, from New Zealand, and from other quarters of the globe. At the conclusion of his speech the chairman presented the guest of the evening with a cheque for 100 guineas, which with a set of silver candlesticks and silver and onyx "pool," represented the testimonial. Mr. Marshall made a cheery and characteristic reply and, the ordeal of photography having been safely passed through, the company separated.

THE CEREBRAL SYMPTOMS OF TYPHOID FEVER.

Nervous and cerebral symptoms assume an important place in the symptomatology of typhoid fever and their frequency has led to the name Nervenfieber, which is one of the German synonyms for this disease. Headache is extremely common, while delirium and even acute mental confusion may be not infrequently present. The stage of convalescence may also be marked by attacks of nervous depression and exhaustion, and Professor J. M. Da Costa recently exhibited a case which had been free from notable nervous disturbance during the illness, but in which during the period of convalescence and about a week after the fever had subsided mild nocturnal delirium had set in, with mental confusion and hallucinations which, however, disappeared during the day. This condition eventually disappeared under suitable tonic treatment (syrup of hypophosphites with strychnine) and the ingestion of small quantities of alcohol (whisky) with food at short intervals. Dr. Thomas Claytor, Professor of Clinical Medicine at the Columbian University (D.C), reports three interesting cases of general convulsions occurring as a cerebral complication of typhoid fever.[1] The infrequency of general convulsions may be gauged by the fact that Murchison in his classical work "On the Continued Fevers of Great Britain" states that of 2960 cases of enteric fever admitted to the London Hospital in eight years convulsions occurred in only six cases. Dr. Claytor's cases are as follows. Case 1—The patient was a private soldier, aged 26 years, who was attacked with fever, headache, diarrhœa, and epistaxis in the Cuban campaign. He was admitted to hospital on the twentieth day of his illness, the temperature rising on occasions to nearly 106° F. He was slightly delirious at times. Numerous large abscesses on the body and the limbs followed subsidence of fever, and these were freely incised and evacuated. He was on the road to recovery and on the thirty fourth day of his illness "while apparently asleep he uttered a sharp cry, threw up his hands, and went into a slight general convulsion. The eyes were fixed and glassy; there was slight frothing at the mouth for a few seconds." He remained unconscious for ten minutes, and on recovering he said that he felt as though he had been dreaming. On the fiftieth day of the illness (convalescence having been established) he had a second and more serious seizure. "While sitting up in bed eating his supper he suddenly uttered a sharp cry, threw up his hands, fell over on his right side, and went into general convulsions" The convulsive movements were followed by a period of rigidity with the head and shoulders bent forward. In from 12 to 15 minutes the forearms were flexed and raised to the head, and slight twitchings with grinding of the teeth and drawing of the face to the left followed. The patient lay on his right side all night with the head and shoulders bent, the legs and thighs flexed, and the arms rigidly set in the attitude mentioned, and any attempt to change the position caused a return of the spasms. The jaws were firmly set and feeding was only possible by a tube passed into the œsophagus through the nose. He gradually recovered and was well in a few days Case 2.—A young soldier, aged 24 years, had enteric fever, and on the twenty-seventh day he became unconscious and had slight general convulsions. The breathing was very slow (four respirations per minute) and there was blood in the stools. Baths were frequently given and he ultimately recovered. Case 3.—The patient, aged 27 years, had intercurrent relapses of typhoid fever, lasting in all three months. There were delirium and profuse sweating on August 30th, 1899, followed by generalised convulsions on the next day with loss of conciousness. Eventually the patient recovered.

---

[1] Philadelphia Medical Journal, March 3rd, 1900.

HONOURS TO THE MEDICAL PROFESSION.

UNIVERSAL satisfaction will be felt throughout the profession by the announcement made in the *Gazette* of March 20th that the Queen has been pleased to appoint Lord Lister to be Serjeant-Surgeon in Ordinary to Her Majesty, in the room of Sir James Paget, Bart., deceased. Mr. Frederick Treves has at the same time been appointed one of the Surgeons Extraordinary to Her Majesty. *Lord Lister's three immediate* predecessors in this distinction were, in the inverse order of their periods of office, Sir James Paget, Sir William Fergusson, and Sir William Lawrence, men everywhere recognised as among the foremost representatives of British surgery. Sir William Fergusson, whose eldest daughter has just passed away (March 16th, 1900), was serjeant-surgeon from 1867 till his death in 1877. The Queen has usually had two serjeant-surgeons, but on the death of Sir Prescott Gardener Hewett in 1891 no successor to him was appointed, and Sir James Paget, who was raised to this dignity in 1877, remained up to the end of his life the only serjeant-surgeon.

HEAT APOPLEXY IN THE ARGENTINE REPUBLIC.

LETTERS received from Buenos Ayres state that the average shade temperature in the city was about 90°F. for nearly the whole of the month of January, a maximum of 104° having been registered on several afternoons. This was 10° above the average of the last 16 years and there was no rain and very little dew. This wave of heat culminated on Feb. 4th in a shade temperature of from 98° to 104° F., a low barometer, and over 50 per cent. humidity. An extraordinary mortality began to occur on Feb. 3rd and 4th, when of a total of 226 cases of "heat stroke" attended by the Assistance Publique over 80 died, most of them dropping dead in the streets as if struck by lightning. At 2 P.M. on Feb 4th there were 50 dead bodies in heaps in the "patios" (yards) of the central office. On Feb. 5th and 6th the great heat continued and over 200 cases of sunstroke were registered. On Feb. 7th 296 cases were attended, but there were only 10 deaths. Up to 5 P.M. traffic was practically suspended in the streets which had a deserted, plague-stricken look. All Government offices, banks, and large establishments reduced their hours of work and no outdoor work was allowed between 12 noon and 4 P.M. The Government, moreover, appointed a committee of medical men to inquire into the remarkable mortality. Several meetings were held and the unanimou opinion of all the members of the committee was that the character of the attacks which proved fatal in so many cases during the five days Feb. 3rd to Feb. 8th proved that it was merely *coup de chaleur*, and that the high mortality had nothing whatever to do with the sporadic presence of the bubonic plague in the republic. Buenos Ayres enjoys a temperate climate and for 40 years, the period over which scientific meteorological observations extended, such great heat as that of the beginning of last February has been unknown. Hence the many deaths of the first day. The public and the sanitary authorities were unprepared. Very few of the better class succumbed, although many were attacked, and the high mortality among the poor might be put down to ignorance and dread of the plague. Feeling suddenly ill they were afraid to call medical aid, which, if they had plague, would mean instant removal to hospital and isolation of their homes. The municipal authorities, in conjunction with the Board of Health, are taking steps to increase the water-supply, to establish free baths for the poor, and to limit the hours of work during the summer season. The fortnightly report of the Municipal Statistical Bureau for the period from Feb. 1st to Feb. 15th of course included the time covered by this great "heat wave," and consequently presented some remarkable figures. In Buenos Ayres, a city of 795,000 inhabitants, there was a total of 1110 deaths during the period in question; of these 121 were attributed to "insolacion" (sunstroke) and occurred on dates as follows:—On Feb. 1st, none; on Feb. 2nd, five; on Feb. 3rd, 29; on Feb. 4th, 52; on Feb. 5th, 10; on Feb. 6th, six; on Feb. 7th, 10; on Feb. 8th, six; on Feb. 9th, three. The mortality from this cause then came to an end. The largest number of deaths entered under any one heading in the list was 196 attributed to cerebral congestion and hæmorrhage; under the other headings 86 deaths were attributed to "meningitis cerebral," 14 to tetanus, 48 to organic heart disease, 28 to endocarditis and myocarditis, and 184 to diarrhœa and enteritis. The daily deaths from all causes were 104 on Feb 1st, 124 on Feb. 2nd, 181 on Feb. 3rd, 197 on Feb. 4th, 79 on Feb. 5th, and 51 on Feb. 6th.

ANTI-VACCINATION TACTICS.

THE National Anti-Vaccination League is a body which possesses a vast amount of experience, is extremely energetic, and is not over particular as to its methods. In view of the forthcoming census the Bristol Branch of the Anti-Vaccination League has put forward a circular headed "Vaccination Census, 1900." This heading is obviously meant to insinuate that the Government is about to make an inquisition into the condition of the populace solely as to whether they are vaccinated or no. This point, however, may pass for the present and we may go on to consider the rest of the circular. It proceeds: "With a view to ascertain the feeling of the public in the District Ward as to vaccination and its compulsion you are respectfully requested to fill in 'Yes' or 'No' to the following questions. 1. Do you believe in vaccination? 2 Are you in favour of its being compulsory? 3. Do you consider your Member of Parliament should support a Bill to abolish the present practice of compulsory revaccination as a test for soldiers, sailors, police, school-teachers, post-office employés, and every other branch of the public services? 4. Have you met with any cases of injury arising from the use of the new glycerinated calf lymph? If so, please state particulars. Name. ...... Address. ... . Remarks. . ...." This document is to be filled up and to be handed to the collector. A correspondent who sends us one of these circulars, which he has filled up, sends us also three leaflets, which he says are issued as supplementing the polling paper. One of these leaflets is comparatively innocuous, being merely instructions as to obtaining exemption under the recent Act The leaflet, however, omits to state that the applicant must satisfy the magistrate that he has a conscientious objection Merely saying that he has is not enough Leaflet number two contains information about the legal hours for serving notices and leaflet number three is a reprint of some remarks by the Rev Hugh Price Hughes Mr Hughes's state of mind is exemplified by the fact that he feels, "as a Christian, the strongest *a priori* objection to a system which is essentially a compromise with evil A physician of the body has no more right to enter into a compromise with disease than I have as a physician of the soul to enter into a compromise with sin" We do not perceive the force of this argument, but it is in no way fair to take a poll of the opinions of persons more or less ignorant and to try to bias their minds by distributing statements of this sort Mr Hughes is welcome to his own opinion but he should not try to bias any other man's conscience or rather he should not allow his opinions to be so used

LACTESCENT ASCITES OF LYMPHATIC ORIGIN

AT the meeting of the Société Médicale des Hôpitaux on Feb 23rd MM Fernand Widal and Prosper Merklen communicated an important paper on this subject Many writers have considered milky ascites as of chylous nature on account of the presence of fat capable of being estimated chemically and seen as globules under the microscope They have pointed out the frequency of cancerous or tuberculous lesions of the abdominal lymphatics and thoracic duct But others have thought that the fat might be due to degeneration of extravasated substances In recent years several cases have been published in France of "non chylous milky ascites M Lion first showed that milky ascitic fluid might not contain any chylous elements[1] In a case of cancer of the ovary he found that the liquid contained an albuminous substance analogous to casein and no fat M Achard later published a case in which the effusion contained only a small quantity of fat and innumerable minute refractile granules not coloured by osmic acid and similar to those described in the blood in albuminuria by MM Widal and Sicard Finally, M Apert[2] published an example in a case of heart disease Under the microscope fatty globules were completely absent and very fine particles were observed only under a very high power Analysis showed 2 59 grammes of fat to the litre The distinction between chylous and non chylous milky ascites presents great difficulties A small quantity of fat is in favour of a non chylous form But in chylous ascites the quantity varies very much in different cases and even at different times in the same case The kind of leucocytes in the effusion according to MM. Widal and Merklen may show the lymphatic origin in certain cases of chylous ascites The following case is an example An alcoholic man, aged 50 years, had sub icteric conjunctivæ, œdema of the lower limbs, and ascites On tapping the abdomen nine litres of lactescent fluid were removed Only temporary relief—for 24 hours—was given, the fluid rapidly collected again and the patient died on the sixth day Abdominal puncture performed immediately after death gave exit to three and a half litres of lactescent fluid similar to that previously removed The fluid obtained during life was neutral of specific gravity 1010, and contained 1 45 grammes of fat per litre It did not coagulate spontaneously on standing, it became opalescent and a thick whitish sediment settled Microscopic examination showed no fatty particles, but abundance of leucocytes—90 000 to 100 000 per cubic millimetre Careful examination with eosin and hæmatein, thionine, and Ehrlich's triacid, showed neither polynuclear eosinophile nor basophile leucocytes Only uninucleated cells, of which some were of the type of lymphocytes, the others large and medium sized mononuclear leucocytes, were found The necropsy showed enlargement and cirrhosis of the liver and softening tubercles at the apices of the lungs There were no signs of peritonitis and no lesion of the abdominal lymphatics was observed The presence of only mononuclear leucocytes in the effusion was the important point These leucocytes could come only from the lymphatics Thus, in spite of the absence of apparent lesions of the lymphatic vessels the lymphatic nature of the effusion was shown M Merklen has recorded another case of chylous ascites in atrophic cirrhosis of the liver in which no other abdominal lesion could be found[3] In a number of cases of lactescent ascites which have been recorded leucocytes in considerable numbers have been observed But a study of the kind of leucocytes present has not previously been made, and consequently its bearing on the pathogenesis of certain cases of milky ascites has not been recognised

"THE SEXUAL QUACK"

OUR Birmingham correspondent writes —"In THE LANCET of March 11th attention is drawn under the above heading, at p 818 to the degrading practices of the sexual quack as instanced in a pamphlet published in India It is to be regretted that similar pursuits in this country mark the demoralising tendency of such literature and tend to corrupt the sense of public decency and propriety One arch offender in this respect will now have opportunity for reflection in the 12 months imprisonment imposed upon him at the Birmingham Assizes on March 15th Before Mr Justice Darling a man, described as 'Professor Wells,' a public lecturer, was charged with having used obscene and filthy language, and with having published an obscene book at certain lectures delivered by him at the Exchange Rooms The evidence was incontestable and the punishment was fitly awarded to this pest of society A considerable amount of warmth and acrimonious criticism by the local press was evoked by the judge's address to the reporters before the case commenced He warned them as to the discretion to be used in regard to the publication of the details, and told them that although for many purposes they were protected in doing so there was absolutely no protection to a newspaper for publishing offensive or indecent or obscene details, and any newspaper that did it might just as easily be prosecuted for it as anybody else This severe warning has been regarded as uncalled for and unnecessary in a well conducted and honourable press"

STATUS THYMICUS

DR M LAUB looks upon certain cases of loss of consciousness with coma supervening in young people as due to a condition associated with persistence of the thymus gland which is designated status thymicus In a recent issue of the *Wiener Klinische Wochenschrift* (No 43, 1899) he records the following interesting cases The first case was that of a youth, aged 17 years who was taken to hospital at midnight in an unconscious state, the breathing being stertorous, the face cyanotic, and the lips covered with froth The pulse was scarcely perceptible, the pupils were contracted and irresponsive to light and the knee jerks were abolished Unilateral convulsions, commencing in the right hand, occurred at intervals of from 15 to 20 min
The urine was free from sugar but contained a
The patient continued in a comatose state
the following day The necropsy reveal

---

[1] Archives de Medecine Experimentale, 1893, p 677

[2] Bulletin de la Soc Anatomique 1897 p 167

[3] La Semaine Medicale 189[illegible] p 181

thymus weighing 19 grammes, multiple hæmorrhages in the lungs, and small miliary hæmorrhages in the neighbourhood of the fourth ventricle of the brain. The spleen was hyperplastic and the heart and aorta were hypoplastic. The second case was that of a youth, aged 18 years, who was taken to hospital in an unconscious state with a full, strong pulse and a cyanosed face. The urine was albuminous with traces of acetone. Death followed in a few hours and the necropsy revealed an enlarged thymus and spleen. The lymphatic glands were hypertrophied and there was some œdema of the brain and the left lung. The third case was that of a young man, aged 23 years, who was admitted to hospital in a similar state. There was a history of alcoholic excess on the previous night. He survived a few hours and died without recovering from coma. The necropsy showed an enlarged thymus and spleen, while the lymphatic follicles at the base of the tongue were enlarged. The urine was albuminous. A condition of œdema with hyperæmia was found in the brain and meninges and the lower lobes of the lungs showed diffuse lobular pneumonic patches. Case 4 was that of a boy, aged 17 years, who had become unconscious and while in that state had passed his urine and fæces under him. The urine was albuminous and blood-tinged. He died in a few hours without recovering consciousness and the necropsy revealed an enlarged thymus gland, together with swelling of the lymphatic glands and œdema of the brain. There was some trace of inflammation of the small intestine. Dr. Laub thinks that the diagnosis of status thymicus can be made when a young person apparently in good health suddenly falls unconscious with or without any external cause, becomes comatose, and dies in a few hours. The spleen is generally found to be enlarged and careful examination may disclose a similar enlargement of the lymphatic follicles in the naso-pharynx and at the base of the tongue. A slight albuminuria may be present and the necropsy reveals an enlarged and persistent thymus. The exact causation of this condition is still obscure, there being some resemblance to uræmia.

THE DURHAM MEDICAL UNION.

DR. ALFRED COX has issued a pamphlet, reproduced from the *Medical Magazine*, dealing with medical organisation in the north of England and giving a history of the work done by the County of Durham Medical Union. We are glad to note that this pamphlet has been sent to every practitioner in the county of Durham. The author relates that during the last four years nine medical unions have been formed between Newcastle-on-Tyne and Middlesbrough for the purpose of dealing with ethical and economical matters. He adds that the County of Durham Medical Union furnishes an example, probably unique, of a combination of medical men "banded together to work out their own salvation on avowedly trade-union lines." Like the workmen's unions the object of this medical union is to obtain the best possible terms from their employers—by conciliatory means if possible, by a strike if necessary. But there have been painful backslidings. Some of the practitioners who were most anxious for immediate action and who by their impatience precipitated the crisis before the union was sufficiently strong were the first to give way and to break their pledges. The majority of the patients are miners and trades unionists. They generally paid 6*d*. a fortnight and this sum covered the cost of medical attendance for the entire household in each case, estimated by Dr. Cox at an average of four persons, an average which we imagine must be somewhat below the mark. After conciliatory measures had failed a circular was sent out in which the colliery surgeons declared that they would cease giving their attendance unless the subscription was raised to 9*d*. Many of the surgeons imagined that because the miners were themselves unionists they would approve the formation of a union by the medical practitioners. On the whole they did approve, but as they have fought for all the advantages which they have gained they thought it was only fair that they should in their turn and as employers test what amount of fight there was among the surgeons whom they employed. Where a bold front was shown, the miners to a large extent yielded and the amount of 9*d*. is now paid; but when met with timidity and hesitation they refused the increase, and then some of those among the medical practitioners who had been loudest in favour of a strike were the first to give in. So the advantage gained has been only partial, but 200 out of a possible 430 medical practitioners are now in union and good progress is being made every day. The workmen themselves are realising more and more that proper attendance cannot be given to a whole family for 1*s*. a month. The practitioner will either make his attendances and drugs fit with this monthly shilling or, if he does his work conscientiously, then he will be sweated by his patients. Formerly this cheap work was farmed out to unqualified assistants. This is no longer possible and a qualified assistant costs too much. Indeed, Dr. Cox remarks that now no medical man can plead poverty as an excuse, for it is most difficult to get qualified assistants even at the greatly increased salaries which are now paid. Altogether, though there are dark sides to the picture painted, it is in the main a hopeful sketch of the progress partially accomplished and promising greater advance in the early future.

THE STUDY OF TROPICAL DISEASES BY MEDICAL WOMEN.

A LARGE majority of medical women practise their profession abroad, and for the most part in India and tropical countries. It is, therefore, obviously a matter of the first importance that they should have facilities for gaining a knowledge of tropical diseases before leaving this country; for there are numerous diseases practically unknown in England which are endemic in hot climates, and these receive, as a rule, but scanty notice in the ordinary text-book or lectures on medicine. Up to the present the only opportunity for instruction in tropical diseases which has been available for medical women has been the course of lectures delivered by Dr. Patrick Manson at the London School of Medicine for Women. We understand that the committee of the Liverpool School of Tropical Diseases have now decided to admit to their classes qualified medical women on equal terms with men students. We are glad to hear of this decision, and feel sure that many medical women who intend to practise abroad will avail themselves of the great facilities offered by the Liverpool school for gaining a knowledge of the diseases which they are liable to meet with in their intended sphere of work.

THE OPEN-AIR TREATMENT OF TUBERCULOSIS.

THE Royal Medical and Chirurgical Society has issued as a separate publication[1] the full report of the discussion upon the Open-air Treatment of Tuberculosis which took place on Nov. 14th and 28th and Dec. 12th, 1899. There is thus afforded an opportunity for those medical men who are not Fellows of the Royal Medical and Chirurgical Society to make themselves acquainted with the opinions of many of those of their professional brethren who have devoted much time and study to the consideration of the newest—or perhaps we should rather say newly revived—method of treating tuberculosis. Nearly all medical writers from the time of Hippocrates downwards have insisted upon the value of pure air and good living as aids to health in the case of phthisical patients, but perhaps Bodington of Sutton Coldfield was the first of our countrymen in modern days to preach a doctrine then neglected but now almost universally received. We dealt fully with the discussion in the leading columns of THE LANCET of Dec. 23rd, 1899 (p. 1746), so we shall merely repeat here that the whole trend of the discussion was to extend the trial of the method, provided such treatment be carried out upon truly scientific and not commercial lines.

---

[1] Discussion on the Open air Treatment of Tuberculosis, Nov. 14th and 28th and Dec. 12th, 1899 (from vol. lxxxii. of the "Medico-Chirurgical Transactions"). Sold by H. K. Lewis, 136, Gower street, London, W.C. 1900. Price 2s 6d. net.

UNQUALIFIED ATTENDANCE UPON HOSPITAL PATIENTS.

AN unfortunate incident occurred at Guy's Hospital on March 14th. An inquest was held upon a baby, aged six weeks, who had been brought to the hospital by the mother who in her evidence said that a young gentleman told her that there was nothing the matter with the patient, but that she had better bring the child next day. During the night, however, the baby died. The student who saw the child gave evidence and said that in his opinion he did not think that there was anything wrong except that the child's skin was red. The house surgeon said that it was the custom for dressers to see patients, but the patients were not informed that the dressers were unqualified. Mr. J. Mulqueen said that death resulted from marasmus and congestion of the left lung. The body was very emaciated. Such a course of events should not be possible. The authorities of Guy's Hospital impose the duty of seeing patients in the surgery upon the house surgeons and assistant house surgeons. The dresser failed in his duty in not calling the attention of the house surgeon to the case and has been severely reprimanded. We see that the coroner's jury added a rider to their verdict that patients should be in every case seen by a medical man and that a record should be kept of the prescriptions given. With the first part of this rider we quite agree—except in the case of a patient who comes in to have a cut finger attended to or, as in a case we knew of, asks to have the nails of his right hand cut—but the second part is impossible so long as the present rush of patients of all classes and kinds continues. We mean by this that if *any other record is to be kept than the* entry on the patient's card or ticket which he or she must preserve a great addition to the staff would have to be made.

ETIOLOGY OF CHOREA.

R. VON KRAFFT-EBING of Vienna[1] has collected 200 cases of chorea, the etiology of which was fairly well ascertained, and found that while 64, or one-third of the cases, were males, 136, or two-thirds, were females. Heredity was distinctly present as a factor, and among other predisposing causes were the changes (in brain and skull) produced by rickets in infancy, and a nervous and irritable constitution. Cranial anomalies were as frequent as in epilepsy, and were in nearly all cases attributable to rickets. Hydrocephalus was relatively common, and in some cases over-exertion and masturbation were found to be contributory causes. In six females out of 136 pregnancy played a causative part. Cerebral concussion was met with as a cause in a few instances. Of the more immediate and exciting causes articular rheumatism and infectious fevers played an important part. Thus in the 200 cases 58 were ascribable to rheumatism, 66 to mental shock, fright, or other trauma, 17 to infectious fevers other than rheumatism, while 59 were due to obscure causes. Shock and fright played a more potent part in patients with a nervous temperament or predisposition, while rheumatic fever seemed to be potent either in the presence or absence of predisposition. Von Krafft-Ebing insists that before the neurotic origin of a case of chorea is accepted an infectious causation should be excluded, and a case is cited in illustration showing that whereas the chorea seemed on inquiry to be of psychic origin—i.e., due to heredity or to mental shock—the post-mortem examination revealed the presence of vegetative or warty endocarditis on the mitral valves, thus showing a rheumatic factor in the origin of the disease.

THE SECOND MALARIA EXPEDITION.

THE Liverpool School of Tropical Medicine has organised a second expedition to West Africa for the study of malaria or, to give the disease its newest name, "gnat fever." The members of the expedition are Dr. H. E. Annett, one of the demonstrators at the Liverpool School (who, it will be remembered, went out with the first expedition) Dr. Elliott of Toronto, and Dr J. E. Dutton, and the party left for Nigeria on March 21st in the *Olenda*. The Colonial Office is giving the party every assistance; a free passage both ways is given by Messrs. Elder, Dempster and Co.; and the African Direct Telegraph Company have also subscribed towards the costs. We shall from time to time publish notes of the proceedings of the expedition. In connexion with this matter we may mention that the Liverpool School of Tropical Medicine has just issued its second memoir. It consists of a report of the malaria expedition of August, 1899, written by members of the expedition, and is copiously illustrated with plates, maps, and micro-photographs. We shall give detailed notice of the work in a future issue.

A VICE PRESIDENT of the Dental Hospital of London, Leicester-square, has presented £100 as a special donation towards the amount urgently required for re-building the hospital with a promise, provided an additional sum of £800 be collected within a reasonable time, that he will give the remaining £100 to complete £1000. The committee are earnestly appealing for contributions to enable them to avail themselves of this generous offer and donations will be gratefully received by the secretary at the hospital or by the bankers, Messrs. Barclay and Co., Limited, 6, Pall Mall East, S.W.

THE course of ten lectures instituted by the late Professor Thomas Dent Mutter, M.D., LL D., on Some Point or Points in Surgical Pathology, will be delivered in the winter of 1902–3 before the College of Physicians of Philadelphia. The appointment is open to the profession at large and the fee is $600. Applications, stating in full the subjects of proposed lectures, must be made before Oct. 1st, 1900, to John H. Brinton, M.D, North-east Corner of Thirteenth and Locust-streets, Philadelphia, Pa., U S A.

DR. W. S. CHURCH, the President of the Royal College of Physicians of London, has become a member of the Athenæum Club under Rule II, which provides for the election by the committee of nine persons yearly who are distinguished in science, letters, arts, or for public services.

IN THE LANCET of Feb. 24th we mentioned the names of various candidates for the Professorship of Medicine in the University of Edinburgh and also intimated that the name of Professor Osler might possibly be added to the list. Professor Osler has, we learn, sent an application for the post.

THE adjourned debate on the Treatment of Rheumatism was continued on Tuesday evening last at the Chelsea

---

[1] Wiener Klinische Wochenschrift, No. 43, 1899.

Clinical Society. Among the speakers were Dr. Pye-Smith, Dr. R. Caton, Dr. Burney Yeo, and Dr. Isambard Owen, while Sir Richard Douglas Powell gave a closing address. We shall publish a full account of the debate next week and hope that there may be some practical outcome of a very voluminous and instructive discussion.

WE are informed that in concluding the winter course of medicine at Glasgow University to-day (Friday) it is Sir William Gairdner's intention to bid farewell to his pupils, as he has decided to resign his position as Professor of Medicine in the University.

THE Midwives Bill Committee of the General Medical Council met on Wednesday last. We presume that it will represent to the Government, which has not yet committed itself to an acceptance of the measure, the omission of its recommendations.

WE regret to learn of the death of Dr. Robert Cory, the Director of the Animal Vaccine Establishment of the Local Government Board and Physician-in-Charge of the Vaccination Department of St. Thomas's Hospital.

DR. H. CAMPBELL THOMSON has been elected to the office of assistant physician at the Middlesex Hospital to fill the vacancy created by the appointment of Dr. W. Pasteur as physician.

THE annual meeting of the Medical Graduates' College and Polyclinic will be held at the College, 22, Chenies-street, Gower-street, W.C., on Wednesday next, March 28th, at 6 P.M.

Dr. HUGH J. M. PLAYFAIR has been appointed Gynæcological Surgeon to the Metropolitan Hospital.

THE DEFECTS OF THE MIDWIVES BILL.

AN ADDRESS BY DR. GLOVER.

AT an ordinary meeting of the Islington Medical Society held on March 20th at the house of Dr. H. F. Stokes, Dr. Glover spoke on the Midwives Bill and the situation now created by the fact that the measure has been read for the second time in the House of Commons. He said:—

You know I have always felt that some legislation on the subject of midwives was inevitable and that the profession could not if it would prevent legislation. There are forces of humanity and forces of social and Parliamentary influence working in this direction which must in the end prevail. From one cause or another there is a considerable section of the female portion of the population which is not attended in confinements by medical men and which is not likely to be. I need not here argue the point. I know there are m union who think that the bulk of the profession does not — The Editors of THE LANCET, who have employers—by concili to get at the roots of this ques- necessary. But there h which disturb the normal harmony of the practitioners who werofession, have found that on action and who by their impatience England and Wales 5000 before the union was sufficiently strong in favour of the Bill, large majority give way and to break their pledges. The n ion of some the patients are miners and trades unionists. Th ly a little rally paid 6*d*. a fortnight and this sum covered Wales, cost of medical attendance for the entire household in ent to case, estimated by Dr. Cox at an average of four persor the hink an average which we imagine must be somewhat below t sla- mark. After conciliatory measures had failed a circular was as sent out in which the colliery surgeons declared that they would cease giving their attendance unless the subscription which I hope will be supplied, but which, I think, if unsupplied, should be fatal to it. While I think midwives must be accepted as a fact in the present stage of civilisation I do not think that medical sanction should be given to any further legal recognition of them except under clear and strong conditions, the chief of which are: firstly, that they shall be severely restricted to ordinary cases and *natural* labours; and secondly, that clear provision shall be made in any Midwives Act for medical help being available for them and the unfortunate patients, whether mother or child, in whose case any abnormality or irregularity arises.

We are all agreed that the high perfection to which midwifery practice has now attained is due to its being incorporated in the art and science of medicine. The more hopeful of us expect that with the growing intelligence and wealth of the people they will be content with nothing less for mothers than the full skill of complete medical practitioners. And meantime we agree to a recognition of the midwife only as a necessity and as one in touch with, and acting subordinately to, the medical practitioner. There are other and minor points in the present Bill requiring amendment. I leave these to others or to another occasion. But I hope to show that this one is urgent and indispensable if medical sanction is to be given to this measure, and I think we have a right to hope that if medical sanction is not given the sanction of Government will be withheld even at the eleventh hour. The Bill had better wait 12 months longer for this completion than be passed without it. It is a life-and-death measure. The lives of women are at stake and of women who have *every claim to our consideration. The Government* have shown by their slow action in this matter their sense of the responsibility of such legislation. They refused to entertain the question seriously till the promoters of it had satisfied the General Medical Council on essential points. Here is a point which the Council thinks "imperative" and it is not expressed in the Bill. It may be said that such power of approval of the regulations of midwives' practice is given to the General Medical Council under the Bill as to secure this point. But I deny that. The General Medical Council is not likely to approve any rules which do not include a requirement that the midwife in case of abnormality or emergency shall apply for medical help. But it has no power to help her to get it or to make such arrangements as shall facilitate her getting it. This must be the work of the local authority which is to license the midwife. I need not remind the society that this is the only condition under which maternity charities are conducted safely; in every district there are medical men appointed to whom the midwife can apply. And I am on strong ground here when I argue that the Bill should contain a clause requiring the local licensing authority to appoint and to pay medical men to whom the midwife is to apply in case of emergency, with power of recovering from persons who are able to pay the medical fee. There are two ways of objecting to this demand. One is to say that in an emergency the parish medical man can be summoned. But this is not a Poor-law business and we do not propose to pauperise those whose case is such as to require a medical practitioner. Another form of objection to a clause securing medical help to the midwife is that such a clause imposes a new expense on local authorities. This seems serious and is probably the explanation of the absence of such a provision in the Bill. But it is not tenable, for the Bill already involves the county council in expense for its general purposes. Remember the legislation is altogether exceptional. It deals with a very special question. It is an attempt to diminish the dangers of parturiency among the poor. The Bill brings women with little training and little knowledge into contact with cases which may suddenly require all the skill and knowledge of a fully-trained medical man. The law is bound to be thorough and not to put the midwife into an impossible position. The objection that such a provision of medical assistance to supplement the work of the midwife will cost the local authority a few pounds a year is trivial and is refuted by the Bill itself, which in two or three clauses makes the county councils answerable for supplying any deficiency in funds required for carrying out the Bill. Clause 5 provides that if the fee, not to exceed a guinea, to be paid for examination and certificate by the midwife is inadequate for the expenses of examination and of the general work of the board, the deficiency shall be supplied from the respective local county funds in proportion to the number of midwives licensed to practice in the said county. Clause 6 empowers county councils to contribute to any deficiency in the funds of the Central Midwives Board So that the pecuniary liability of the county council is already in the Bill. It is only necessary, under Clause 6, to enact that it shall be also liable for any, expenses incurred in procuring necessary medical help for the midwives whom the county council is to license and supervise

I am supported in this view by the fact that it has been pressed by the General Medical Council repeatedly on the Government as a provision of the Bill without which the Council could not support the measure The opponents of this Bill allege its inconsistency with the Medical Acts, which regard midwifery as a part of the medical art and prognosticate danger and death to lying in women. Those who promote it are bound to make it as safe as the system of maternity charities, which has had the sanction of the profession in all ages. With this view I propose that—

I The term "midwife" in the Bill shall mean a woman who undertakes for gain to attend women in *natural* labour

II That a clause be inserted in the Bill requiring the midwife in every case of irregularity or emergency, either of mother or child to *apply for medical assistance*

III That another clause be inserted in the Bill requiring county councils as the local licensing and supervising authority of midwives, to appoint medical men in their districts to whom midwives may refer in cases of emergency, and empowering the county council to recover the costs so incurred in a court of law where the circumstances of the patient are such as to enable her to pay

The above resolutions were carried and it was resolved to forward copies of them to the Members of Parliament for Islington, with a request for their support, and to the Lord President of the Council

THE WAR IN SOUTH AFRICA.

THE hour for the relief of Mafeking is drawing nigh if it has not been already accomplished The nation is justly proud of the brave and spirited conduct displayed by this little garrison and of the pluck and cheery humour of its commander *Without discursing too much into politics* we may say that the longer the war continues the more it has become apparent that it has been mainly brought about through the instrumentality and influence of a relatively small, but very active, portion of the two Republican Governments of South Africa operating upon ignorant, credulous, and misguided peoples The Orange Free State had no cause of quarrel with us and there was no unanimity among the people as a whole in regard to a war from which they had little or nothing to gain even if successful No sooner had the people an opportunity of exercising their free will in the matter than they began to do so, as may be abundantly seen by what has taken place since Lord Roberts reached Bloemfontein

The embarkation of troops for South Africa still goes on apace and the number of arrivals of sick and wounded from that country continues The British and Colonial forces now in South Africa are very large and must soon be so overwhelming as to overcome further resistance, but the march to Pretoria has still to come off and there may still be some severe fighting

The American hospital ship *Maine* has left Durban with a big batch of wounded She is the first ship of the kind to leave the Cape since the relief of Ladysmith, and in addition to a number of officers of different regiments she brings home 153 non commissioned officers and men

With regard to the extent of the permanently disabling effect of gunshot wounds from weapons used in modern warfare we know that the Mauser rifle is on the whole, a humane weapon Mr. Wingfield Digby recently asked a question in the House as to the actual or approximate number of those who had been already cured of their wounds and were back again at duty Mr Powell Williams said that the figures, but *only up to Feb 2nd, were as follows.—Wounded officers*, 261, non-commissioned officers and men, 4583. Returned to duty officers, 67; non commissioned officers and men, 705 These figures do not include casualties in Ladysmith and Kimberley since the investment

Some returns of the sick and wounded among the Boer troops have been published giving higher numbers than have been furnished hitherto, but we regard them as unreliable and below the number of casualties which have actually taken place.

FIELD FORCE.—SERVICE ABROAD, SOUTH AFRICA.

Table showing the Personnel of Medical Units on the Lines of Communication

Unit and place of mobilisation	Names	Remarks
No 11 General Hospital* (Depot R.A M C, Aldershot)	*Royal Army Medical Corps* Major H Carr (a) " E J Lawless " E L Freer Captain C I Wanhill Lieutenant H P W Barrow " J R Atkinson " J K Tomory " A H McDougall. " J Clay Quartermaster and Honorary Lieutenant E. Houghton *Civil Surgeons.* Mr P J Bodington " J M Coates " A P B Ellis " A. Gilmour " F G Goddard " J O Hibbert. " W H Rowell " W H Steele " J F Whelan. *Army Nursing Service Reserve (b)* Nursing Sister Miss L. Badger " " " G Balfour. " " " M A M Borthwick " " " B E Caws " " " E M Danny. " " " F Evans " " " A. Fincher " " " E Fry. " " " F Fisher " " " M G Gilmore " " " F C A Holcroft. " " " V I Lamb. " " " H. A Lawrence " " " M. O C McCreery. " " " G A. L Napier " " " A F Plunkett " " " M Roche. " " " C A. Shaw Hellier " " " I A Snape. " " " K Ward (Three female servants)	131 non commissioned officers and men (including 45 St. John Ambulance Brigade). One special cook and two warrant officers to join the unit on its arrival in South Africa Arrangements for charge of x ray apparatus to be made in South Africa.

(a) Registrar and secretary and to act as officer commanding the unit till its arrival in South Africa (b) Superintendent or acting superintendent to be selected from the Army Nursing Service in South Africa, an extra nursing sister being included in this detail to allow of the adjustment.

* The P M O Field Force, South Africa, to detail a lieutenant-colonel R.A.M C in South Africa to command this hospital.

Medical Division, War Office, March 21st, 1900

(NOTES FROM SIR WILLIAM MACCORMAC)

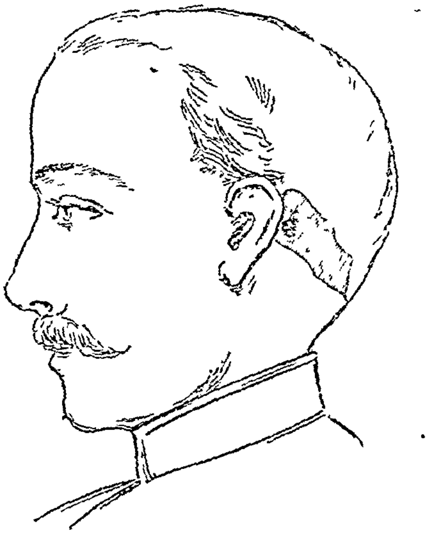
(*Continued from p 797*)

THE following are some further notes by Sir William MacCormac upon interesting cases of gunshot wounds

Wound of the head and the back—Major ——, wounded on Jan 24th at Spion Kop There was a shell wound in the head, five inches long by three at the widest part, extending from behind *the left ear to the middle line of the nape of* the neck The skull was exposed behind the ear at the base of the mastoid process for a circle of the size of a sixpence (see Fig. 1) There was a transverse wound across the back, the entrance was on the left side five and a half inches from the ninth dorsal spine, the emergence on the right was about five inches from the ninth dorsal spine in a quite transverse direction (see Fig 2) The entrance and exit wounds are perfectly circular and are not yet quite healed The officer lost power in his lower limbs for a few days but they have now recovered. There is tenderness over the ninth dorsal spinous process The head wound is granulating healthily and there are no general symptoms. He is now doing well (Feb 14th)

Wound of the head.—Private ——, wounded at Spion Kop on Jan. 24th. The bullet entered two inches externally to the anterior extremity of the sagittal suture on the left side. It was cut out from immediately beneath the scalp in a precisely similar position on the opposite side where it lay beneath the scalp. There is complete motor paralysis of the left upper extremity, but sensation is present. The wounds have healed (Feb. 12th). The patient is otherwise well.

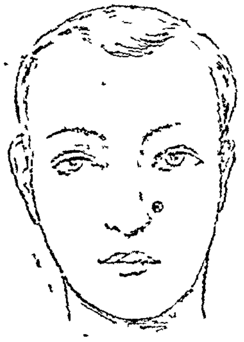
FIG. 1.



The shaved area shows the granulating wound. At the dark spot the bone is exposed.

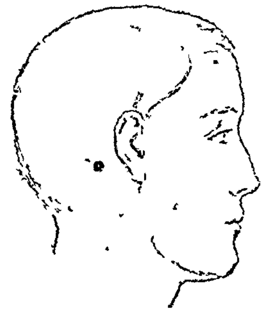
Wound of the head.—Private —— of the 2nd Royal Lancaster Regiment was wounded at Spion Kop on Jan. 24th. The entrance wound was just outside and slightly above the left ala nasi (see Fig. 3), that of exit being half an inch posterior to the tip of the right mastoid process (see Fig. 4). After being wounded there was much bleeding from the nose. At present Feb. 12th) the patient is deaf in the right ear. The wounds have completely healed. He says that he feels perfectly well.

FIG. 3.



Entrance wound.

FIG. 4.

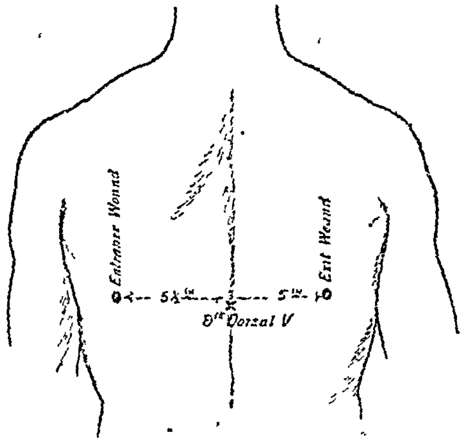


Exit wound.

Wound of the mouth.—Private —— was wounded at Spion Kop on Jan. 24th. The man's mouth was open at the time of the receipt of the injury. The bullet entered the mouth, carried away the whole of the alveolar process and teeth on the right side of the upper jaw, and emerged behind the posterior border of the masseter muscle on the same side The only remarkable point about the case is that complete aphonia set in immediately after the receipt of the injury. This is now, however, disappearing (Feb. 12th).

Wound of the neck.—Private ——, of Thorneycroft's Mounted Infantry, was wounded by a Mauser bullet on Jan. 24th. The bullet entered through the sterno-mastoid muscle on the left side, about two and three-quarter inches above the clavicle, nearly on a level with the pomum Adami, and rather nearer to the posterior than to the anterior border of the muscle (see Fig. 5), and emerged from the centre of the right sterno-mastoid muscle and about an inch above the level of the pomum Adami (see Fig. 6). A considerable amount of external bleeding occurred on the receipt of the wound, but both wounds are now (Feb. 12th) healed. There was at first paralysis of both arms, especially of the left, but the power is gradually and

FIG. 2.

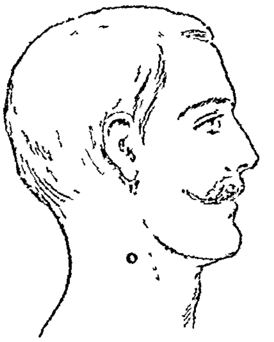


The entrance and exit wounds in the line of the ninth dorsal vertebra.

steadily improving. There is neuralgic pain in the area of distribution of the cervical plexus.

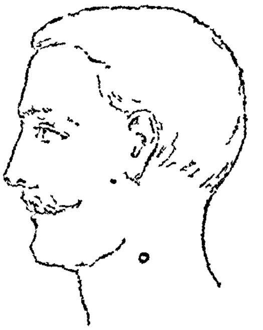
Wound of the arm, damaging the basilic vein, the median nerve, and the brachial artery.—Private —— dropped his service revolver by accident on Jan 24th, which discharged a bullet. This entered one and a half inches directly above the internal condyle of the left humerus and lodged beneath the skin immediately posterior to the tip of the acromion process. The lower two-thirds of the arm were occupied

FIG. 5.



Entrance wound.

FIG. 6.

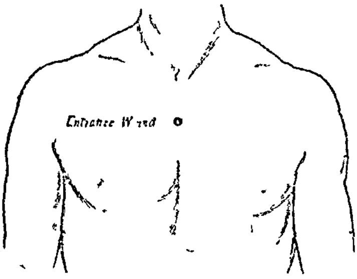


Exit wound.

by an exceedingly tense swelling, causing much enlargement. There was difference of opinion as to whether pulsation could be distinguished in the tumour, but the radial pulse was lost on that side and anæsthesia and paresis in the area of distribution of the median nerve were present. On Feb. 5th a long incision of four inches was made over the course of the artery from the entrance wound upwards, and this was subsequently extended downwards for one inch in the direction of the bend of the elbow. A large amount of coagulated blood was turned out, much of which had apparently passed between the biceps and the brachialis anticus to the outer aspect of the arm. After some dissection the basilic vein, the median nerve, and the brachial artery were exposed. About three-quarters of an inch above the wound of entrance a wound was found in the basilic vein, a slit like perforation (nearly one inch long) in the median nerve, and a large gap in the brachial artery. The vein and the artery were tied above and below the seat of injury The nerve was apparently split very obliquely and four-fifths of its substance appeared to be intact; it was consequently *not interfered with* *Finally, the bullet was extracted*, it was unaltered in shape

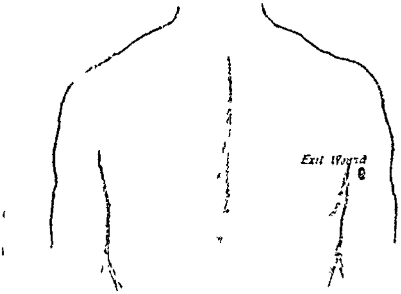
Wound of the thorax —Private —— of the 2nd Middlesex Regiment was wounded at Spion Kop at a range of 800 yards The entrance wound was exactly in the middle line, about two inches below the notch of the sternum, close to the junction of the manubrium with the gladiolus (see Fig 7) The wound of exit was at the posterior aspect of the upper arm, an inch externally to, and on a level with, the point of flexion of the arm upon the thorax (see Fig 8) There was hæmoptysis for two days At present (Feb 12th) there is wrist drop (right), anæsthesia in the area of the ulnar nerve distribution, and great neuralgia in the right arm The wounds have healed How did the great vessels escape?

FIG 7.



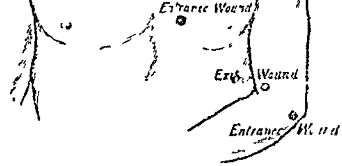
Entrance wound

FIG 8



Exit wound

FIG 10



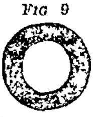
Shows both entrance wounds and first exit wound.

FIG. 11

Shows second exit wound

Wound of the thorax and spine —Captain —— was wounded on Feb 5th at Vaalkrantz The entrance wound was over the ninth rib two and a half inches immediately below the inferior angle of the right scapula, and the exit wound was over the sixth rib in the posterior axillary line on the left side The wounds have completely healed There was complete paraplegia The patient had no control over the bow or bladder Anæsthesia was complete up to the upper thi of each thigh (Feb 12th) There is a bed sore commenci over the sacrum The general condition notwithstanding good

FIG 9



Size of entrance wound

Wound of the thorax —Colonel —— was wounded by shrapnel bullet on Feb 5th The entran wound was behind the left shoulder one inc below the spine of the scapula Tl wound is now (Feb. 12th) scabbed an healed The bullet was removed from subcutaneous position one inch to the rigl of the base of the xiphoid cartilage Th wound has healed. The patient has spa blood, but to a slight extent, since the injur and there are some slight dyspnœa and cougl There are also right wrist-drop and loss of sensation up t the elbow (Feb 12th)

Wound of the lung —Captain —— was wounded o Jan 22nd by a shrapnel bullet from one of our own gun which were captured at Colenso The entrance wound wa over the junction of the outer quarter with the inner three-quarters of the clavicle, immediately beneath the bone which was grooved but apparently not completely fractured The bullet was cut out from beneath the skin on the same evening, three hours after the receipt of the injury, in the field hospital, immediately to the left of the fifth dorsal spine. From the appearance of the bullet and the direction of its track it must have caused partial fracture of the clavicle and possible injury to the ribs and must have traversed the lung. There were slight cough and hæmoptysis for two days with some dyspnœa. Both wounds suppurated freely. The temperature on Feb. 4th was 102° F. On the 5th a small piece of leather (from the patient's belt) came out of the anterior wound. On the 6th the temperature was normal and the patient was much better.

Wound of the lung and the abdomen.—Private —— was wounded on Jan. 24th at an unknown range. The bullet entered at the inner end of the fifth right intercostal space close to the sternum, and it emerged half an inch below the twelfth right rib and two and a half inches from the middle line of the spinal column. There was slight hæmaturia after the receipt of the wound, but there were no other symptoms and the patient is now quite convalescent

Wound of the upper extremity and the thorax.—Private —— was wounded on Jan. 24th at an unknown range. The bullet first entered the base of the left olecranon process and emerged at the inner border of the tendon of the biceps in front at the bend of the elbow (see Fig. 10). It then entered the chest exactly at the level of the left nipple and one and a half inches internally to it and found an exit through the trapezius muscle at the level of the sixth cervical spine and two inches from the middle line (see Fig. 11). There was pain in the chest at night The patient had no cough, but he had a certain amount of hæmoptysis. The wounds have healed (Feb. 12th). It is wonderful how the great chest vessels escaped.

A curious incident occurred in the case of Major ——. This officer was wounded by a Mauser bullet in the thigh. The bullet traversed the thigh transversely and had just sufficient energy to perforate the skin at the exit wound, but could not get through his trousers and so fell down between the thigh and the trousers, being picked out at the knee, where the puttee had prevented its dropping to the ground. The bullet must, of course, have come from a very long range.

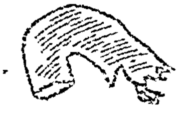
Wound of the abdomen.—Private —— was wounded on Jan. 24th at a range of 500 yards. The wound of entrance was between the eleventh and twelfth ribs vertically above the centre of the left iliac crest. That of exit was through the right os innominatum about two inches below the centre of the crest. There was anæsthesia of the leg below the left knee, but no other symptoms of any sort, although the bullet traversed the abdomen from side to side.

Wound of the abdomen.—Private —— was wounded on Jan. 24th at an unknown range. The bullet entered at the eighth intercostal space in the mid-axillary line on the right side, its point of exit being half an inch above the iliac crest and two inches posterior to the anterior superior iliac spine on the left side. The patient vomited for one hour after the receipt of the injury. He was constipated for three days. His diet consisted of milk for two days and he has had field rations ever since. The bullet must have traversed the liver and probably the bowel also.

Wound of the abdomen.—Private —— was wounded on Jan. 24th at a range of 700 yards. The entrance wound was opposite the tenth dorsal spine and four inches to the right of the median line, while the wound of exit was immediately over the left iliac crest, an inch posterior to its centre. There was slight dyspnœa for three days, since when there have been no symptoms. There is no evidence of any abdominal injury, although it is difficult to suppose that the intestine could have escaped damage.

Wound of the abdomen.—Lieutenant —— was wounded on Feb. 5th by a Mauser bullet. The extracted bullet (Fig 12) was found to be doubled up and damaged, apparently from a ricochet. The entrance wound was of large irregular shape, covered with a scab, about one inch by three-quarters of an inch in size and one and a half inches above the anterior superior spine of the right ilium. The bullet was cut out on the day after the receipt of the wound from the centre of the right buttock. This wound is quite healed. There were no symptoms.

FIG. 12.



Extracted bullet.

Wound of the abdomen.—Private —— was wounded at Spion Kop on Jan. 24th The bullet passed through the left wrist while the man was sitting up drinking. It then entered the abdomen exactly in the middle line, one and a half inches above the umbilicus, in a direction somewhat sloping to the right side. There is no wound of exit. There is difficulty in defecating and in micturating with much straining at stool, but no blood has passed either in the fæces or in the urine. There is considerable abdominal distention (Feb. 11th). No rise of temperature. The wounds have healed and the symptoms are improving.

Wound of the thigh (involving the common femoral artery).—Private —— was wounded on Jan. 24th at a range of 600 yards. The entrance wound was exactly over the common femoral artery, one and a quarter inches below Poupart's ligament. The bullet crossed close to the anterior surface of the femur three quarters of an inch below the tip of the trochanter major. There is a pulsating swelling in the line of the artery with a marked thrill and loud bruit as if there was a communication between the artery and vein. On Feb. 6th an incision was made extending from about an inch above Poupart's ligament downwards for five inches along the course of the artery. The tissues were found to be much matted together by inflammatory material and after some dissection a gush of blood disclosed the situation of the wounded vessel. The forefinger of one of the assistants being placed in the aperture arrested the bleeding. The common femoral artery, after a troublesome dissection, was exposed above and the superficial femoral artery below the opening and they were ligatured, but the bleeding still continued. It was then found that the vein had also been lacerated. This was isolated above and below and ligatured in two places, but still the hæmorrhage continued immediately the finger was removed—apparently from the profunda artery—the main vessel having been traversed just where that trunk is given off. After considerable difficulty this also was secured. Mr. Hulke performed the operation and I and others assisted him. There was no extravasated blood or clot found throughout the operation though the wound in the vessel was as large as the end of the forefinger, which is sufficiently remarkable, and there was no evidence of backward pressure in the vein although the opening in the vein and artery appeared to communicate. This man subsequently died.

Wound of the thigh involving the femoral artery and vein.—Private —— was wounded on Jan. 21st at an unknown range. The entrance wound was exactly at the middle of the posterior aspect of the right thigh, and the exit wound was at the junction of the lower and middle thirds of the same thigh, on the inner side, in the line of the femoral artery. There was increased pulsation with some swelling which involved the area of the exit wound. There was no bruit. Pulsation was to be felt in the dorsalis pedis and posterior tibial arteries. An operation was performed on Jan. 29th. An incision about six inches in length was made over the course of the artery, the exit wound being a little below the centre. On laying open Hunter's canal there appeared to be no extravasated blood or clot, but considerable hæmorrhage took place from a wound half an inch in length on the anterior aspect of the artery and in its long axis. The aperture in the vessel was of irregular shape and was situated an inch above the opening in the adductor magnus. The hæmorrhage was arrested by pressure in the wound and the artery was isolated above and below and ligatured. The skin wound was then sutured. The temperature on the night of the operation was 101° F., but it fell to normal on the next morning and has remained so ever since. On Feb. 6th (the first time of dressing the wound) the stitches were removed. There was a little sanious discharge but the wound had completely healed, with the exception of about one inch in the vicinity of the exit wound. The collateral circulation in the limb has been fully established and the patient is otherwise quite convalescent. It is remarkable that in this as in several other instances there should be little or no bleeding into the tissues from a large wound in a large artery.

The injuries here noted were received about the same time (Jan 24th) and their condition is described on Feb. 5th and 12th. The men were mainly all convalescent and most of the wounds had healed under a scab. With the exception of the case of injury to the brachial artery and median nerve the cases of abdominal injury and the chest injuries are further instances of the extraordinary recoveries which follow damage of this nature inflicted by the Mauser bullet. It is curious also, as in two other similar cases, that the Mauser bullet can split a nerve of the size of the median nerve without severing it.

Another remarkable feature is absence of extravasation in the case of the wound of the common femoral artery and profunda artery, and the same was the case in the injury implicating the femoral artery in Hunter's canal. How in one case the vessels at the root of the lungs and in another those arising from the arch of the aorta escaped is nothing short of an anatomical puzzle.

These cases are selected from amongst many in the hospital at Mooi river which is doing most excellent work under the direction of Colonel J. A. Clery, R.A.M.C. The succession of cases from the front has been almost daily during the past weeks and the proportion of serious cases amongst them is very large. WILLIAM MACCORMAC

(FROM OUR SPECIAL CORRESPONDENT AT THE BASE.)

This morning news that Cronje was a prisoner in Lord Roberts's camp, though of course stale to you by this time, has been received by everyone here with feelings of intense satisfaction and has, I am sure, acted a great deal better than all our "tonics" to the majority of the sick and wounded at present filling the hospitals. As regards my own charges I can only say I had great difficulty in restraining them all, amputation cases included, from demanding their immediate discharge in order to proceed at once to the front! At the same time our successes are tempered with a terrible list of casualties and the wounded and sick are pouring down from all parts of the front, the trains following each other at very short intervals. The numbers in Hospitals No. 1 and No. 2 to day are roughly:—No. 1: Officers, 73; non-commissioned officers and men, 560. No. 2: Officers, *nil*, non-commissioned officers and men, 580; and Boer prisoners wounded, 32. No. 3 ambulance train arrived yesterday from Kimberley with 31 sick and wounded officers and 83 non-commissioned officers and men. The most serious cases are being left at the hospital in Kimberley on this side and at Pietermaritzburg in Natal. Of course, a great number of these cases are medical, principally dysentery, sunstroke, and enteric fever, it being the object to clear out the hospitals at the front as much as possible. Everything is working very smoothly and the foresight of the Surgeon General in establishing a sanatorium for sick and wounded officers is relieving the overcrowded state which would necessarily ensue in the base hospitals had there been no means of passing slight cases on. Of course, the present rush of wounded and sick is taxing our resources to a great extent, but luckily there are plenty of transports in the harbour and we are filling them up as far as we can; a great number of nursing sisters and civilian lady nurses have been ordered to Natal on short notice as I hear that there are nearly 3000 sick and wounded who will require nursing immediately Ladysmith is relieved, a matter I suppose of hours now—at least, we hope so. There is, I am happy to say, no lack of material and the civil population are vieing with each other in offers of assistance. Several more officers of the Royal Army Medical Corps and civil surgeons have gone up to Kimberley and the surrounding country, and there is a big base hospital of 500 beds at Naupoort. Sir William MacCormac and Mr. Makins are here and the other consulting surgeons are scattered about the front where their services are mostly required. I am sorry to say there have been several deaths from dysentery amongst officers and men, no doubt due to bad water, and the type of disease has been a very severe one, resembling as regards post mortem appearances the Indian scourge in all its worst forms. Enteric fever as far as I can ascertain has not been so fatal as we were at one time led to suppose, but it has been bad enough in all conscience, and I am afraid that we shall hear some terrible tidings of the ravages of the disease when we get into Ladysmith, which place on all hands is condemned utterly as a military station in the future. As regards the safeguard of inoculation I am not at present in a position to give any very definite opinion, but from the few cases I have seen down here I am satisfied that inoculation has undoubtedly mitigated the symptoms and lessened the mortality, yet I think it full early to give a positive opinion on its merits as a preventive. I am struck much by the marvellous effect of this climate, during the summer months at least, on chest cases. I have seen several undoubted cases of tubercle, or commencing tubercle, of the lungs simply lose every characteristic symptom after a few months' open-air treatment in this climate and to all intents and purposes recover. Whether a return to other climates will light up the old mischief or not remains to be seen, but I am at present keeping my eye on a case in which when I first saw the patient about the middle of December, I considered the gravest prognosis the only one allowable; however, the patient, after battling with a varying temperature of over 100° and frequently running up to 103° at night, with night sweats, emaciation, persistent cough, and every symptom, including bacilli in the sputum, has improved to the extent that he is able to take a fair amount of exercise, feels fit, and is clamouring to be sent to the front. The same remarks apply, as far as climate goes, to patients suffering from nervous exhaustion, dysentery, and sunstroke, who come down perfect wrecks and in a few days, after a residence at Claremont, pick up in a marvellous manner and are fit for duty again. Its curative powers on gunshot wounds I have already described in my earlier letters, and I can now, after a residence here of over four months, endorse every word I then said; in fact, during the spring and summer Cape Town, or rather Wynberg and Claremont, are, as regards climate, simply perfect places for the sick and wounded. We are well off now in the matter of hospitals, as there are several more, including the Yeomanry, to be established in the neighbourhood of Cape Town, so that no misgivings regarding accommodation need be felt.

Wynberg, Feb. 28th.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

(Concluded from p. 798.)

THE Commissioners proceed to consider what amount of flow in the Thames ought to be maintained. Sir Alexander Binnie contended that the flow over Teddington Weir ought never to be reduced to less than 250,000,000 gallons a day and that the river would silt up below Richmond if the flow were materially reduced below that figure. The Thames Conservators passed a resolution in the year 1892 and again in 1896 insisting that after the water companies had taken 130,000,000 gallons daily from the Thames they ought not to be allowed to increase this amount unless the day's discharge at Teddington Weir exceeded 200,000,000 gallons, and then the excess only ought to be taken, so that the discharge over the weir would not fall below 200,000,000 gallons. Sir Frederick Dixon-Hartland, chairman of the Thames Conservancy, objected to the daily flow over Teddington Weir ever being reduced to less than 200,000,000 gallons. The Commissioners are of opinion that the minimum flow over Teddington Weir should be fixed at 200,000,000 gallons and that the companies should not be allowed to deplete the river so as to reduce the flow below that amount "except under special safeguards and restrictions." At the present time the companies have a statutory right to draw 130,000,000 gallons from the Thames without reference to the effect this draught may have on the discharge at Teddington. Of this statutory right they could not be deprived "without their consent or without consideration." Their consent might well be given if they were granted the privilege of drawing their daily quota, not in each 24 hours, but on an average of six months. In that case the companies would not draw water when the river was low and the whole of the water was wanted to keep up the necessary flow over Teddington Weir and "this would be advantageous in the public interest." A material consideration in estimating the cost and possibility that a supply from the Thames could be obtained in sufficient amount to last up to 1941 is the question as to whether the companies should be allowed to draw flood-water into their reservoirs or whether they should be restricted from taking water at the height of the flood. On this question the Commissioners think that discretion may be left to the engineers of the companies and that it may be assumed that as turbid water is a trouble and expense they will when practicable allow a few days of flood to go before they draw the water and therefore a prohibition against the taking of flood-water is unnecessary. To ensure a flow of 200,000,000 gallons a day over Teddington Weir would only be possible by greatly increasing the capacity of the storage reservoirs provided. As to the cost which these reservoirs would entail the Commissioners received conflicting estimates from Sir Alexander Binnie, Mr Middleton, Mr. Hunter, Mr. Hawksley, and others. They do not discuss the details of the estimates, but with the assistance of Colonel Rathbone, who was employed as assistant Commissioner, they estimate that the cost of supplying sufficient storage to supply Water London from the Thames with 114,500,000 gallons a day in addition to the 185,500,000 gallons a day (which the companies and the Staines Reservoirs Committee are now authorised to take) in a year as dry as 1893 will be between £9,000,000 and £10,000,000. This estimate, however, does not cover the cost which would be incurred if the existing authorised draught of the companies and of the Staines Reservoirs Committee—namely, 185,500,000 gallons a day—were made subject to the condition that water shall not be taken from the Thames so as to reduce the flow over Teddington Weir below 200,000,000 gallons a day. If this were done by an alteration in the statutory rights of the companies and with their consent the cost of supplying a sufficient storage and pumping power would be £2,800,000 and £2,000,000 further expenditure would be necessary for connexion with the systems of the different companies. The cost of this outlay for making arrangements for the abstraction of more water from the Thames would be gradually incurred and the reservoirs would be made as the need for them arose, so that if the population did not increase at the expected rate the works might be delayed. The works which would be done would become remunerative and productive of income as soon as they were finished. The Commissioners remark that there are other less costly sources of supply, that 27,500,000 gallons a day could be taken from wells in Kent, and Lord Balfour's Commission reported that water might possibly be obtained from chalk wells in the Thames basins above and below the companies' intakes and that wells in the Lee valley might be expected to produce 40,000,000 gallons in dry years and in wet years 58,000,000 gallons or more daily.

The general conclusion to which the Commissioners come is that the estimate that 120,000,000 gallons a day from the Lee and springs and wells of the Lee valley and Kent is not an over-estimate, and that an additional supply from the chalk in Kent and from the Thames valley might be obtained to supplement the supply of 300,000,000 gallons a day from the Thames for the needs of London up to the year 1941. The Commissioners report that much of their time was occupied in considering the scheme for getting a supply from Wales. Estimates differing very greatly in amount were given by witnesses as to the cost of the proposed undertaking, and the divergencies of the estimates were so great "as to make the task of deciding between them difficult and hazardous." The Commissioners think that there is something attractive in the scheme for bringing water from the Welsh mountains for the supply of London and "one would be glad if it were possible now to secure a watershed to be used hereafter if London should require it." The Commissioners report, however, that no chemical or bacteriological tests with regard to the quality of the Welsh water are in evidence, but that it had been stated that the water was free from microbes and contained practically the same organic elements as the London water, and that some of the water was said to be of exceptional purity and softness and might dissolve a considerable portion of lead and this Professor Dewar warned them would probably necessitate proper treatment before it could safely be used. The Commissioners received no statistics with regard to the effects of the drought in the years 1893 and 1898 and the amount of average rainfall was estimated in the driest years to be 80 of the average rainfall. Should the present supplies prove sufficient in quantity and of satisfactory quality it seems unnecessary that the cost should be incurred of bringing water from a distance to London.

The cost of constructing works near the Thames is not the only expense which will have to be borne by the companies or by a purchaser between the present time and the year 1941. Much will have to be expended in making storage works in the Lee valley, for the machinery necessary to utilise further supplies from the chalk, and in laying mains for the distribution of water. The Commissioners estimate that the total capital expenditure up to the year 1941, should the Thames and other local supplies be used, will amount in round figures to £18,100,000. This expenditure will have to be made whether additional supplies are obtained from the Thames or from Wales, or from other sources, but as it will be incurred for supplying new customers it will bring an immediate increase to the income derived from the water rates.

The estimate given by the Commissioners exceeds that given by the companies. In pointing out this fact the Commissioners say that they addressed a circular to the directors asking them for an estimate of what they expected their capital expenses would amount to during the next 40 years. The estimates amounted altogether to a sum of £13,720,150, but the directors and their engineers expressed their sense of the difficulty they had in giving definite figures, and this difficulty they thought so great that they felt it impossible to ensure anything like accuracy. The Commissioners in summing up their own figures estimate that the capital expenditure required up to 1941 will be £4,800,000 to bring a daily supply of 185,500,000 gallons, which is the present authorised draught from the Thames, if the conditions of storage and river flow which they recommend are provided for. To provide adequate storage for an additional supply of 114,500,000 gallons from the Thames the cost will be £9,000,000 or £10,000,000; for works of distribution £18,100,000; for storage works on the Lee a further amount (not specified) must be added to the total of £32,000,000 to £33,000,000. Should further supplies be obtained from Wales the outlay would be much increased. The magnitude of the future requirements of London in regard to water-supply lead the Commissioners to the conclusion that the concentration of the water undertakings into the hands of one authority is desirable. It will be necessary to make large works should the supply be taken from the Thames and the Lee without injury to the rivers. There will be practical difficulties in carrying out these works if the undertakings are not owned by a single authority. The amalgamation of the existing companies according to one witness would be extremely difficult, according to another impracticable. A public authority would be able to raise the necessary sum for carrying out new works at a cheaper rate than the companies could obtain it if the authority had power to borrow on the security of the general rates, and in that case money might be raised at from ¼ to ½ per cent. less than the companies would have to pay. The whole expenditure mentioned will not have to be made immediately, but it is likely to be less remunerative than similar expenditure made by the companies has hitherto been and the new supplies required will be more expensive. The companies have been working on a tide of prosperity and, as a rule, their profits have steadily increased. The Commissioners ask themselves what would happen if there were a necessity for large expenditure which would probably be unremunerative for some time with the consequence of reduced profits to the companies, and they answer their question by saying that the directors, having before them the double duty of safeguarding the interests of the shareholders and of the consumers, would be placed in a difficult position which might lead to results unsatisfactory to the consumers, whereas a public authority having acquired the undertakings would be likely to have no other object in view than to satisfy the requirements of the consumers. Having regard, therefore, to the future requirements of Water London it is desirable that the undertakings should be acquired and managed by a public authority. If after purchase by a public authority a sinking fund were dispensed with and the present water charges were maintained the purchaser might be able to pay his way and the increase of the water revenue might make it possible to reduce the charges for water sooner than such a reduction would be made under the management of the companies, because in the latter case the maximum dividends would have to be reached and the payment of back dividends must take place first. The reduction would also extend to the New River district, on which no reduction is obligatory so long as this company exists with its present statutory rights.[1]

The Commissioners having come to the conclusion that the water companies' undertakings should be bought by a public authority proceed to consider by what authority the purchase should, in their opinion, be effected. They give a summary of the sources of the water supplied by the companies and then refer to the evidence of Sir Alexander Binnie with regard to division of the sources of supply between the metropolitan counties and London, pointing out that schemes of severance would result in the London County Council being made the water authority for part of the county and not for the rest and would lead to complications with the independent suburban water companies and local authorities which supply water and which exist to the number of 18 in Greater London or the parts of Water London outside Greater London. Sir Alexander Binnie thought that the metropolitan councils would find themselves driven to take water in bulk from the London County Council. The difficulties attending this course have been already stated, and the representatives of the metropolitan counties, moreover, insist on being severed from London both with regard to the supply and to the distribution of water in case of the purchase of the present undertakings by the London County Council. The difficulties which have been pointed out having led the Commissioners to advise that the London County Council should not be the purchaser, they proceed to report as to what authority if the policy of purchase be adopted should acquire the undertakings. It is not desirable that several authorities should become the purchaser. Any advantage which might obtain from the purchase, whether financial or administrative, will arise only from amalgamation of the sources of supply and distribution so that they may be used economically and with a view to the needs of every part of Water London. The feeling against purchase by a Water Board formed on the basis of population and rateable value is emphasised by the metropolitan counties on several grounds, and the practical difficulty of creating any water trust based on strictly representative principles was shown by the history of a Government Water Bill introduced in the year 1896, which, owing to the opposition of the metropolitan counties, was so modified in Parliament that a clause enabling any county to take itself out of the water trust was inserted and the Bill was dropped. The Commissioners appreciate the great difficulty in advising as to the constitution of a Water Board which will be accepted by the various interests concerned and by Parliament, but considering the importance and intricacy of questions relating to future water-supply, the large amount of works which will have to be undertaken, the difficulty of obtaining from eight separate companies that unity of action which is necessary for bringing such works to a successful issue, the importance of bringing about absolute coalescence of the water companies' undertakings,—all these things lead to the conclusion that the purchase and management by a single public authority will solve the question satisfactorily. The suggestions which are made with regard to the constitution of a water authority which should undertake these vast duties are as follows: the Water Board should be a permanent body consisting of not more than 30 members; its proceedings should be brought under the observation of Parliament automatically and periodically; and it should include delegates from the Local Government Board. The suggested composition is that the London County Council should appoint 10 members, the Conservators of the Thames four members, the County Councils of Middlesex, Surrey, Essex, Hertford, and Kent, the Lee Conservancy Board, and the Common Council of the Borough of West Ham two members each. The chairman and vice-chairman should be appointed by the Local Government Board. The appointing authorities should be empowered to fill any vacancy caused by the death or the resignation of a representative. The offices should be held for a definite (unspecified) number of years. The chairman and vice-chairman should receive adequate salaries. The other members of the board should be paid according to their attendances (as is now done in the case of the Conservators of the river Thames). The board should be required to acquire the undertakings of the metropolitan water companies by agreement or by arbitration. The boroughs of Croydon and Richmond are reasonably entitled, if they wish it, to be made independent of the board. The board should be entitled to issue 3 per cent. stock secured on the water charges of the whole area; this should be made a trustee investment transferable at the Bank of England. The Chamberlain of the City of London should transfer all the money which has accumulated as the result of the sinking fund clauses, and these clauses should be repealed at and from the date of purchase of the undertakings. The price of purchase should be payable in cash at the option of either the vendors or the purchasers. The vendors may be paid in the stock of the board should the shareholders agree to that course. Should a sinking fund be required the probability of a deficit will arise and this will make it necessary to empower the Board to increase the water charges which the companies are entitled to demand if the interest on the stock cannot be otherwise paid. In any case the Commissioners think such a precaution would be a prudent one. It would not be unreasonable to empower the board in case of deficit to levy a rate in aid. A rate in aid supplements the insufficiency of charges and is unjust to those ratepayers who have provided themselves with a water-supply and take nothing from the companies as in the case of breweries and other industrial establishments: but there are public purposes, such as extinguishing fires, street-watering, the supplies for public baths, &c., which benefit all ratepayers whether they take water or not, and in consideration of them all ratepayers may be called upon to make some contribution for the services rendered. Possibly the Water Board would have occasion to look to the rates for further assistance. It is this possibility which arouses the fears and excites the opposition of counties such as Middlesex and Kent. The Commissioners make a suggestion by which this opposition "may be quieted." Assuming, they say, that the Water Board has to borrow £10,000,000 at an annual charge, say of £300,000, for interest, if that charge were distributed among the six counties concerned in the proportion of the number of supplies they are respectively taking, the contribution asked from time to time will be roughly proportioned to their own needs and not to the needs of other counties The Commissioners suggest that the contribution should be demanded by precept issued by the Water Board to the county authorities when the money would be raised by the local authorities either by an equal rate or by rates levied in the parishes affected in the proportion of the number of water supplies given.

---

[1] At the present time the New River Company does not charge the full rates which are authorised.

As to whether it would be better to enable the proposed Water Board to meet deficiencies of revenue by recourse to the rates or by making an increase in the water charges is "a question of policy" which the Commissioners decide it is not for them to determine, and they content themselves by emphasising the possibility or probability that such deficiencies will arise should the proposed Water Board come into being on the lines suggested, and by pointing out alternative means of raising the money which is likely to be or may be wanted. The Water Board should be required to draw up an annual report of the statement of accounts. This should be audited by an independent auditor. The report and the account should be included in the annual report of the Local Government Board.

LEAD POISONING IN THE POTTERY DISTRICTS.

AT a meeting summoned by the Duchess of Sutherland at Trentham on Wednesday, March 14th, a conference of the medical men of the neighbourhood took place to consider the most thorough treatment of the cases of lead poisoning which occur in the Pottery districts. Dr. H. Lewis Jones of the Electrical Department of St. Bartholomew's Hospital, London, had been invited to speak on the electrical treatment of these cases from his experience of those patients sent from the Potteries to be under his care. The chair was taken by Dr. A. M. MCALDOWIE and the meeting was well attended, over 40 persons being present. In speaking of electricity in the treatment of paralysis due to lead poisoning Dr. LEWIS JONES said that cases of lead poisoning were not particularly common in London, about a dozen cases a year applying for treatment at the electrical department of St. Bartholomew's Hospital, and the type of case seemed to differ from that sent from the Pottery districts in that the patients were older and had the disease in a more chronic form. The interesting points about the cases from the Potteries were the comparative youth of the patients and the severity of their paralytic symptoms, which though more serious were more amenable to treatment by reason of the fact that the intoxication by the lead had gone on for a shorter time With regard to the mode of treatment, ten years ago it was by the direct application of the constant current to the paralysed muscles by means of hand electrodes; from that it had been changed to treatment by means of electrical arm-baths; the current employed had also been changed from the constant current to the induction coil with arm-bath and later to the current from the mains With the present mode of application patients seemed to improve rather more rapidly. It was difficult in all matters concerning efficacy of treatment to bring forward absolute and conclusive evidence that recovery was due to the treatment applied, but this could be said, that on the commencement of electrical treatment improvement began for the most part immediately and the progress of improvement coincided very closely with the progress of the treatment. Wrist-drop from lead was a serious condition and was slow to yield to any treatment. It was often necessary to persevere with it for from three to six months or even longer before the full benefit could be secured by the electricity. Because of this there was a tendency to regard electrical treatment as of little or no use and to think that any improvement which might take place was due to lapse of time or to natural causes. In trying to estimate the value of electrical treatment there was the difficulty of understanding exactly how the electricity worked. The question of the elimination of metals in various kinds of metallic poisoning was an old one. Electric baths had been recommended for the extraction of lead, mercury, and other metals from patients' bodies, but these metals tended to natural and spontaneous elimination in the ordinary course of events; the rate of elimination could be promoted or retarded by drugs, but the treatment of the paralysis and the elimination of the metal were independent of each other in so far as the one could be measured by the other, and it was very difficult to prove that lead could be extracted from a patient's body by processes of electrolysis. Alternating currents were almost invariably used in the treatment of lead poisoning at St. Bartholomew's Hospital, therefore it was clear that electrolysis played no part in the recovery of such cases because electrolysis was a property of the direct current. The electricity acted as a stimulant to the nerves and muscles involved and to the blood-supply circulated through them, and by stimulating these parts the natural process of elimination was also stimulated. The routine method of treating wrist-drop caused by lead was as follows: an arm-bath of stoneware was filled with warm water and the forearms and hands of a patient were immersed in it and a current was passed from one end of the bath to the other through the water and the limb between two electrodes placed at the ends of the bath. The alternating current was used in preference and the 100 volts from the electric light mains were reduced by a transformer to 12, 14, or 16 volts to suit the cases. It was, perhaps, unusual to find an alternating current advocated for treating muscles which showed the reaction of degeneration and which were unable to respond by contraction to rapidly alternating currents. But this was part of a large question. Experience had shown over and over again that alternating currents had a valuable influence upon muscles which did not contract to them. For the treatment of the paralytic form of lead-poisoning electricity was undoubtedly the best, and for conditions other than paralysis, particularly the anæmia and debility which were often met with, electricity again rendered important service in assisting the natural elimination of the poison and promoting the general activity of the tissues. To render electricity a practical method it was necessary to make it easy of application. The arm-bath with an induction coil represented the simplest electrical application possible and reduced the labour of treating a patient to a minimum.—Dr. R. ALCOCK, Mr. W. ARMSTRONG, Dr. W. C. D. PRENDERGAST, and Mr. F. F. ARMYTAGE also spoke, and the last-named gentleman showed three cases.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6659 births and 4525 deaths were registered during the week ending March 17th. The annual rate of mortality in these towns, which had declined from 25·8 to 20·4 per 1000 in the four preceding weeks, further decreased to 20·3 last week. In London the rate was 18·8 per 1000, while it averaged 21·3 in the 32 provincial towns. The lowest death-rates in these towns were 12·7 in Croydon, 14·9 in West Ham, 16·4 in Brighton, and 16·5 in Bristol; the highest rates were 25·7 Salford, 27·6 in Liverpool, 28·6 in Oldham, and 31·1 in Preston. The 4525 deaths in these towns included 423 which were referred to the principal zymotic diseases, against 416 and 424 in the two preceding weeks; of these, 141 resulted from measles, 124 from whooping-cough, 77 from diphtheria, 32 from "fever" (principally enteric), 28 from diarrhœa, 20 from scarlet fever, and one from small-pox. No fatal case of any of these diseases occurred last week either in Swansea, Birkenhead, or Huddersfield; in the other towns they caused the lowest death-rates in Croydon, Nottingham, and Sunderland, and the highest rates in Plymouth, Wolverhampton, Salford, and Preston. The greatest proportional mortality from measles occurred in Plymouth, Cardiff, Wolverhampton, Salford, Preston, and Halifax; and from whooping cough in West Ham, Wolverhampton, *Birmingham, Liverpool, Leeds*, and *Newcastle*. The mortality from scarlet fever and from "fever" showed no marked excess in any of the 33 towns. The 77 deaths from diphtheria included 35 in London, eight in Sheffield, seven in Leicester, five in Leeds, and four in Bristol. One fatal case of small-pox was registered last week in Cardiff, but not one in any other of the 33 large towns. There were five cases of small-pox under treatment in the Metropolitan Asylums Hospitals on Saturday, March 17th, against seven at the end of the two preceding weeks; two new cases were admitted during the week, against three, two, and one in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1760, against numbers decreasing from 3578 to 1777 on the 17 preceding Saturdays; 181 new cases were admitted during the week, against 160, 154, and 147 in the three preceding weeks. Influenza was certified as the primary cause of 26 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had declined from 527 to 378 in the four preceding weeks, rose again to 391 last week, but were 130 below the average. The causes of 64, or 1·4 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Nottingham, Leeds, and in 10 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Preston, Hull, and Newcastle.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 31·7, 29·0, and 27·7 per 1000 in the three preceding weeks, further declined to 22·7 during the week ending March 17th, but exceeded by 2·4 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 15·9 in Leith and 18·6 in Dundee to 26·6 in Greenock and 27·0 in Perth. The 700 deaths in these towns included 18 which were referred to diarrhœa, 17 to measles, 15 to whooping-cough, five to scarlet fever, four to diphtheria, and four to "fever." In all 63 deaths resulted from these principal zymotic diseases, against 69, 74, and 92 in the three preceding weeks. These 63 deaths were equal to an annual rate of 2·0 per 1000, which was slightly above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of diarrhœa, which had been 18 and 25 in the two preceding weeks, declined again to 18 last week, and included five in Edinburgh, five in Aberdeen, three in Glasgow, and three in Dundee. The deaths from measles, which had been 20 and 17 in the two preceding weeks, were again 17 last week, of which seven occurred in Glasgow, five in Dundee, and four in Paisley. The fatal cases of whooping-cough, which had been 15 and 24 in the two preceding weeks, declined again to 15 last week, and included five in Glasgow, five in Edinburgh, and two in Perth. The deaths from scarlet fever, which had been 10 in each of the two preceding weeks, declined last week to five, of which three were registered in Glasgow. The four fatal cases of diphtheria showed a decline of three from the number in the preceding week and included two in Glasgow. The deaths referred to different forms of "fever," which had been six and nine in the two preceding weeks, declined again last week to four, of which three occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 362, 324, and 259 in the three preceding weeks, further declined to 189 last week, but showed an excess of 51 over the number in the corresponding period of last year. The causes of 27, or nearly 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 34·3 and

36·8 per 1000 in the two preceding weeks, declined again to 31·2 during the week ending March 17th. During the past four weeks the death-rate in the city has averaged 38·3 per 1000, the rate during the same period being 19·5 in London and 22·6 in Edinburgh. The 209 deaths registered in Dublin during the week under notice showed a decline of 33 from the number in the preceding week, and included nine which were referred to the principal zymotic diseases, against 12 and 10 in the two preceding weeks; of these four resulted from measles, four from diarrhœa, one from whooping-cough, and not one either from small-pox, from scarlet fever, from diphtheria, or from "fever." These nine deaths were equal to an annual rate of 1·3 per 1000, the zymotic death-rate during the same period being 1·7 in London and 2·2 in Edinburgh. The fatal cases of measles, which had been five, one, and two in the three preceding weeks, further rose last week to four. The deaths from diarrhœa, which had been five and three in the two preceding weeks, rose again to four last week. The 209 deaths registered in Dublin last week included 34 of infants under one year of age and 58 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a slight decline from the numbers recorded in the preceding week. Seven inquest cases and four deaths from violence were registered, and 78, or more than a third, of the deaths occurred in public institutions. The causes of 17, or more than 8 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons: A. H. Prichard to the *Research*; J. N. Robertson to the *Triton*; A. W. B. Livesay and J. P. Willis to the *Pembroke*, for Chatham Dockyard; H. R. Gardner to the *Thunderer*; and R. J. Mackeown to the *Excellent*.

THE IMPERIAL YEOMANRY.

Thomas Walcot to be Medical Officer, with the temporary rank of Captain.

ROYAL ARMY MEDICAL CORPS.

Surgeon-Captain A. Macdonald, A.M.R., assumes medical charge of troops, Station Hospital, &c., Edinburgh Castle. Lieutenant-Colonel R. Drury assumes medical charge of the Female Hospital, staff, and departments, Curragh Camp. Brigade-Surgeon-Lieutenant-Colonel F. Howard, A.M.S., (retired) and Captain W. H. P. Lewis join the Home District for duty.

Surgeon-Major E. J. Lawless, 4th Volunteer Battalion the East Surrey Regiment, is granted the temporary rank of Major whilst serving in South Africa. Surgeon-Lieutenant John K. Tomory, 1st Sutherland Volunteer Corps, is granted the temporary rank of Lieutenant whilst serving in South Africa. Captain C. F. Wanhill, from the Seconded List, to be Captain, vice R. H. E. G. Holt, who died from wounds received in action. Surgeon-Major E. L. Freer, 1st Volunteer Battalion the Royal Warwickshire Regiment, is granted the temporary rank of Major whilst serving in South Africa. The undermentioned officers are granted the temporary rank of Lieutenant while serving in South Africa:—Surgeon-Lieutenant A. H. McDougall, 1st Volunteer Battalion the Royal Warwickshire Regiment; Surgeon-Lieutenant John Clay, 2nd Volunteer Battalion the Northumberland Fusiliers.

VOLUNTEER CORPS.

6th Lancashire: Surgeon-Major J. B. Oliver resigns his commission, with permission to retain his rank and to wear the uniform of the corps on his retirement. 2nd Middlesex: Ernest Alfred Snape to be Surgeon-Lieutenant. 1st Volunteer Battalion the Cheshire Regiment: Surgeon-Lieutenant C. T. Green to be Surgeon-Captain. 2nd Volunteer Battalion the East Surrey Regiment: James Dunbar-Brunton to be Surgeon-Lieutenant. 4th Volunteer Battalion the East Surrey Regiment: The undermentioned gentlemen to be Surgeon-Lieutenants: Thomas Mahon Morton and Williams Henry Frome Young. 2nd Volunteer Battalion the Hampshire Regiment: Surgeon-Major R. T. Cæsar to be Surgeon-Lieutenant-Colonel. 5th (Perthshire Highland) Volunteer Battalion the Black Watch (Royal Highlanders): John Anderson to be Surgeon-Lieutenant. 4th (Stirlingshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Captain A. D. Fraser to be Surgeon-Major.

Memorandum.—Rifle: The undermentioned officers are borne as supernumerary whilst serving with the Royal Army Medical Corps in South Africa:—4th (Cambridge University) Volunteer Battalion the Suffolk Regiment: Surgeon-Lieutenant R. W. Michell. 1st Volunteer Battalion the Duke of Wellington's (West Riding Regiment): Surgeon-Captain G. G. Oakley. 6th (Fifeshire) Volunteer Battalion the Black Watch (Royal Highlanders): Surgeon-Captain C. E. Douglas. 9th Lanarkshire: Surgeon-Lieutenant J. C. Taylor.

"TACTICS FOR SANITARY TROOPS ON THE FIELD OF BATTLE."

Under the above heading Captain Lœffler, who is a staff officer in the German army, has written a short but comprehensive manual[1] for the information and guidance of all concerned in active military operations, whether they belong to the combatant or to the departmental branches of the service. Adopting as his foundation a small force consisting of two army corps, a reserve division, and a division of independent cavalry the author formulates a series of typical military situations, inclusive of outpost affairs, skirmishes, ambulant engagements, and pitched battles, indicating with great precision the duties of medical officers, both administrative and executive, and showing how the slightly wounded should be disposed of as well as by what means the more seriously injured are to be transferred to the rear preparatory to their removal to stationary hospitals. Captain Lœffler's little work, which does not trench at all upon purely medical matters, is well conceived and concisely executed. For the first time in official or semi-official military literature the officers and men of the medical department are treated as soldiers. It is true that from the point of view of a commander, whose *summum bonum* must necessarily be the destruction of his opponents, the relative importance of life-savers can be only small; but in this humane age public opinion insists upon prompt medical aid being forthcoming on the field of battle, and the more the work of the men who have to afford it is facilitated by their assimilation to the men in the fighting rank the better it will be for the solidarity of the entire army. The men, equally with the officers of the Royal Army Medical Corps, are debarred from the satisfaction of striking a blow aggressively, while for lack of sufficient training their efforts in self-defence cannot be supposed to be other than crude and impotent; and yet they are expected to share in all the battle risks of the combatants, besides braving others of a different nature, but just as dangerous to life, if not more so, after the excitement is all over and done with. Throughout Captain Lœffler's book the military status of medical officers is fully recognised. In its pages the reader can see the principal medical officer by the side of his General prior to an engagement, receiving the chief's instructions in company with the other subordinate commanders, and explaining for their benefit how he proposes to make his section fit into the general plan. As the recognised head of an essential portion of the force he is accorded, in so far as his own department is concerned, the attributes of an adjutant-general, being empowered to issue his commands, "By order of the general officer commanding the troops." The issue of this manual marks a distinct step in advance, indicating, as it does, the unequivocal position to which German military medical officers have attained. A volume similar in scope and to a certain extent in treatment has been prepared at the headquarters of the French army and will shortly be published. We sincerely trust that it will not be long before the example thus worthily set is followed by our own military authorities.

TRANSVAAL WAR NOTES.

The Imperial Yeomanry Base Hospital, which has been erected at Deelfontein, about 30 miles to the south-west of De Aar, was opened on March 17th.

A bed for the Imperial Yeomanry Hospital has been endowed by Jewish boys and girls of Cape Town, and the endowment of another bed is promised by the Israel Lodge.

The *Winifredian* arrived at Southampton on Monday, March 19th. She brought 170 men from South Africa for the Royal Victoria Hospital, Netley.

The Hospital Ship *Princess of Wales* has left on her second journey to South Africa.

---

[1] Published by Mittler und Sohn, Berlin, 1899, pp. 86.

The Welsh Hospital is expected to leave England in about ten days, Professor Thomas Jones, M.B Lond , F R C.S.Eng , Mr. J. Lynn Thomas, F R.C S.Eng , and Mr. R Mills-Roberts, F.R C S.Edin , will act as surgeons, and Mr. Laming Evans, M B. Cantab., F.R C S , late house surgeon, St. Bartholomew's Hospital, and Mr Herbert Davies, M.B , Ch B. Vict., senior house surgeon, Stoke-on-Trent Infirmary, as assistant surgeons. Five dressers and nine or ten nurses will complete the staff. The hospital funds now amount to over £6000 and among the subscribers during the past week have been H.M. the Queen £100, H.R H. the Prince of Wales £50, and H.R H the Duke of York £20.

The late Sir William Lockhart.

In the death of the Commander-in-Chief of Her Majesty's forces in India the country and the army have sustained a great loss, and we cannot refrain from paying a sincere tribute of respect on the part of the British and Indian medical services to his memory. The late Sir William Lockhart had a very distinguished career and was a very brave man of quite exceptional qualities. He came of a good stock; his uncle was John Gibson Lockhart, the son-in-law and biographer of Sir Walter Scott, and Sir William Lockhart was himself, apart from his high military reputation, a man of ability and culture and possessed an excellent knowledge of German. He was very wise in counsel, decided and prompt in action, and eminently honest and considerate in his dealings with all—and not least so in the case of officers of the medical services. Notwithstanding that he was known to have been for a long time in delicate health his death was a surprise and a real grief to all who had the privilege of his acquaintance. He looked as he was, every inch a soldier—a handsome man of fine physique, to whom independence, courage, and self-sacrifice were natural and instinctive

A Royal Naval Medical Reserve.

Our contemporary the *Army and Navy Gazette* contains a communication signed Louis Vintras, M.D., B.Sc , medical officer R.M.S. *Orinoco*, regarding the value of having competent reserves in all branches of the services. Dr. Vintras suggests, *apropos* of the call that has been made on the civil profession to supplement the Army Medical Service during the campaign in South Africa, that a Royal Naval Medical Reserve might be organised with very little expense to the State out of the number of medical men who have passed several years of their career in the service of one or another of the mail lines, who are used to the sea, have a knowledge of the medical aspects and hygiene of medical life, who are experienced in tropical diseases, and thoroughly inured to rapid changes of climate. The idea seems a good one and fits in with that of the Naval Medical Reserve composed of officers of the large mail companies. Dr. Vintras asks for communications from persons in sympathy with such a movement, or who have suggestions to offer concerning it, to be addressed to him at 19A, Hanover-square, W.

Mentioned in Despatches.

In a despatch from Lord Methuen on the action at Magersfontein on Dec. 10th and 11th, sent by Lord Roberts to the Secretary of State for War, occur the following passages:—

"Major O'Donnell, Royal Army Medical Corps, and Lieutenant Delap, Royal Army Medical Corps, were indefatigable in attending wounded under fire." Black Watch.—Lieutenant Douglas, Royal Army Medical Corps, showed great gallantry and devotion, under a very severe fire, in advancing in the open and attending to Captain Gordon (Gordon Highlanders), who was wounded; also attending to Major Robinson and other wounded men under a fearful fire."

Sir George White.

It will be remembered that the gallant defender of Ladysmith in a brief public speech of thanks for the congratulations tendered to him after the relief of that garrison incidentally adverted to the fact that he was at the time suffering from fever with a temperature of 102°F. Everybody will have learned with regret that Sir George White did not recover his health so rapidly as could be desired and that he has wisely embarked and is returning to this country where all, without exception, wish for his speedy recovery. Sir George White, it is needless to add, went through a most trying time during the long siege, and, in addition to the hardships and privations he underwent, he had all the care and great responsibility of the position. The part he played was worthy of him, and the siege will hereafter occupy a prominent place in military history.

Fruit for the Military Hospitals.

Lady Haliburton in a letter to the *Times* says: "...... I have undertaken to send weekly to Netley Hospital a small supply of fresh fruit for the use of the invalids *returning* from South Africa. Many others, if aware that they might enjoy this privilege, would no doubt gladly avail themselves of such an opportunity of usefulness by sending regular supplies of fruit to the various large military hospitals scattered throughout the United Kingdom. ......" It is to be hoped that many others will follow Lady Haliburton's example.

The total number of conscripts for the French army last year, says the *Army and Navy Gazette*, shows a reduction of nearly 15,000 on that of the previous year. This noticeable drop has caused some uneasiness. The fundamental cause of the diminution is doubtless due to the stationary state of the population, but it is also a fact that there has been a special cause at work. The medical examination of the conscripts has been far more severe than for several years past.

Major W. Dick, M.B., F.R C S. Edin., R.A.M.C. (who is acting for Colonel W. F. Stevenson, M.B. Dub , R A.M C., as Professor of Military Surgery in the Army Medical School, Netley), having been relieved of the charge of the Surgical Division of the Royal Victoria Hospital, Major Birt, R A.M.C., has been appointed to the office.

The following gentlemen have been ordered to join the Army Medical School as surgeons on probation for the Royal Army Medical Corps:—Mr. H. E. Weston, L S A., St. George's Hospital; Mr. J. G. Churton, M.R C.S. Eng., L.R.C.P. Lond.; Mr. A. E Hamerton, M.R C.S Eng., L R C P. Lond., Leeds School of Medicine.

Royal Army Medical Corps messes have now been established in India to which the Government grant 80 and 100 rupees per mensem respectively where eight or ten officers form the mess.

The following civil surgeons having arrived at Netley are posted as stated: Mr. Marriott to the huts for duty, and Dr. A. C. Profeit to the surgical division.

Correspondence.

"Audi alteram partem."

"CROOK v. CROOK AND HORROCKS."

To the Editors of THE LANCET.

SIRS,—Will you permit me through your columns to thank all those who have written to me letters of sympathy and congratulation and also to thank Dr. William Duncan and many others who have expressed a desire to help to defray my costs. I quite appreciate the kind motive and am very grateful, but I prefer that no subscription list should be started on my behalf.

I am, Sirs, yours faithfully,
PETER HORROCKS.
Brook street, W , March 19th, 1900.

"THE NITRO-PROPIOL TEST FOR SUGAR IN URINE."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 17th there was a notice of Teusch's Nitro-Propiol Test for sugar which induced me to send for a bottle of the tablets in order to compare it with the ordinary method by Fehling's solution. According to the directions supplied with the tablets we are told to dissolve one tablet in about three drachms of water, add 10 drops of the suspected urine, and boil slowly for from three to five minutes. A fine colouration of indigo blue is said to take place if sugar be present, the indigo being deposited when the fluid is allowed to stand. It is at once obvious that boiling for from three to five minutes is a disadvantage for two reasons · it takes up a good deal of time and it is impossible to boil continuously for so long in a test tube without explosions of steam, so that the process must be carried out in a flask or capsule. But this is not a serious objection if the method were so accurate as not to need confirmation.

It is well known that the power of reducing cupric oxide is not peculiar to grape sugar but is shared by a good many other substances which are frequently present in sufficient quantities in the urine to cause at any rate a partial reduction of the test solution, so that a method which would be equally delicate and positive in its results and which would stand in no need of confirmation by other means would be a boon to clinical medicine. From this point of view I cannot speak very highly in favour of the new test. A case of diabetes under my care which has improved so much that the sugar in the urine for a long time has been less than 1 per cent., and estimated by Fehling's solution gives 0 8 per cent., failed to give any reaction at all with Teusch's test. On the other hand, the urine I have been examining this morning, which deposits an abundant sediment of cayenne-pepper-like crystals of uric acid, reduced Fehling's solution partially so as to give a dirty yellow precipitate. After filtering through animal charcoal, according to the method advocated by Sir William Roberts for removing reducing substances other than sugar from the urine, the test solution remained perfectly clear, bright, and unaltered in colour. I should say, therefore, that this urine does not contain sugar, but that the reduction is due to uric acid; however, after boiling in a capsule with Teusch's test a blue film of indigo was deposited upon the capsule.

In order to clear up this point I had this urine examined by fermentation and with phenyl hydrazin, both of which gave a negative result. In this case, then, Teusch's test is out of harmony with the results of three methods which are generally regarded as trustworthy. Therefore it does not seem to possess any advantage, either in rapidity of application, delicacy, or accuracy, over Fehling's solution.

I am, Sirs, yours faithfully,

March 19th, 1900. ROBERT SAUNDBY.

THE MIDWIVES BILL.

To the Editors of THE LANCET.

SIRS,—Perhaps it may help if I call attention to the fact that the present Midwives Bill is based upon two principles—one that of control and one that of improving the status of the midwife. For practical purposes these two principles are incompatible, for with improvement in status control of any value is impossible. It is therefore idle to talk of amendments until it is decided upon which principle legislation is to be based. I cannot help congratulating the gentlemen of the Obstetrical Society of London upon their success. They have succeeded in making it to appear before the world that their society is in favour of legislation, and, besides their society, both corporations. They have also hauled into the meshes of their net the council of the British Medical Association. As you point out in your issue of March 17th they are really backed by a very small number of the profession, as I ascertained some years ago. These congratulations I cannot accord to the profession as a whole, which has allowed, by its failure to provide an organisation capable of defence, a few persons to give away the mass. Perhaps the sense of danger, which many will not appreciate until it is too late, will hasten the organisation of the profession. At the present moment a study of the history of the Bill will show conclusively that the profession is powerless in the face of an organised body, however small and unimportant. The policy of the corporations is to keep down the general mass of the profession, and a very wise policy, too, from their point of view. It will require a powerful organisation to cope with them. I am, Sirs, yours faithfully,

Hatfield, March 19th, 1900 LOVELL DRAGE.

THE MERITS OF BLACK INSTRUMENTS IN THE EXAMINATION OF INTERIORS.

To the Editors of THE LANCET.

SIRS,—Custom is commonly in error in the construction of specula employed for the illumination of various cavities in that it is generally assumed that they must be made of bright reflecting surfaces. The word speculum itself suggests this so far as it signifies a mirror. Practically many must have observed that the bright specula designed with the object of carrying light further into the cavity illuminated, so far from effecting this object, actually prove disconcerting to the vision by surrounding the dark region investigated with a field of dazzling light. Even supposing that more light is actually carried inwards, which is often doubtful, it must be largely counter-balanced by the reflection backward on to the operator's eye. And when it is remembered that the first physical essential for examining a field darker than its environment is that the pupil should dilate it is obviously unscientific to counteract this by the inevitable contraction which the reflected light from the speculum induces. This has been realised to a certain extent by the construction of black vulcanite aural and other specula, which are of course useful by assisting dilatation of the pupil. And any surgeon using the black nasal specula I have had constructed for me by Messrs. Mayer and Meltzer will realise the immense gain when contrasted with the ordinary silvered instruments. Extending this principle in the use of intra-laryngeal instruments I have had forceps similarly blackened. The result is of considerable gain when removing minute papillomata from the vocal cords, in which case any condition which prevents contraction of the pupil while examining the relatively dark interior of the larynx must be of essential value And I believe the gain to the operator is as great here as in examining the nose with blackened specula. Presumably there is no reason why nasal forceps, &c., should not be similarly blackened, though the need is obviously not so great as in operations upon the larynx. Messrs. Mayer and Meltzer have spent much time in discovering a satisfactory method of blackening, and, in spite of disappointments, have, I think, succeeded admirably.

I am, Sirs, yours faithfully,

March 19th, 1900. GREVILLE MACDONALD, M.D. Lond.

"THE CORONERS' SOCIETY OF ENGLAND AND WALES."

To the Editors of THE LANCET.

SIRS,—Mr. Braxton Hicks's letter of March 12th, published in THE LANCET of March 17th, informs the general body of the medical profession of an opinion expressed by the above-named society on the questionable duty of the medical practitioner in attendance being bound to report to the coroner for his district all deaths other than those arising from natural causes. While convinced that Mr. Braxton Hicks correctly states the opinion of this society, to which he acts as honorary secretary, may I be permitted to point out that the profession at large are not obliged to abide by any opinion or resolution expressed by this or any other kindred society, but by the ruling of the courts of justice on this point? Till such definite ruling is obtained they can afford to ignore all such resolutions.

Whilst candidly admitting "*that no particular class of persons is mentioned whose duty it should be to inform the coroner*" (the italics are mine), he proceeds to postulate that the hypothetical conjectures put forward in "Jervis on Coroners" should be regarded as the law on the subject, completely ignoring the fact that the pious private opinions of that worthy gentleman, unqualified by any definite ruling on the point at issue, do not rise to the level of authority. Even admitting "Jervis on Coroners" to be correct in stating the law on this point—i e., this duty devolves upon those who are in attendance on or about the deceased *at the time of death*—I fail to see how such a ruling can affect the medical practitioner in the *majority of cases* which call for an inquest or an inquiry by the coroner—cases in which no medical practitioner is in immediate attendance on the deceased *at the time of death* or in which the only attendance on or about the deceased commenced *after his death*.

The savoury threats held out by the council of this *private* society of "an indictment at common law for not *fully* stating the cause of death" may be ignored by all *who act in good faith*. For should any such action be entered, the *onus* of proving "*evil intent*" and "*wilful* suppression of the truth" must fall on the plaintiff. *Apropos* "the law relating to coroners," may I ask Mr. Braxton Hicks for a statement of the fees paid to the medical profession for reports (expert opinion) regarding the cause of death in cases closed by an inquiry without inquest, the reports being forwarded the coroner at the request of his officer? The coroner for the ancient city of Rochester pays, and prior to 1897 the coroner for the Sittingbourne district, Kent, has paid, a fee of 10*s.* 6*d.* for each report. Sequent to 1897, this fee has been disallowed by the Kentish County Council, and medical men thereby burked of their legitimate dues. My professional brethren should note that in dealing with a coroner who refuses to pay for such reports not to furnish him or his officer with any expression of a professional opinion as to the cause of death without a subpœna.—I am, Sirs, yours faithfully,

CLARENCE A. WRIGHT, F.F.P.S. Glasg., F.R.C.S. Edin.

Leytonstone.

"DEATHS UNDER CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—With reference to the letter of Lieutenant Clayton Lane, I.M.S., at page 731 of THE LANCET of March 10th will you permit me to draw attention to a few points which he has apparently overlooked? I quite admit that my opinion, or "guess" as he prefers to call it, is based on purely circumstantial evidence; that is perhaps unavoidable in such cases. Lieutenant Lane assumes that the respiration began to fail first, but why he should do so is somewhat difficult to conceive since the report states that "the breathing continued being slow and stertorous" some time after the appearance of dangerous symptoms

Again, as the medulla is one of the last parts of the brain to become affected by chloroform, respiratory paralysis only comes on in the late stages of anæsthesia; in the case in question the dangerous symptoms appeared in the second or excitement stage, while even the superficial reflexes were still active. While agreeing and sympathising with Lieutenant Lane in his regrets at the incompleteness frequently observed in the reports of deaths under chloroform, a little reflection confirms one in the belief that many of the defects are unavoidable so long as the patient's life is considered of more importance than the solution of a purely scientific problem.—I am, Sirs, yours faithfully,

GEORGE MOWAT, M.B., Ch.B. Aberd.

Royal Infirmary, Wigan, March 19th, 1900.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Famine and Plague in India: Four Millions of People Under Relief.—The Recrudescence of Plague in Calcutta.—The General Mortality in Bombay, 170 per 1000 per annum.—The Enormous Plague Expenditure.—The Terrible Mortality in Bombay.—Increase of Plague in Calcutta.

FAMINE and plague are the two chief factors of medical interest at the present time. The famine is of almost unparalleled magnitude and is very widespread. The numbers in receipt of relief have now approached four millions and increases are weekly reported from several provinces. No such number of persons has ever before been simultaneously relieved by any Government in the world. Unfortunately there is every likelihood of these totals being still further increased during the spring and summer months. In Western Rajputana 90 per cent. of the cattle have been lost. Except in some native states mortality from famine has been almost completely suppressed. There are not now, as on former occasions, the "poor emaciated wastrels, the living skeletons, whose pitiful likenesses nearly broke our hearts when they appeared in the illustrated papers three years ago." Public charity has been called for and the call has been grandly answered. Some of the native princes have given liberally. The distributers of the famine fund make no discrimination between the claims of native States and British India. It is perhaps only in this famine that organised relief in native territory has been carried out, as in 1897 such relief was experimental. The famine is now most severe in the native States.

Points of interest about the plague epidemic continually arise. The disease has now taken hold of Bengal and is spreading fast. As I predicted there is a recrudescence in Calcutta The plague mortality has been rising steadily since the end of January and the returns for last week show 199 deaths. The outbreak in Calcutta has not yet alarmed the native mind and large numbers still refuse to believe that the disease is plague at all, but comfort themselves with the title of bubonic fever, milder forms of which they think they have known in Bengal for many years The regulations being so mild there is no ground for any complaints against the authorities. Should plague really develop seriously, as in Bombay and Poona, the organisation must show itself as helpless as it is insufficient. The rate of general mortality now exceeds 50 per 1000 per annum, the normal being about 37. There is every indication of a very serious development. The outbreak in the Patna district has much increased but it does not seem to have attracted much public attention. Nearly 1000 deaths occurred last week. The people refuse to follow the traditional plan of evacuation which has proved so successful in Dacca, Faridpur, Backergunge, and in Darbhanga. Someone appears to have poisoned their minds just in the same way as someone poisoned the minds of the people of Calcutta with regard to inoculation. The consequence is that the disease has spread rapidly and is now threatening South Behar.

Of Bombay city the record is terrible, no less than 2701 deaths having occurred during the past week. The number of those dying from plague is greater than has ever been known. The death-rate is over 170 per 1000 per annum. *The official returns only give the small number of 641* deaths from plague. Small-pox is still raging but probably does not account for more than 30[illegible] in the week.

The plague expenditure in Bo[illegible] been very large. A recent return shows that up[illegible] 31st, 1899, the total expenditure was Rs. 4,08[illegible]ual roughly to about £270,000). During the [illegible] that is, since the dissolution of the Plague [illegible] the expenses have been much reduced, but, [illegible] this period something like £35,000 have been [illegible] administration. The returns for the whole [illegible]7 deaths from plague. It would probably n[illegible] wrong to double this estimate. In the Jullunder district of the Punjab more villages are being attacked. The recrudescence at Karachi has aborted and the plague mortality has now sunk to very small dimensions. These abortive attacks have occurred at other places, but there seems no explanation to account for them. Though not serious in themselves they keep the disease slumbering ready to awaken to renewed activity at a future period. I am afraid that they form no indication of a decadence of the epidemic

The latest weekly plague statement for India ending Feb 24th shows a marked increase in the number of deaths and the week closes with 3184 fatal cases, against 2597 in the previous week. The increase is due to the further development in Bombay and in the Bengal Presidency. In Bombay city the general mortality again surpassed the previous maximum and 2831 deaths were recorded. Of this number 263 were attributed to small-pox, but the official figures only return 768 deaths as due to plague. If the truth were known probably 2000 deaths occurred from plague alone. This terrible general mortality very nearly touches a rate of 180 per 1000 per annum. In Calcutta the outbreak is developing very rapidly and now after only five weeks' increase the plague mortality is double what it amounted to during the worst week of last year!

I regret to say that the rapid increase and the discovery of more living cases foreshadow a still further development of the outbreak. The general mortality at the present time exceeds the average by just about the number of the plague deaths and there is no other epidemic to account for the excess. In the Patna district the disease has spread considerably and 1444 deaths were returned for last week. I regret to have to record a renewed activity at Karachi, fresh outbreaks in the Punjab, and that six fatal cases have been reported from Aden.

Feb 26th

UNIVERSITY OF DURHAM FACULTY OF MEDICINE.—Dr. Percival Davidson is now in South Africa with the 5th Battalion Imperial Yeomanry (including Northumberland and Durham and Shropshire Companies), to which he is surgeon. Dr. Davidson is a graduate of Durham University and was for some time senior house physician at Newcastle Royal Infirmary. Dr. W. L. W. Walker, a graduate of Durham University, who was mentioned in THE LANCET of March 10th (p. 739) as being attached to one of the South African Companies of the Northumberland Yeomanry, is attached to a hospital on the lines of communication.

THE ORGANISATION OF THE PROFESSION.

NORWICH.—ABORTIVE ATTEMPTS TO DEAL WITH CLUB PRACTICE.—GOOD RULES THAT ARE NOT APPLIED.—THE RÔLE OF THE MEDICO-CHIRURGICAL SOCIETY.

(FROM OUR SPECIAL COMMISSIONER.)

THE position of affairs at Norwich is certainly not encouraging. This town may serve as a typical example of difficulties that have not been overcome and yet where some efforts have been made to deal with the existing grievances. So far back as the month of April, 1897, a meeting of all the members of the medical profession was held in the library of the Norwich Medico-Chirurgical Society. Most of the practitioners of the county belong to this association and it meets once a month for the purpose of reading scientific papers. When, however, ethical questions became prominent they were also discussed. Some of the members urged that energetic measures should be taken, others were opposed to any such action, and during the year 1896 so many heated discussions occurred that some fears were expressed that the association would be broken up. However, the reform party was so far successful that at the annual meeting for the year 1896 a new rule was accepted and worded as follows:—

> Any registered medical practitioner who shall be adjudged guilty of, and persist in, unprofessional conduct as defined by the code of rules adopted by this society shall be ineligible to be a member of this society.

It was, however, easier to adopt rules than to enforce their application. Some of the local practitioners were receiving incomes from the medical aid organisations In one case such income was said to amount to about £300 annually and it was stated that paid canvassers were employed. In reply it was urged that the canvassers were only collectors and did not tout. Indeed, as the discussion continued, it seemed as if the application of the new rule would involve the expulsion of the greater part of the members of the Medico-Chirurgical Society. Many practitioners had also private penny clubs of their own. Others had commenced practice in Norwich as the salaried officers of the Friendly Societies' Institute and then had taken some of the patients away from this institute and thus built up for themselves a private practice. They were therefore not very anxious to abuse the bridge on which they had crossed. Others complained that the Friendly Societies' Institute had been the means of introducing a low class of medical men into the town and this accusation did not tend to sweeten the acerbities that arose. Thus, it was found that while most of the practitioners, were ready enough to throw stones each had his own particular skeleton which he was anxious to conceal If the rules were strictly applied terrible ruptures would ensue, old well-established social ties would be broken; and there seemed to be no leader, no organised force, to give a direction and to indicate a policy that could unite the profession and bring about an attack on the line of least resistance.

In one respect Norwich was in a much less favourable position than the neighbouring town of Yarmouth. At the latter town the medical practitioners had with great unanimity constituted a medical union before the friendly societies established their medical institute. At Norwich, on the contrary, a similar institute had been in existence for about a quarter of a century. Some 25 years ago the medical practitioners only received 3*s* per annum from the members of the benefit societies and for this small sum they had to give medical attendance and medicine. A movement leading up to a sort of strike was then started among the members of the profession, but there was a lack of unity. Still, the agitation, though not sufficiently unanimous to obtain the desired reforms, nevertheless seriously alarmed the friendly societies and led them to form an amalgamation by which the Friendly Societies' Medical Institute was created, and here they employed two medical men at fixed salaries Most of the clubs or benefit societies went over to this institute, but some of them agreed to pay more and retain the services of their medical officers. Now that this institute has existed so long and has acquired well-established vested interests it cannot be combated with the same facility as could the newly established institute at Yarmouth. The Norwich Friendly Societies' Medical Institute has probably some 10,000 members. It employs two medical officers and one of them lives on the premises Sir Peter Eade and Mr. Cadge were the consultants, but when all the grievances were exposed and the evils of the system were made manifest both the consultants sent in their resignations, so that the efforts made have not been altogether futile.

There is also the Norwich Free and Provident Dispensary which is a semi-charitable institution, being supported partly by the subscriptions of the members and partly by donations. It employs seven medical officers who are paid according to the number of members on their list, the highest payment being £300 and the lowest £80 per annum. The question naturally arose as to whether this dispensary could be considered as an organisation worthy of support by the medical profession. This was soon brought to a test. Seeing how deeply the practitioners of Norwich are involved in the system of contract work it seemed impossible suddenly to put an end to the clubs or medical aid organisations. Therefore, at the general meeting held by the profession in April, 1897, an attempt was made to meet these difficulties, not by abolishing contract work but by substituting for the existing institution a provident medical service organised and managed exclusively by the medical profession. In a word, Norwich sought to imitate the example set by Eastbourne and Coventry. Previously to this a committee had met on six different occasions to draft a scheme. According to this proposal a dispensary was to be established with the title of the Norwich Public Medical Service. There was to be a central office where patients could attend to obtain advice and medicine. At Coventry and at Eastbourne it may be noted that there is no such office and some doubts may well be entertained as to the wisdom of having such a central office or dispensary. It adds considerably to the working expenses and compels the medical officers to absent themselves from their own surgeries so as to attend at the dispensary. The patients on their side have to go greater distances, and have to crowd together in a waiting-room where they may lose a considerable amount of time. As a rule the patients prefer going to the private surgery of a medical practitioner living in their immediate neighbourhood. However, this is only a practical question and not a matter of principle. The Public Medical Service, of course, was to be self-supporting and was to be governed by an elected committee. All qualified medical practitioners, not practising as homœopaths and having resided 12 months in Norwich, might become members of the medical staff if they signed an undertaking not to accept in future any club offering less remuneration. Further, they were to have no professional intercourse whatsoever with any practitioner who was connected with medical aid societies or similar institutions if the latter canvassed for members in the interests of individual practitioners, had not imposed a wage limit, and virtually sweated their medical officers by making a profit out of their work and paying them inadequately. The Public Medical Service was to accept as members artisans and their families and others who might be considered suitable by the committee if they made correct statements as to their income or weekly wage and if this did not exceed the sum of 35*s*. per week. The candidates were to be medically examined and, if accepted, charged 6*d* entrance fee and 2*d*. for their cards. After that adult males and females would have to subscribe 4*d*. per month and children under 14 years of age 2*d*. per month. A family, however numerous, would not be charged more than 1*s*. per month Several practitioners protested that the payment for adult females should be 6*s* per annum as they required more attendance than males Members more than 60 years old or actually in ill-health when joining were to be charged an entrance fee of 5*s* Domestic servants were not to claim attendance at their employers' houses If a member's income increased and exceeded the wage limit he was to be struck off the books. The fee for confinements would be 20*s*. payable in advance, miscarriages 10*s*., and vaccinations 2*s* 6*d* There was to be also a special scale for surgical operations Of course, the members were free to select their medical attendant The committee that prepared this scheme consisted of 14 practitioners and it was adopted at the general meeting of the profession held in April, 1897.

Unfortunately the iron was not struck while it was hot. Shortly after this meeting a deputation went up to London to discuss the entire question with the General Medical Council, the Royal College of Surgeons of England, and the Royal College of Physicians of London. Much time elapsed before this deputation presented its report and then it seemed that nothing very satisfactory had been done. Indeed, the visit to London acted as a sort of wet blanket and the enthusiasm which had at first been evoked cooled down. All the practitioners of Norwich were still anxious that the Public Medical Service should be established, but each individual preferred that others should begin and reserved for himself the privilege of joining later, when the enterprise would have proved successful. The Council of the Norwich Medico-Chirurgical Society sent out notices reminding members of the rules and then it was proposed to report all practitioners who failed to observe them. But this was only a threat, no one seemed to have the courage to act. There was some talk, but it was only talk. At last it was suggested that an effort should be made to work with the Norwich Free and Provident Dispensary, and that the scheme of the Medical Service should be welded with that of this old and well-established institution. The Dispensary, however, did not feel inclined to open its doors to all the practitioners of the town. The members were willing to add two medical officers to their staff, but that was all. Of course this would only increase the existing evil. The complaint against all dispensaries of this description is that they create a monopoly, as is illustrated by the provident dispensaries of Leicester, Coventry, Northampton, and the like. Under the mantle of charity and with the aid of a lay committee a small body of medical practitioners get an enormous list of patients and more than their share of such contract work as may be necessary to secure medical attendance for the poorer classes. The true course, of course, was to throw this work open to all practitioners, and it was no solution of the difficulty to increase the number of privileged practitioners on the staff of the Dispensary. The remedy consisted in the abolition of all privilege. Some of the medical officers were on the managing committee of the Norwich Free and Provident Dispensary, and they, at least, should have understood this, but they altogether failed to prevent the adoption of the proposal to add two more medical practitioners to the Dispensary staff. Thus so far the attempt to establish a Public Medical Service has done more harm than good.

Yet in spite of all this weakness and all these failures there is a strong feeling in favour of reform and a desire to act; but there is neither leadership nor unanimity. Thus individual practitioners are fighting by themselves; there is a sort of guerilla warfare and no disciplined concerted action. For instance, the two medical officers who are in the employ of the Friendly Societies' Medical Institute are consistently boycotted; no one will meet them, and if one of their patients requires a second opinion or consultation the patient calls alone on one of the consultants and pays his guinea fee. Such payments being frequently made prove that many members of the Friendly Societies' Medical Institute have incomes that exceed any reasonable wage-limit. There are likewise many members of the Independent Order of Oddfellows, Manchester Unity, who are in good positions. These are tradesmen, yet they only pay 4s. a year for medical attendance. If it is necessary to perform an operation on one of the members of the Friendly Societies' Medical Institute the operating surgeon writes to the medical officers of the Institute and warns them to keep away. Thus a case was related to me of a member who had suffered from typhoid fever and was attended through this illness by the medical officer of the Friendly Societies' Medical Institute though he only paid 3s. per annum. When, however, it was necessary to perform an operation on the wife of this member he engaged a leading surgeon of the town and paid him £20. If he could pay £20 for his wife it seems obvious that he could have paid more than 3s. for medical attendance on himself during so serious an illness as typhoid fever. Thus there can be no doubt as to the abuse that prevails. Still the members of the profession do not know how to act.

If little or nothing has been done in respect to club practice some improvement has been effected in regard to hospital abuse. The members of the medical staff of the Yarmouth Hospital raised this question and awakened the admission committee from its dormant condition. A board was put up explaining that the hospital was a charitable institution intended only for the relief of the poor. The practice of receiving paying patients at the hospital was abolished and during the course of the year a few patients have been refused admission on the ground that they could afford to pay the usual fees. Also club patients were in the habit of coming to the hospital. This has also been abolished and now none are admitted unless at the special and written request of their club medical officer. As a result of these measures it is thought that the abuse of the out-patient department is not so prevalent as it was formerly. There is no agent to inquire at the patients' homes, but the porter is a shrewd man and he keeps a sharp look-out. One of the clerks also is well acquainted with the members of the benefit societies and he helps to prevent abuse.

The question arises as to what should be done. At present the body which is best able to deal with the points at issue is the Norwich Medico-Chirurgical Society. It possesses close upon 150 members, of whom about a quarter reside in Norwich. According to Rule 1 its object is not only the cultivation and promotion of medicine, surgery, and the branches of science connected therewith, but also the "consideration of public matters affecting the profession," and the support of a medical library. Therefore the dealing with ethical and economical questions is quite within the scope of the accepted programme. Further, Rule 6 states, as already mentioned, that any registered medical practitioner who shall be adjudged guilty of unprofessional conduct shall be ineligible as a member, and it adds:—

> The rules adopted by this society are those formulated by Dr. Styrap, with clause appended with regard to medical aid associations defined as associations formed as trade speculations, carried on by lay proprietors for the purpose of deriving pecuniary profits from the earnings of members of the profession, and pushed by means of advertisements or by the employment of paid canvassers who tout and solicit the patients of other practitioners; and that it be deemed unbecoming and unprofessional for any member of the profession to lend his name or to associate himself in any way with such societies or clubs.

We have seen, however, that so far this rule has not been properly applied, and there is a natural tendency to inquire whether any other form of organisation would be able to deal more efficaciously with these problems. There also exists the East Anglian Branch of the British Medical Association, but it does not often discuss ethical questions. Nor does it meet regularly in any one particular place, but has gatherings in different towns, so that it may not meet in Norwich more than once in the course of three years. What is required is a medical union formed to deal exclusively with ethical and economical questions and this in a militant and constant manner. Such a union would consist of those who were in active practice in the town, but the fact that it had been created by the Medico-Chirurgical Society would bring up the support of a large number of practitioners established in neighbouring towns and districts. This would be most useful, notably in preventing the importation of medical practitioners to take up the work which members of the medical union might in view of obtaining necessary reforms refuse to undertake. The Medico-Chirurgical Society may convoke a meeting of the entire profession and then open its doors to all comers, but that does not suffice. A permanent link must be established. The practitioners must be brigaded and they must be brought under some form of discipline which shall harmonise with the opinions of the majority. The members must exercise some ingenuity to render such a union and its gatherings attractive to those who might otherwise be inclined to hold aloof. There are courtesies and civilities that are sometimes more effective than the most telling arguments. Nobody really likes to b ostracised, and before war is definitively declared all arts o persuasion should be employed. This is the work of a unio rather than of a somewhat exclusive social and profession club; and it is for these reasons that the Norwich Medic Chirurgical Society might be well advised in seeking establish a medical union of a militant character.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Bakers and Confectioners' Exhibition.

THIS is an age of exhibitions and Manchester is s without one. That now being "run" is in connexio the pastry-cooks, confectioners, bakers, and allied tra the United Kingdom, and it is held under the auspices National Association of Master Bakers in conjunctio the Manchester and Salford Association, of which most of us are, it is to be feared, grossly ignorant held in St. James's Hall, was opened on March 12 is the fourth of its kind. It seems that the prize given amount to £250. It is no doubt a good th there should be as few secrets as possible wit to the preparation of food, but it is by no me that the public will learn much from seeing the finished products of the confectioner's art. The exhibition remains open till March 21st and daily judging of the bread and confectionery takes place. It is questionable if what is called the main feature of the exhibition is specially conducive to speedy and unobtrusive digestion, for it consists of a fine show of bridecakes in all their artistic beauty. This show is said to be unique, or, as the report says, "*somewhat* unique, no such artistic display having been seen not only in the provinces but even in London." Perhaps the bridecake has caused some obscurity in the language. There is more in the art of confectionery than a mere ordinary man supposes. The President said that "the exhibits were wonderful examples of excellence and accuracy of touch which was only to be acquired by constant and lengthened practice," and a gentleman from Hull, the President of the National Association of Master Bakers and Confectioners, said that "the bakers produced the best of bread and the confectioners exhibited bridecakes and fancy confectionery which were most artistic in design and in workmanship and quality." We shall, no doubt, hear before long of a Burne-Jones among the bakers or a Dante Rosetti among the confectioners. It gives one a shock to remember amid all this the stories—true not long since—of phthisical bakers toiling amidst the foulness and heat of ill ventilated, underground bakehouses. Are any of these stories true now?

Asylum Accommodation in Cheshire.

Notwithstanding the recent enlargement of the Cheshire Asylum at Upton, Chester, which has given altogether accommodation for 1000 patients, the asylum at Parkside, Macclesfield, needs enlargement. At a joint meeting of representatives of the Cheshire County Council and the county boroughs of Stockport and Birkenhead, held on March 9th at Crewe, plans for the enlargement were approved. The arrangements will allow of the best classification of the various phases of lunacy. The cost per bed is estimated at £250 and the total cost of the enlargement at £70,000 But this is not expected to be sufficient for more than 10 or 12 years. A proposal has been made that cottage homes should be established for imbeciles and chronic, helpless, and infirm patients who want nothing more than care and nurture.

Preservation of Milk.

As the use of most of the preservatives for milk is so much objected to, it is interesting to note a method of treatment described at a recent meeting of the Manchester Literary and Philosophical Society by Dr. F. H. Bowman. He stated that very promising results had been obtained with regard to the preservation of milk by slowly bubbling sterilised air through it. There was no loss of flavour or of nutritive value. Care must be taken to keep the agitation within such bounds as will avoid the effects of churning. Dr. Bowman promised to make a further communication on the method if it proved of practical importance.

Small-pox Hospital for Manchester.

The Manchester Corporation are seeking powers to borrow £60,000 to build a small-pox hospital on Carrington Moss and a lengthened inquiry is being held in the town hall by Dr. S. W. Wheaton, the commissioner representing the Local Government Board. As may be known to many of the readers of THE LANCET the land was bought some years ago in order to get rid of, and to utilise, nightsoil and other refuse by the aid of which several thousand acres of waste land have been reclaimed and rendered productive. The corporation propose to reserve 55 acres for the hospital and its surroundings. It is difficult to find sites remote from dwellings in this populous district and it would be extremely difficult to find another so isolated Of course, the opposition is strong, as it would be anywhere The result of the inquiry cannot be foretold, but if this site is rejected there will be great difficulty in procuring a small-pox hospital for Manchester.

March 20th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Edinburgh Hospital for Sick Children.

SEVERAL appointments have just been made in connexion with the Royal Edinburgh Hospital for Sick Children. Dr. John Thomson has been appointed one of the ordinary physicians in place of Dr. John Playfair whose term of office has expired. Dr. James Stewart Fowler has been appointed to be one of the extra physicians to the institution.

Scottish Association for the Medical Education of Women.

The tenth annual report of the Scottish Association for the Medical Education of Women shows that during the year ending Sept. 30th, 1899, the total receipts amounted to £2395 2*s*. 6*d*. and the total expenditure to £2381 19*s*. 6*d*. At the beginning of the winter session, 1899-1900, 105 students paid the matriculation fee of the College.

The Edinburgh and East of Scotland South African Hospital.

The scheme for a hospital for wounded soldiers in South Africa which was originated a few weeks ago by Lord Provost Mitchell Thomson has been most warmly supported in the East of Scotland. It will be remembered that in the first place the suggestion was that Scotland should provide a hospital ship which would cost about £60,000. Negotiations on the subject were opened with Glasgow, but as that city was unwilling to cooperate the scheme was dropped. The Lord Provost, however, at once took up the lesser undertaking of providing a hospital for the front, and so enthusiastically was the matter taken up by the citizens that in little more than a month practically the whole of the necessary funds were subscribed in Edinburgh and the East of Scotland. It was estimated that for a hospital of 100 beds, to be placed on the lines of communication, a sum of from £12,000 to £20,000 would be necessary. The Lord Provost raised over £6000 of the amount needed before he made a public appeal, and the sum now raised is only a few hundreds under the £20,000 The hospital is to be what is known as a stationary hospital on the lines of communication. The premises will consist of four wards and an administrative block. They will be made of corrugated iron, with wooden floors and a canvas lining. The wards will be each 128 feet in length, 19 feet in width, and eight feet in height to the rafters, across which will be stretched a canvas ceiling. The administrative block will be 185 feet long, 28 feet wide, and nine feet high, while there will be smaller out-buildings for various purposes. Each ward will have 25 beds, with surgery, dispensary, and lavatory accommodation attached. The administrative block will contain separate rooms for the medical staff and nurses, a dining- and recreation-room, and dormitory accommodation for the orderlies. First-class electrical apparatus is being taken out which will furnish electric light to the hospital and will enable the surgeons to make use of the x rays. A soda-water machine, large enough to supply the whole of the hospital with soda-water for ordinary drinking purposes, forms part of the equipment of the hospital, as well as a Chamberland-Pasteur filter, a Berkefeld field service filter, and several smaller filters. The wards will be erected parallel to each other with a space of 60 feet between them. The administrative block will be set at right angles to the other premises and will be stationed 150 feet behind them. These erections, which were supplied by Messrs Humphreys of Knightsbridge, were set up in London, have been passed by the War Office, and have been inspected by the members of the Executive Committee. As the huts are in numbered sections the putting of them up or taking them down will not be difficult. A large stock of medical comforts, including champagne, brandy, whisky, and other liquors, has been presented to the hospital by merchants and others as a token of their interest in the scheme. The drugs and instruments are all of the best and have been supplied by Edinburgh firms. The details of administration have all been already thoroughly worked out, so that the hospital will be ready for use whenever it arrives in South Africa. The hospital staff is to consist of 64 persons. The chief executive officer will be Sir James Clark, Bart, Major, Royal Army Medical Corps. The civilian staff will consist of Professor Chiene as head and Mr. David Wallace as second in command, while Dr. Francis D. Boyd will act as physician to the hospital. There will be four assistant surgeons—Mr. A. H. Watt, Dr C. M. Cooper, Dr G L. Chiene, and Dr James Miller. The members of the staff will be inspected before leaving Edinburgh by the general commanding in Scotland and will leave Southampton on March 24th on board the *Briton*. On March 18th the medical and nursing staff of the hospital attended the military service in St Giles's Cathedral. The sermon was preached by the acting chaplain to the forces, the Rev. Dr. Theodore Marshall. After the service the medical men were addressed by the Lord Provost in the Royal Exchange-square.

Exhibition of Hybrids.

Professor Cossar Ewart is organising an exhibition of zebra and other hybrids to be held from April 2nd to 7th in the Waverley Market, Edinburgh, in aid of the War Relief Funds. He will be glad to receive loans for the week of hybrid beasts, birds, or fishes.

Recital in Aid of the Royal Army Medical Corps Fund.

On the evening of March 14th a musical and dramatic recital was held in the hall of the Edinburgh University Students' Union in aid of the Royal Army Medical Corps South African Fund. The Edinburgh University Musical Society performed several choral pieces, while Miss Clouston, Miss B. Stewart Richardson, and several students supplied the dramatic element. The hall was completely filled. The audience included General Chapman, C.B., and staff, and the Presidents of the Royal Colleges of Physicians and Surgeons of Edinburgh.

Dundee Surgeon for South Africa.

Dr. D. M. Greig of Dundee has received an appointment in connexion with the South African Field Force. Dr. Greig served in the Royal Army Medical Corps for three years after he graduated and began practising in Dundee in 1889, where he holds the rank of Surgeon-Captain in the 1st Forfarshire Volunteer Artillery.

University of Aberdeen.

Rev. John Marshall Lang, D.D., at present minister of the Barony Parish Church, Glasgow, has been appointed Principal of Aberdeen University in succession to the late Sir William Geddes. Dr. Lang is a graduate of Glasgow University and is the author of several religious works. In 1856 he was inducted to the charge of the East Parish, Aberdeen, a post which he filled for two years, but otherwise he has had no special connexion with the "Granite City."—The prospects of the University Buildings Extension Scheme have now considerably improved. Both the town council and the University Court have agreed to adopt the "popular" plan, which provides for the removal of Old Greyfriars Church and the erection of a new church at the junction of Queen-street and Broad-street, and the latter body has acquired at an expense of £10,065 the property required to provide a site for the new buildings, which will cost £10,000 more. For their part the Greyfriars Kirk Session agree to withdraw the legal process raised against the two bodies first named on payment of expenses. The deadlock in the University Buildings Extension Scheme has thus been removed, and if funds can be obtained it will be an easy matter to complete it in such a way as not only to enlarge the Marischal College buildings, but also at the same time to bring about an important street improvement.—There are 67 entrants for the medical preliminary examination which commences on March 23rd.

March 20th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Dublin University Biological Association.

AT the last meeting of the Dublin University Biological Association, which took place in Trinity College on March 15th, a paper was read by the President, Dr. W. R. Dawson, on the Pathological Study of Insanity. After the discussion the following motion was proposed and passed unanimously:—

> That in the opinion of this association it is desirable to establish a central laboratory for the Irish asylums devoted to the study of pathology in relation to nervous and mental diseases.

The Dublin Public Health Investigation Committee.

After a recess of a fortnight's duration the Public Health Committee resumed their sitting on March 20th at the City Hall.

Belfast Port Sanitary Authority.

Mr. Agnew, Local Government Board inspector, held a public inquiry at Belfast on March 14th in reference to an application made by the county borough council of Belfast to the Local Government Board to be constituted the "Port Sanitary Authority" for the whole of Belfast Lough. At present their jurisdiction is confined to that portion of the lough abutting on the city and authority is spread over different bodies who have no means of carrying out the required sanitary regulations. Evidence showed that when a ship arrived in Belfast Lough outside the borough limits carrying the yellow flag then the medical officer of health of the board of guardians took charge of the vessel and he had to get the assistance of the Belfast Corporation public health officials for disinfection, &c., and the expenses had to be borne by the districts outside the borough of Belfast who really had at present no arrangements to deal with such cases. There is no question but that it would be much wiser to have one central authority—the Public Health Department of the Belfast Corporation—to deal with the whole lough. The only opposition was from the local rural districts abutting on Belfast Lough who claimed that the Local Government Board had no jurisdiction to tax the districts in the neighbourhood of the lough except they formed a joint board, a course which would ensure taxation and representation going together. They objected to being taxed for the benefit of the port of Belfast. The evidence taken will be sent to the Local Government Board for it decision. The wise course would be to have one central authority vested in the city.

The Mater Infirmorum Hospital, Belfast.

This new hospital is to be opened by the Lord Mayor of Belfast on April 23rd, when addresses will be delivered by Cardinal Logue, the Marquis of Dufferin and Ava, the Righ Hon. W. J. Pirrie, and the Roman Catholic Bishop (Dr Henry). It is expected that the institution will be opene free from debt.

March 21st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Degree of Doctor of Biological Science.

BESIDES the degrees recognised by the State the universities of France can grant degrees exclusively scientific but which confer none of the rights or privileges belonging to the State degrees and which must in no case be declared as equivalent to them. Of the seven faculties of medicine in France four possess the right to present for a university doctorate as regards medicine. These four are Paris, Bordeaux, Lyons, and Nancy. This last body is not conten with her university powers and demands the right to presen for a degree persons who have shown their especial knowledge in biological science. The council of the University of Nancy has agreed to this proposition and accepted it at a special meeting on Feb 12th. The resolution has just been approved by the Minister of Public Instruction, and so, starting during the present scholastic year, the Faculty of Medicine at Nancy is authorised to present for the new degree, which is the first of the kind to exist in France. The testamurs (*attestations*) in the higher studies in biology which have to be submitted are three in number—one for anatomy, one for physiology, and one for microbiology. The subjects of study for each testamur are also three in number, two of them being compulsory and dealing with the special subject of the testamur, and the third being optional, which the candidate can choose from a given list. The subject must be approved by the professor and after this the sole test consists in the candidate showing that his knowledge of the question chosen is thoroughly up to-date (*mise au point*). The written dissertation must be accompanied by specimens or illustrations bearing on the question, such as sections, diagrams, charts, or anatomical preparations. A candidate who has gained his testamur may present himself for the degree of Doctor in biological science. A thesis is also required showing personal acquaintance with the facts of biological science, which thesis must be defended in public. Before the defence the manuscript must be submitted to the different members of the jury who will decide as to its merits. The public defence of the thesis follows upon this previous test

The Sanitary Condition of Paris.

The question of a supply of wholesome drinking-wate continues to occupy the attention of the sanitary authoritie and has also come up in Parliament The recent epidemic in the schools have furnished Dr. Treille, a senator, with a opportunity for asking the Minister of Public Instruction question. Dr. Treille said that he was not in sympat with the modern theories of the microbial origin of t disease. Water was not the principal cause of infection and typhoid fever was due to the insanitary condition of old buildings and to disturbances of the earth owing to the works recently carried out for repairing the drains and sewers. The Minister, naturally enough, replied that the organisation of the schools was perfect; they were supplied with spring water for drinking and the water of the Seine was only used for washing down the yards. The committee charged with the inquiry into the causes of the epidemic have unanimously agreed that the contamination of the drinking-water mains arose from an accidental communication having been established between them and the mains conveying the Seine water. Since an order was given for all drinking-water to be boiled the epidemic has disappeared. The remarkable views of Dr. Treille are a strange confirmation of the blind confidence which the city engineers have in the water which they supply, whence it follows that they are in the habit of saying, whenever an epidemic breaks out, that the fault rests anywhere but with them. Dr. Thoinot, the secretary of the Consultative Committee of Hygiene, has been put in disgrace for having, in a communication made to the Academy, too freely made public the causes of the original insanitary conditions which go far to render useless the great sacrifices which the city of Paris has made to procure a really wholesome supply of drinking-water. One of Dr. Thoinot's pupils, Dr. Arago, has just presented a thesis for the degree of Doctor of Medicine, called "The Avre, the Vanne, and the Dhuys: a Study in Parisian Sanitation," which he defended before the Faculty of Medicine at Paris and which has excited much interest. In this thesis he agrees with Dr. Thoinot and says that all water supplied by the city should be boiled before using for drinking or in the preparation of food. This statement, which is not very re-assuring, has been reproduced widely in the lay press. The Assistance Publique is very busy preparing for hospital accommodation for cases of infectious diseases in view of a possible epidemic and also in view of the increased number of cases of illness to which the Exhibition, as is always the case, will give rise. It is intended to build a new infectious hospital at Ivry just outside Paris close to the present infectious hospital, but as this cannot be ready for a long time the Assistance Publique will for this year content itself with enlarging and improving the present temporary hospital at Aubervilliers. The existing huts will be restored and two new wards, each containing 24 beds, will be erected. The total cost will be 71,000 francs and the Assistance Publique will thus have 418 new beds for infectious diseases at its disposal, a number which after all is too little for the inevitable rise in the sick rate which the Exhibition is sure to bring about.

Spitting on the Pavement.

In my letter in THE LANCET of Jan. 6th, at page 68, I mentioned that the Municipal Council of Paris had decided to put up enamelled metal notices in the chief streets requesting the public, with a view to avoiding the dissemination of infectious disease, to refrain from spitting on the pavement. This decision was taken on the initiative of M. Fortin. The question came up again at the meeting of the council held on March 16th, when it was decided that instead of enamelled plaques posters should be provided lettered as follows: "In the interests of public health and to avoid the dissemination of tuberculosis you are requested not to spit on the ground." These posters will be put up in the streets and in the public gardens. The railway and omnibus companies are also to be approached with a view to these posters being put up in the stations, waiting-rooms, railway-carriages, tramcars, omnibuses, and other vehicles. Measures are also to be taken to have both the roads and footways washed down.

March 20th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

International Hygiene: The Lazzaretto of Mogador.

ITALIAN diplomacy has scored a point in the interests of international hygiene. The island of Mogador, opposite the seaport of that name on the Atlantic littoral of Morocco, had for some time been used as a lazzaretto for the pilgrims of the Sultanate who, on their return from Mecca, had to be subjected to quarantine. The use of the island for that purpose, however, was never agreeable to the Court of Fez which, through the Government of Tangier, adopted something more than a policy of "pin-pricks" towards the Powers at whose instance the lazzaretto was maintained. Matters, indeed, had come to this pass that, on the expiry of the last quarantine, the Governor of Tangier ordered the physicians and agents of the "Council of International Sanitation" to be expelled the island and, at the same time, destroyed the buildings and huts in connexion with the lazzaretto. The situation had become very serious when, on the part of the "Council," the Italian envoy at Tangier, the Commendatore Malmusi, undertook to re-establish the *status quo antea*. A better intermediary could not have been found, for Signor Malmusi is eminently a *persona grata* at the court of the Sultan, besides possessing much diplomatic experience and tact. He has succeeded accordingly, and has just announced to the Consulta (Foreign Office) that all difficulties have been amicably resolved; that the lazzaretto will be re-constituted on the old lines; that the agents of the "Council" will remain unmolested at their posts; and that for purposes of quarantine and sanitary interests in general the island of Mogador is henceforth international property.

In Memory of Italy's Surgeons fallen in Battle.

This afternoon witnessed a touching ceremony at the Army Medical Hospital on the Cœlian Hill. It was the unveiling in the *atrium* of the hospital of a memorial tablet inscribed with the names of 35 surgeons, military and naval, who had fallen in action under the Italian colours from 1848 to 1896. The King and Queen were present, accompanied by the ladies of honour and the officers attached to the royal person, by the Prime Minister (General Pelloux) and members of the Government and both Houses of Parliament, and by a large attendance of the academic and clinical professoriate as well as consultants, general practitioners, and leading citizens. The tablet, designed by the sculptor Tripisciano, is very simple but artistically effective, presenting in bas-relief an altar on which the figure of Italy lays a laurel branch, while a guardian angel bearing aloft a palm of victory and leaning on a lion which holds Italy's banner in its paws, keeps watch over the altar consecrated to the fallen. The tablet, surmounted by an eagle supporting the subalpine arms in its claws, has the following inscription in golden letters: "To commemorate the medical officers who fell in the campaigns of the Crimea, of Italy, and of Africa." Then come in chronological series the officers' names. The veil having been withdrawn Major General Givogre of the army medical staff, who is also director of the hospital, in a few well-chosen words detailed the circumstances in which the gallant officers had met their death, and he was followed by Dr. Paolo Postemski, professor of pathology and clinical surgery at the Sapienza, who, speaking in the name of the Red Cross, made touching allusion to those of the organisation who had fallen, two of them having been favourite pupils of his own. Colonel Chiaiso of the medical staff and Colonel Ferrero di Cavallerleone of the combatant army spoke eloquently for their respective branches of the service, after which their Majesties, having warmly congratulated the sculptor and having cordially received those relatives of the fallen who were in attendance, went round the hospital, pausing repeatedly at the bedsides and addressing consolatory words to the patients. The whole ceremony, which was highly successful, forms the closing chapter of a story of professional skill, courage, and devotion to duty in the highest degree honourable to Italy—a story which (for the African campaign at least) has been brilliantly told by the army surgeon, Colonel Panara, in his book "Sulla Operosità del Corpo Sanitario Italiano durante la Campagna d'Africa (1896)."

Professor Robert Koch in Italy.

In May next Professor Koch, *en route* through Turin to the scene of his studies in malaria, will repair to Salsomaggiore to investigate the treatment of tuberculosis with inhalations from its richly iodised hot springs as an adjunct to his own lymph. Turin is preparing to give the illustrious bacteriologist a festive greeting and is already organising a committee for the purpose of which the president is the Senator Dr. Edoardo Maragliano, professor of clinical medicine in the Genoese school, and himself a distinguished worker in the serotherapy of tuberculosis.

March 19th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Report of the State Board of Charities of New York State.

THE thirty-third annual report of the State Board of Charities has recently been made to the New York State Legislature. Fully 100 Bills affecting directly or indirectly the charities of the State were introduced during the four months of the legislative session. The most important of those passed was undoubtedly the law as to dispensaries. In 1897 and again in 1898 unsuccessful attempts were made by a number of medical societies to obtain the adoption of a measure so governing the operation of dispensaries as to restrict free treatment at these charities to the poor. The Dispensary Act which has now become law will in all respects fulfil this object. The Board reports the number and classification of beneficiaries in institutions subject to its supervision October, 1899, to be as follows: aged and friendless persons, 7392; inmates of almshouse institutions, 11,251; blind in almshouses, 341; blind in other institutions, 414; deaf in almshouses, 94; deaf in other institutions, 1548; dependent children, 31,218; disabled soldiers and sailors, 1611; epileptics in almshouses, 316; epileptics in Craig Colony, 378; hospital patients, 8223; idiotic and feeble-minded in almshouses, 1153; idiotic and feeble-minded in State institutions, 1303; juvenile offenders, 3501; inmates of reformatories, 1868; making a total of 70,611. During the fiscal year ending Sept. 30th, 1899, the total number of State poor provided for was 2135 as against 1913 during the previous year. During the fiscal year ending Sept. 30th, 1899, 88 alien poor who had been found in almshouses, asylums, hospitals, and other charitable institutions in New York State were removed to their homes in different countries of Europe. The total number of Indian poor provided for in almshouses during the year was 15. The Board report very favourably on the plan which was introduced during the past year of placing destitute infants as far as possible with private families rather than massing them together in one large institution. The death-rate in the infants' asylum at Randall's Island was in 1898 96 per cent., in 1899 the mortality was considerably lower, but the fact has been over and over again conclusively proved that the more humane method of rearing children is to keep them apart.

Uniformity in the Standard of Medical Education in the United States.

The lack of uniformity in the standard of medical education in the various States of the American Union is becoming a matter of such grave importance that at length it appears as if really serious efforts will be put forth to place the laws regulating medical practice on a proper basis. Movements have been set on foot in Michigan and New Jersey with this object in view and there are signs that other States will follow suit. Of course, the question of inter-State reciprocity cannot be considered until the standards of academic and medical education shall be substantially the same in all States So long as this uniformity is not attained in the different States just so long will general reciprocity be impossible. It is hoped that the problem may be solved at the meeting of the National Confederation of State Examining and Licensing Boards which will take place at Atlantic city in July. This body is composed of the representatives of the examining boards of the different States, and any decision which might be arrived at by its members would be final. At any rate, the present anomalous state of affairs with regard to the laws ruling medical practice in the United States has become almost unbearable, and the fact is evident that remedial measures must ere long be taken. In connexion with inter-State reciprocity, some disgruntled medical men who were desirous to practise in New York State but who objected to undergo the test examination required by that State before being permitted to do so raised recently a rather nice point in constitutional law. These gentlemen contended that no State had the right to insist upon a further examination from men who already held a regular degree in medicine obtained in another State. Their argument was that such a proceeding was constitutionally illegal and at variance with certain sections of the Constitution of the United States, and especially of one section which says: "The citizens of each State shall be entitled to all privileges and immunities of citizens in the several States." It has, however, been shown that this belief is founded upon a misconception of the powers of the individual States to make laws. When the Union was formed the States composing it by no means gave up their sovereign powers but retained many of them, among which was the right to make police laws, including the laws regulating the practice of medicine. It would, indeed, be in a high degree unfair to the men who have taken their degrees in medicine in New York State (where a high standard of medical education is insisted upon) if graduates in medicine from other States (in some of which an extremely low standard is required) were allowed to compete with them on equal terms. Nevertheless, the fact has been clearly proved that general uniformity in medical education throughout the United States is badly needed.

Wards for the Insane in General Hospitals.

In 1889 an Act termed the "State Care Act" was passed by the New York Legislature the provisions of which enacted that the State of New York should assume the charge of all pauper patients legally adjudged insane and that the State should be divided into 11 districts, in each of which a hospital is situated for the treatment of the patients living in the locality. This arrangement has now been in working order for several years and has on the whole fulfilled its object admirably, but in the plan there remains one serious defect. When the patient has been declared insane and awaits removal to the State hospital no statutory requirement exists as to management in the interval. In New York county, King's county, and Erie county "detention" or "reception" buildings have been provided in connexion with existing hospitals, but in the rest of the State the insane person is either cared for by friends or placed in gaol. As may be imagined this method of treatment is not conducive to the recovery of the patient but, on the contrary, has had in many instances results disastrous to life. Bellevue Hospital, New York city, was the first to establish reception wards for the insane and the experience gained there has been at once instructive and most satisfactory. The improvement effected in the case of many patients has been so marked that subsequent transfer has been found to be unnecessary. Albany has now decided to follow this example, or rather to improve upon it, and a special pavilion for the insane is to be erected in connexion with the general hospital in that city. The *Albany Medical Annals*, referring to the matter, says: "It is anticipated that cases of acute delirium, alcoholic or otherwise, may be by these means protected from dangerous delays and neglect, that doubtful cases may be observed during consideration of the proper disposition to be made, and that commitments may be carefully and judiciously considered to the advantage both of the patient and the State institution to which he may be sent" The outcome of the Albany experiment will be watched with great interest throughout the United States. It is the opinion of many noted American alienists that the treatment of acute cases of insanity has up to the present been conducted upon an erroneous system and that for such cases special hospitals or special pavilions in connexion with general hospitals should be established.

A Proposed Leper Colony.

Dr. A. S. Ashmead, the well-known leprologist, recommends the establishment of a leper colony in the United States. Dr. Ashmead declares that the United States is the dumping-ground for the lepers of the whole earth and says that the condition of the laws of the country is an encouragement to lepers to come from everywhere. It is said that Dr. Ashmead has drafted a law which is to be submitted to Congress and which is intended to protect the United States from lepers. The said law provides for a commission on leprosy, to be selected by the President and to hold office for five years, and for a tract of land of 640 acres to be set aside as a national leper home in Yellowstone Park or elsewhere at a distance from the coast. The Bill also provides for an appropriation of $50,000 (£10,000) for buildings and makes it unlawful for any board of health to permit a leper to remain in their jurisdiction except in isolation. Indigent or helpless lepers are to be committed to this home. The Bill furthermore provides that it shall be unlawful for any steamship or railroad company to bring to the United States any leper or accept any emigrant from a country where leprosy is common without a special certificate from the Government Board of Health of that country countersigned by the United States consul and a

United States Marine Hospital surgeon attached to the consulate at the port of embarkation. The United States Marine Hospital Service is to have charge of the leper home. Dr. Ashmead is one of that large band of leprologists who firmly believe in the contagiousness of leprosy, and consequently he is in favour of total isolation. That isolation is the best means of treating this loathsome disease will probably be the opinion of even those who do not take extreme views as to its contagiousness. It is undoubtedly true that there are a number of lepers at large in the United States—in fact, it has been recently asserted that there are 100 lepers in New York city. Therefore a Bill such as is proposed by Dr. Ashmead would be to the benefit of the general public. The suggestion has been made recently that the lepers in the United States should be shipped to Honolulu and placed in the leper colony there.

March 14th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Australasian Association for the Advancement of Science.

THE meeting of the Australasian Association for the Advancement of Science was held this year in Melbourne under the presidency of Mr. R. L. J. Ellery, F.R.S., C.M.G., late Government Astronomer. In the section for Sanitary Science and Hygiene some interesting papers were read. Dr. W. W. R. Love of Brisbane was to have presided over the section and given an address, but at the last moment was unable to attend; and at very short notice Dr. J. Jamieson, health officer of the city of Melbourne, took his place, and dealt in an able manner with the three diseases always present in Melbourne—typhoid fever, tuberculosis, and diphtheria. He said that typhoid fever had long been unduly prevalent in Victoria, and particularly in Melbourne. There was some reason, if not full excuse, for this condition of affairs, at least as regards Melbourne, in the fact that the metropolis of the colony had grown rapidly into a populous city, spread over a large area, with such fouling of the soil as must inevitably result where drainage facilities were defective. It was only about ten years ago since a comprehensive scheme for the drainage of Melbourne was planned, and even now only a small proportion of the houses had been connected with the sewers. He had always held that this foulness of the soil had much to do with the persistent prevalence of this typically filth disease. There was good reason to believe that the prevalence of typhoid fever in Adelaide and Sydney had been greatly reduced by the extension of drainage operations and the consequent purification of the soil around dwellings. He had noticed that the periodicity of prevalence of typhoid fever in Melbourne was apparently about every four years, but could find no satisfactory hypothesis to account for it. Though time alone could supply further evidence the experience of other parts of the world justified the confident hope that before many more years had elapsed typhoid fever as a cause of death would stand constantly at or below the lowest level which it had hitherto occasionally reached. In this colony, as also in Great Britain, tuberculosis caused about twice as many deaths year by year as all the well-known epidemic diseases taken together. It was now clear from the results of observation and experiment that unhealthy surroundings and contagion were the real causes of the occurrence of the disease in most cases, although it could not be said that heredity counted for nothing in calculating the liability to the disease. The firm assurance had been reached that tuberculosis in all its forms was a preventable disease and also that in a large proportion of cases it was curable if proper treatment was instituted. With regard to diphtheria evidence satisfactory to the vast majority of observers had been supplied that by the injection of the antitoxin many cases could be brought to recovery which would otherwise have proved fatal.—Dr. S. S. Argyle contributed a paper on the Milk-supply of Melbourne, which he characterised as one of the worst in the world. Practically all the supply was derived from 1510 dairymen who all delivered the milk by the open can method and without protection from the sun or street dust. The dairy farms were within a radius of 30 miles, and the milk from these was at least 12 hours old before it reached the consumer, and in some cases milk unsold on Wednesday afternoon was kept on ice till the following Sunday. He estimated that 500 infant lives per annum could be saved if the milk supply was satisfactory. Municipal inspection of drains was infrequent and perfunctory and the railway arrangements for carrying and storing milk were grossly unsuitable. Dr. Argyle gave results of bacteriological investigations demonstrating the extraordinary growth of pathogenic organisms in milk under the local conditions. He advocated the system of milk-supply adopted in Copenhagen.—Dr. M. Crivelli read a paper on Alcoholism, distinguishing between the alcoholic who gradually saturated all his tissues without getting drunk and the dipsomaniac who had intermittent bouts of drinking. Both, however, were degenerates, the victims of cerebral disease. Dr. Crivelli maintained that every dipsomaniac was neurasthenic, and chiefly so by heredity. As regards treatment, reliance was placed on two remedies, in addition to special regimen. These were large doses of strychnine, hypodermically injected, and injections of ordinary blood serum—a special serum from an alcoholised animal being no more beneficial than that from any other animal or than artificial serum consisting of a sterilised solution of chloride phosphate and sulphate of sodium, which Dr. Crivelli had used with success.

Mr. A. M. Henderson, M.C.E., read a paper entitled a Comparison of the Drainage Details of Melbourne, Sydney, and Adelaide, in which he criticised adversely some of the details of the Melbourne scheme, especially the arrangements for drain-traps for cellars and the cost of the inside plumbing work and ventilation. "The system followed throughout the three colonies was the English one, under which the air of the drain was kept outside the buildings by disconnected traps, except in the case of closets. We might expect that a cheaper class of inside plumbing and less ventilation would be safe with that system but it appeared that we would have the extra cost of American plumbing added to the cost of English disconnexion." Under the arrangements for cellars by a recent notice of the Board of Works subsoil drainage will be practically stopped and one of the main objects of the great expenditure in deep drainage frustrated. Previous to this notice traps with reflux valves and in some cases silt-traps have been allowed, as in Sydney and Adelaide.

In the section of Mental Science and Education the President, Dr. W. L. Cleland, superintendent of the Parkside Lunatic Asylum, Adelaide, gave an address on the Anatomy of Mind as Bearing on Education. He emphasised the connexion between mental science and a teacher's qualifications. He would allow no one to enter the teaching profession who was ignorant of what was known anatomically, physiologically, and philosophically respecting a child's mind. The brain was not, he said, one uniform whole, but must be looked upon as consisting of a number of specialised organs or structures. Dr. Cleland then proceeded to describe in detail the action of these specialised organs and their relation to the rest of the child's anatomy. Dealing with the effects of fatigue, he urged that all attempts at teaching should at once be discontinued upon a child showing any of the signs of mental fatigue or exhaustion. If the period of rest for cell recuperation was curtailed an irritable condition was set up, as a result of malnutrition, which might become habitual. Dividing the period of a child's development into three divisions Dr. Cleland would have the education in the first, the pre-school division, devoted to the cultivation of the articulate capacity, to connecting names with various objects, and to stimulating observation of surrounding persons and things. In the second division he would allow the introduction of education in the more technical sense. The characteristic attitude of the teacher at this stage would be one of dogmatic insistence. In the third division the child was supposed to have passed to the age of reason, and the teacher to assume the role of guide, philosopher, and friend. Dogmatism would be now out of place and appeals could be made to abstract propositions and generalisations. Dr. Cleland's conclusions were, if education was to be conducted on the lines of brain growth and with due regard to developing anatomy: (1) the necessity for an abundance of nutriment out of which to elaborate nerve force; (2) the necessity that there should be a cultivation suited to each period of growth; and (3) the necessity for a study of the individual potentialities of each pupil, so as not to expect the unattainable in one case or repress the possibilities in another.

In the same section a paper was read by Dr. R. R. Stawell on the problem of the State Education of Children

Physically Afflicted or Mentally Impaired. After briefly sketching the history of the movement for the State education of the blind, deaf, and otherwise defective children in England and elsewhere, he pointed out that there was a class of feeble-minded children as distinguished from imbeciles or idiots. The former might be trained so as to become serviceable citizens; the latter could only be made as happy as possible under the sad conditions of their lives. The physical conditions of feeble-mindedness needed more exact investigation. All scholars below or above the average should be examined by an expert. It was estimated that 1 per cent. of the children of the school-going age were feeble-minded and needed special provision. In Victoria 188,359 children between six and 13 years of age were enrolled in schools, about 10,000 being unaccounted for. There were probably 2000 children, therefore, in Victoria who needed special educational assistance and who were at present totally neglected. A conference should be held between inspectors of schools and medical experts to determine a standard and methods of examination and there should be a house-to-house census of children of school age. The system of instruction should be such as had proved effective in the case of imbeciles and a competent instructor should be imported from England. The teachers' training should include general kindergarten methods, physiology and school hygiene, gymnastics on some rational method, voice production and articulation, "Sloyd" and other manual work, and some months' practical instruction. Special classes could be formed at once within the metropolitan area with advantage on the lines recommended by the late British Royal Commission and homes should be opened for the reception of such children in the neighbourhood of the classes.

Criminology from a Medical Standpoint was treated by Dr. J. V. M'Creery, medical superintendent of the Kew Asylum, in a thoughtful paper in which he pointed out that much difficulty and confusion were caused by the present practice of trying to force all persons accused of crime into one of two groups—to make them either fully responsible or quite irresponsible for their actions. Such a division did not naturally exist and any real reform must be based on a more perfect classification. Much of the conflict of medical evidence now so often heard in their courts when the question of insanity arose was due to the confounding of insanity and responsibility and the arbitrary line drawn between this latter and total irresponsibility. The non-natural view of insanity generally taken by the legal mind was not favourable to the full and calm consideration of the causes which led to crime being committed. The difficulties were increased by the method of each side calling its own expert witnesses, and as the object of the lawyer was to make out the best case possible for his own side the medical witnesses were often forced into a wrong position and to take opposite standpoints even when no fundamental difference existed between them. Persons found not guilty on the ground of insanity were detained in a gaol or asylum at his Excellency's pleasure, and under the old restricted view of criminal insanity little or no inconvenience was caused by this arrangement. But this term was ever growing wider and some more definite system of dealing with these unfortunates seemed needed. Some of these cases were sane at the time of the trial; others became so afterwards. Naturally efforts were made to procure the discharge of persons whom the law did not hold responsible for their acts and who afterwards became sane. Not only, however, might there be danger to the community in permitting such persons to be at large, but there appeared to be a growing tendency for criminals to hope for a lenient view being taken of their deeds by shielding themselves behind the plea of insanity. There could be, he believed, no hard-and-fast rule in dealing with criminals. Each case required careful study and such methods of treatment as might best promise improvement to the individual and safety to the community. To do this the matter must be dealt with by the combined wisdom of the lawyer and the medical man and the common sense of the laymen. The present system did not reform many criminals or in any satisfactory manner protect society. Until they faced and grappled with the real facts of the causes of crime little advance could be expected.

In the section of Economics Mr. A. O. Powys of St. Kilda read a mathematical paper which dealt with the Annual Probability of Death from Cancer at Every Age of Male and Female Life in New South Wales, Victoria, England and Wales, and Scotland. The "crude probabilities" derived from the annual number of deaths and the population according to ages were adjusted upon Professor Karl Pearson's theory of skew curves. The equations to such curves were given, together with the ages of greatest probability and the intensity. Thus, amongst males in Victoria in 1881 the maximum death-rate was 3·93 per 1000 at the age of 76 years, whilst in 1895 the maximum was 6·43 per 1000 at the age of 77 years. Amongst females the corresponding values were 3·80 at the age of 70 years and 6·12 at the age of 74 years respectively. The death-rate, said Mr. Powys, did not afford a true gauge of the ravages of cancer unless between communities of like "age constitution," as the death-rate from cancer was very small at ages under 35 or 40 years. After placing the several communities upon the same basis as regards age constitution it was found that cancer was more fatal in Scotland—an essentially non-meat-eating community—than in the Australian colonies, where the inhabitants are essentially meat-eaters. This should prove that increased meat-eating was not responsible for the increase in the cancer death-rate. Mr. Powys agreed with the view of Dr. Woods Hutchinson that some part of the increase of cancer was due to the fact that, "to use a Hibernicism, more people are living long enough to die of it." Using the adjusted cancer death-rates in conjunction with a life table it appeared that in Great Britain one out of every 22 males born dies ultimately from cancer, and of those who survive to the age of 40 years one in every 14. In Australia one out of every 19 males born, and one out of every 13½ who survive to the age of 40 years, so die.

Obituary.

JOHN CADWALADR WILLIAMS, M.B., C.M. EDIN., M.R.C.S. ENG., L.R.C.P. LOND.

THE death is recorded at the early age of 31 years of Dr. John Cadwaladr Williams of Grange-road West, Middlesboro', which took place at his home, Brynymor, Penygroes, Carnarvonshire, on March 12th. The sudden death of his father, the Rev. J. J. Williams, on March 1st had brought him home and being in indifferent health he contracted a chill at the funeral which resulted in pneumonia. Dr. Williams was educated at Edinburgh University and the Royal College of Surgeons of Edinburgh, gaining the silver medal in anatomy and holding the post of demonstrator of anatomy at the latter school. He took the degrees of M.B. and C.M. Edin. in 1891. Subsequently he became a ship surgeon and on his return he continued his studies at Guy's Hospital, London, and took the M.R.C.S. Eng. and L.R.C.P. Lond. in 1897. Shortly afterwards he settled down in Middlesboro' as partner with Dr. W. J. Williams, Grange-road West, where he rapidly gained the confidence of his patients and by his kind, thoroughly upright, and honourable disposition formed a large circle of friends who mourn his loss. He also held the office of public vaccinator for the Middlesboro' district.

ALLAN McLEAN, M.D., C.M., L.R.C.S., L.M. EDIN., J.P.,

LIEUTENANT-COLONEL COMMANDING 1ST DORSET VOLUNTEER ARTILLERY.

THE death is announced at his residence in Weymouth of Lieutenant-Colonel McLean, M.D. Edin., the commanding officer of the 1st Dorset Volunteer Artillery. The deceased, who received his medical education at Edinburgh University, graduated M.B. and C.M. in 1868 and in the same year took the qualifications of L.R.C.S. and L.M. Edin. He was admitted to the M.D. degree in 1889. Dr. McLean was one of the leading practitioners in Dorset, being formerly medical officer of health of the Isle of Portland and for 19 years physician to the Royal Portland Dispensary. In 1864 the deceased received a commission in the Edinburgh University Rifles and since then had taken a very keen interest in the volunteer movement. In 1885 he succeeded Colonel Elliott as commanding officer of the 1st Dorset Volunteer Artillery, and the present efficiency of the corps is largely due to Dr. McLean's efforts. The deceased was a Justice of the Peace for the county of Dorset and an energetic Freemason, well known in the province of Dorset. Dr. McLean had lately been in failing health, but his death came somewhat suddenly.

Medical News.

Foreign University Intelligence.—*Cracow:* Dr. S. Ciechanowski has been appointed Extraordinary Professor of Pathological Anatomy.—*Bologna:* Dr. Cervesato of Padua has been appointed Professor of Children's Diseases.—*Genoa:* Dr. Rudolf Weber has been appointed to the chair of Mental Diseases in succession to Dr. J. Martini, resigned.—*Jassy:* Dr. C. Juvara has been appointed Professor of Surgical Anatomy.—*Leipsic:* Dr. Felix Marchand of Marburg has been appointed to the chair of Pathological Anatomy in succession to the late Dr. Birch-Hirschfeld.—*Marburg:* Dr. Hugo Ribbert of Zürich has been appointed to the chair of Pathological Anatomy in succession to Professor F. Marchand who goes to Leipsic. He is the author of a manual of pathological histology and a work on the historical development of the theory of disease.—*New York Polyclinic and Hospital:* Dr. R. O. Born has been appointed Professor of Ophthalmology.—*St. Petersburg:* Dr. Skorichenko has been promoted to the ordinary Professorship of the History of Medicine and Dr. Kholodovski to the ordinary Professorship of Comparative Anatomy. Dr. Magawly, Director of the University Ophthalmic Clinic, who was a pupil of Albrecht von Graefe and assisted in introducing modern ophthalmic surgery into Russia, is about to retire.—*Turin:* Dr. A. Carle has been promoted to the ordinary Professorship of Surgical Pathology.

Prudential Assurance Company, Limited.—The continuous prosperity of this long-established company is clearly shown by the recently published accounts and balance-sheets for 1899. In the ordinary branch the number of policies issued during the year was 65,470, assuring the sum of £6,355,850 and producing a new annual premium income of £352,003. The premiums received during the year were £3,144,464, being an increase of £176,963 over the year 1898 The claims of the year amounted to £1,225,906. The number of deaths was 5899 and 3963 endowment assurances matured. The number of policies in force at the end of the year was 570,414. In the industrial branch the premiums received during the year were £5,168,958, being an increase of £208,202. The claims of the year amounted to £2,059,340. The number of deaths was 209,807 and 2239 endowment assurances matured. The number of free policies granted during the year to those policy-holders of five years' standing who desired to discontinue their payments was 72,611, the number in force being 663,250. The number of free policies which became claims during the year was 14,533 The total number of policies in force at the end of the year was 13,433,785; their average duration exceeded 8¾ years. The assets of the company in both branches were £36 832,059, being an increase of £3,232,351 over those of 1898.

Eczema at the Leicester Cottage Homes.—Since the opening of the Leicester Cottage Homes in 1884 there have been many cases of eczema of varying degrees of severity and, in accordance with the request of the Local Government Board, the guardians instructed the medical officer of the homes (Mr. Richard Steele) to make a report as to the water supply as it affected the health of the children. In his report Mr. Steele said the children at the homes as a rule were admitted very young and had a healthy look considering the nature of their bringing up and of the surroundings from which they came. Some of those who had never suffered previously from any skin affection developed, soon after admission, a certain degree of eczema in various parts of the body, particularly the scalp. He was strongly of opinion that the hardness of the drinking-water was largely answerable for the condition of eczema which was too prevalent there. At a meeting recently held the guardians reported that on the receipt of this report they forwarded samples of water drawn from three of the wells to Mr. S F. Burford, analyst. The latter reported that the water from one well was badly polluted with animal organic matter and was unfit for drinking or domestic use, showing in addition to other foreign matter 77 grains of solid matter per gallon, 6 09 grains of chlorine, and 2 08 grains of nitrogen as nitrates. The water from another well was even worse, the water being slightly turbid and containing per gallon 9 49 grains of chlorine, 179 9 grains of solid matter, and 118 degrees of hardness; ammonia was also present. It was not fit for drinking or for domestic purposes. Having regard to these unsatisfactory reports the board decided to seek for other sources of water-supply.

Bristol Medical Dramatic Club.—The Bristol Medical Dramatic Club will give a performance of J. M. Barrie's comedy *The Professor's Love Story* at the All Saints' Hall, Clifton, on April 24th, 25th, 26th, 27th, and 28th, at 8 P.M., in aid of the funds of the Royal Infirmary and General Hospital.

Appointment of a Medical Officer of Health.—At the meeting of the St. Austell (Cornwall) Urban District Council held on March 13th, after a considerable discussion, Mr. William Mason, L.R C P. & S. Edin., was appointed medical officer of health for life, an amendment to make the appointment for three years only being defeated by seven votes to four.

Vaccination Prosecutions.—A number of vaccination defaulters were summoned at Frome (Somerset) on March 15th. Mr. Schultess Young, who defended, took the objection that the guardians must direct prosecutions under Section 29 of the Act and that the wrong section had been taken. After an argument the bench of magistrates dismissed all the cases.

Western Counties Veterinary Medical Association.—The annual meeting of this association was held at Exeter on March 15th under the presidency of Mr. Penhall. Professor Stewart Stockman of the Royal Dick College, Edinburgh, read an interesting paper on the Method of Infection in Black Quarter, after which a discussion followed. Mr. Bond of Plymouth was elected president for the ensuing year.

Lunacy in Dorsetshire.—At the annual meeting of the Dorset County Council held at Dorchester on March 13th under the presidency of Lord Dorchester it was reported by the Asylums Committee that 1899 had been the most prosperous year on record as regarded profits from out-county and private patients and £2000 had been handed over to the county exchequer. The number of pauper patients for the first time for some years showed a decrease.

Bristol Medical Missionary Society.—The twenty eighth annual meeting of this society was held on March 13th under the presidency of Mr. J. Storrs Fry. The honorary secretary stated that 7535 patients had been under treatment during 1899; their attendances numbered 22,587. 1833 patients had been attended at their homes. The financial report showed that the adverse balance of 1898 had been slightly reduced by a legacy received, but the expenditure exceeded the income from subscriptions and donations.

Literary Intelligence.—The following books are in the press and will be published by Messrs. J. and A. Churchill at an early date:—"The Clinical Examination of Urine, with an Atlas of Urinary Deposits," including 41 original plates (mostly coloured), by Dr. Lindley Scott; "A Treatise on Diseases of the Ear," second edition, by Mr. Mark Hovell, aural surgeon to the London Hospital; new editions of Dr. Tom Robinson's books entitled, "The Diagnosis and Treatment of Syphilis" and "On Eczema"; the third edition of Clowes' and Coleman's "Elementary Practical Chemistry"; and "Chemistry, An Exact Mechanical Philosophy," by Fred. G. Edwards, inventor of atomic models.

Bristol General Hospital.—The annual meeting of governors and friends of this institution was held on March 12th under the presidency of Mr. W. Proctor Baker. The medical report stated that 2023 in-patients had been admitted during 1899, against 1393 in the previous year; the out-patients numbered 29,287, against 27,876 in 1898. The financial report showed that if it had not been for utilised legacies there would have been a deficit of £2300. The workpeople's contributions amounted to £2041. The ordinary finances showed an increase over 1898, but this was accounted for by the larger amount of donations, including £1000 from Sir G. Edwards and a similar sum from an anonymous donor. It was stated that the following scholarships had been awarded: Clarke surgical scholarship of £15 to Mr. R. G. Johnson; Sanders scholarship of £22 10*s.* to Mr. R. G. Johnson; Lady Haberfield prize of £29 9*s.* 8*d.* to Mr. L. W. Morris; Martyn memorial scholarships—£10 to Mr. T. Aubrey and £5 each to Mr. R. G. Johnson and Mr. L. A. Moore.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Accounts of the General Medical Council.

ON March 16th returns of receipts and expenditure of the General Medical Council and of the Branch Councils for England, Scotland, and Ireland, also receipts and expenditure of the Dental Registration Fund for the year 1899 were laid on the table of the House of Lords.

The Midwives Bill.

The consideration of the Midwives' Bill by the Standing Committee on Law begins to-day, Friday (March 23rd). Another step in the progress of the measure was marked on Wednesday, March 21st, when notice was given of a motion to authorise the payment out of moneys to be provided by Parliament of such expenses as the General Medical Council may incur in the administration of the proposed legislation. A motion of this kind is necessary in connexion with all Bills which involve additional financial burdens. It is dealt with in committee of the whole House.

HOUSE OF COMMONS.

THURSDAY, MARCH 15TH.

The Sanitary Condition of Malta.

Mr. **STEVENSON** asked the Secretary of State for the Colonies whether he could now state the decision of Her Majesty's Government with regard to the advisability of holding a departmental or inter-departmental inquiry into the sanitary condition of the barracks, hospitals, and burial grounds at Malta with the object of improving the buildings occupied by the army and by naval officers and others in that island.—Mr. **CHAMBERLAIN** replied: The consideration of this subject has not yet been concluded, but as at present advised Her Majesty's Government do not perceive that any departmental inquiry will be required.

The Food of the Channel Fleet.

Mr. **MACNEILL** asked the First Lord of the Admiralty (1) whether he was aware that there was discontent among the crews of the Channel Fleet with respect to the quality and quantity of the food supplied to the ships, and that complaints with reference to the quality and quantity of the food were discountenanced by the officers and regarded as evidence of insubordination; and (2) whether he would direct an investigation independently conducted to be made as to whether the rations served on board Her Majesty's ships of the Channel Fleet were of the proper quality and quantity, and whether the Admiralty would direct the sale of provisions on board these ships to be discontinued, or provide that goods be sold at the canteens not at extortionate prices but at the prices at which similar goods were sold on shore.—Mr. **MACARTNEY** replied to the question saying: The answer to the first question is in the negative With regard to the second question I must refer the hon. member to the remarks made by me in the course of the debate in this House on Thursday last. The Managing Committee, which with two exceptions is composed of representatives of the men, should be competent to take precautions against extortionate prices being charged. As a matter of fact, it is understood that the goods sold in the canteens are retailed at a lower price than that at which they could be obtained by the men on shore.

The Wounded who have Returned to the Front.

Mr. **WINGFIELD DIGBY** asked the Under-Secretary of Sate for War whether he would give the actual or approximate number of those who had been returned wounded since the commencement of the war who were already cured of their wounds and back again at the front.—Mr. **WYNDHAM** I can give the figures up to Feb 2nd, which are as follows:—Wounded officers, 261; non-commissioned officers and men, 4583. Returned to duty officers, 67; non-commissioned officers and men, 705. These figures do not include casualties in Ladysmith and Kimberley since investment.

Dogs Regulation Bill.

Mr. **WALTER LONG**, President of the Board of Agriculture, introduced a Bill to amend the law relating to dogs. He explained that, the muzzling order having done its duty, there was now room for a more moderate measure, and this Bill would clear up doubts as to the law and enable local authorities to make by-laws.

Petroleum Bill.

A Bill was introduced by Mr. **URE** to raise the statutory flash-point of petroleum oil. Mr. Ure served on the Select Committee which inquired into the petroleum question and he introduced a Bill on the subject last session.

FRIDAY, MARCH 16TH.

Milk Prosecutions.

General **LAURIE** asked the President of the Local Government Board whether his attention had been called to the report of the public analyst to the Vestry of Paddington for the quarter ending Dec 25th, 1899, wherein it appeared that the magistrate at the Marylebone Police Court, in the case of a sample of butter containing 65 per cent. of margarine, imposed no fine but only costs of 12*s.* 6*d.*, and gave the same decision in another case where the sample contained 80 per cent. of margarine, and in another case where the so-called butter was entirely margarine imposed a fine of 10*s.* and 12*s.* 6*d.* costs; also in two other cases where a farmer had sent to the railway-station two churns of milk from which half the cream was deficient the summons was dismissed on the explanation that the milk from which these samples was taken was received at the farm dairy on the evening of each day, mixed in a large container, and left for the night, and that next day the churns were filled for transmission to London by means of a tap at the bottom of the container, no previous stirring up of the contents of the container taking place; whether it would be possible to issue a circular or otherwise to instruct magistrates having jurisdiction in such cases that when milk was left undisturbed the cream rose to the top, and hence the lower part of the milk did not contain its share of cream, which it should be considered had been removed from it, and that such milk was to be dealt with as adulterated; whether his attention had been further called to the fact that practically the same percentage of milk purchased at railway stations was adulterated as of milk purchased in town, thus showing it was not the retailer who was alone to blame; and whether it was possible in any way to assist local authorities who were doing all in their power and expending large amounts of money in endeavouring to carry out the law so as to protect the humbler consumers and who thus found their efforts discouraged.—Mr. **WALTER LONG**, President of the Board of Agriculture, replied, saying: I have seen the report to which my hon. and gallant friend refers, but the information at present at our disposal would scarcely justify the adoption of the course suggested. Our inspectors are, however, closely watching the administration of the Acts, in consultation with the local authorities concerned, and the representations of my hon. and gallant friend will be kept in view. I could not take upon myself to express an opinion as to the respective culpability of producers and retailers of milk so far as adulteration is concerned.

Death Certification.

Sir **WALTER FOSTER** asked the President of the Local Government Board whether his attention had been called to the frequency of complaints in coroners' courts respecting the signature and filling up of death certificates; and whether he would bring in a Bill to amend the law of death certification, as recommended by the Select Committee of 1893.—Mr. **T. W. RUSSELL**, on behalf of Mr. Chaplin, said: I am aware that complaints have been made of the kind referred to. The question is being considered, but I am afraid I cannot give the undertaking asked for by the hon. Member to bring in a Bill during this session.

Army Rejections for Bad Teeth.

Mr **WEIR** asked the Under-Secretary of State for War, seeing that the First Lord of the Admiralty recently stated that fully 25 per cent. of the recruits for the navy were rejected on account of bad teeth, would he state what percentage of the recruits for the army were rejected for this cause during the year ending Dec. 31st, 1899.—Mr. **WYNDHAM**: The percentage was 7·74 of the total number rejected, 2·5 of the total number presenting themselves.

The Treatment of Lunatics in Scotland.

Mr. **WEIR** asked the Lord Advocate if his attention had been called to the recommendations contained in the forty-first annual report of the General Board of Commissioners in Lunacy for Scotland to the effect that measures should be taken to give district lunacy boards permissive powers to provide accommodation for the poorer class of private patient and would he say what action it was proposed to take in the matter.—The **LORD ADVOCATE** replied: The answer to the first paragraph of the question is in the affirmative. The Secretary for Scotland does not propose to take any action at present.

The Vote for the Army Medical Establishment.

The House in Committee of Supply on the Army Estimates discussed at length the vote of £555,000 for the medical establishment and for medicines, &c., for the year to March 31st, 1901.

Dr. **FARQUHARSON** spoke of the conspicuous success of the Army Medical Department in South Africa. He thought he might put it as high as to say that this department had been the real success of the war. The more they heard of what was going on at the front the more they were filled with admiration for the pluck, devotion, and skill which had been displayed and the hard work which had been carried out by the officers of the Army Medical Department. The Mauser bullet was a humane missile and where it gave a fatal wound was a swift mode of taking life. But he could not speak in too severe terms of condemnation of the Boers for using soft-nosed bullets, the wounds from which, if he were to give details, would simply appal the Committee Sand and pebbles and every kind of external abomination were found in the wounds where they had been caused by this description of bullet. The hospital accommodation and nursing had both been excellent It had been found that the new system under which distinct and definite military rank was given to the medical officers had worked admirably, and he hoped to hear that the medical schools had done their best to provide a full and continuous flow of good candidates to fill up the ranks of the service. While the Government were proposing a large permanent increase to the army the increase in the number of medical officers was only six. They ought not to rely on any hand to-mouth system of employing civilians. He did not know that they would be very much longer able to obtain a sufficient number of eligible candidates for the present somewhat meagre pittance paid to men who had to go through six years of expensive and laborious preparation.

Mr. **PRICE** also spoke in terms of praise with regard to the work of the Army Medical Department in South Africa and suggested that greater inducements should be offered to medical men to join the service

Mr. **ARNOLD-FOSTER** asked for an explanation of the circumstance that large numbers of men on reaching South Africa had been sent to hospital.

Sir **WALTER FOSTER** said that many of the men sent out were suffering from chronic disease which ought to have been recognised. The number had so increased that temporary buildings for their accommodation had to be provided, the special hospital allocated for their reception having become full. The Royal Army Medical Corps had done their duty splendidly and shown great courage and devotion; but it had notoriously been weakened in numbers of recent years, and the pick of the corps having been sent to South Africa it was necessary to supplement those left at home by civilians. It might be that the errors made in passing men for the front were made by these temporary civilian substitutes. He regretted that a larger increase of the corps was not proposed. It would probably be necessary to offer an increase of pay in order to attract the best men. The War Office would have done better to spend money in this way than in lavish generosity to civilian surgeons who had gone to the front. It was perfectly right to send out Sir William MacCormac and Mr. Treves, who had rendered valuable services, but it was not necessary that everyone should be treated on the same terms as the most distinguished men in the profession. He believed that when one of the distinguished surgeons asked for an assistant the War Office rated the assistant on an equality with his principal and paid him on the scale of £5000 a year He also called attention to the prevalence which had been noticed especially at Ladysmith, of typhoid fever In the debates of last year it had been pointed out that Ladysmith was not a healthy place for a camp, that it was likely to be ravaged more or less by the prevalence of fever, and that its water-supply was not satisfactory Those criticisms had been amply verified by the terrible experience obtained in that position A similar condition of affairs had prevailed in various camps on the Modder river and elsewhere, and he hoped that the War Office would see that attention was paid not only to the surgical aspects of the war but to its sanitary aspects In some respects also our ambulances had not been found to be as useful as the ambulances of our enemies who had lighter carts He had been told by persons of experience that we had made a great mistake in having too heavy wagons The rule which ought to be followed was to obtain the lightest possible wagon for the roughest country, but that was a rule which had not been followed in building their ambulance carts for the use of the wounded He hoped that the debate might result in producing a greater amount of applications on the part of candidates for the Royal Army Medical Service He thought that the last examination was not as satisfactory as it should be in the number of applicants and he hoped that the medical schools throughout the country would take this matter up He thought that the suggested modification of the examination might be useful These men were now carefully examined under the supervision of the General Medical Council before they could obtain diplomas and consequently they ought to have an examination in a special direction in connexion with their future duties If this training were followed up by some experience, say, at Netley, six months before they were attached to any Army medical service the complete education necessary would be given, and if supplemented by opportunities to rub off the rust he thought a still more efficient Army Medical Corps would be produced than they had at present while affording inducements to men entering the profession to make that efficiency the object of their ambition

Colonel BLUNDELL recommended that for a certain period of time a medical officer should be attached to a regiment.

Mr WASON suggested that information should be published as to the results of inoculation against typhoid fever

Mr GEORGE WYNDHAM, Under Secretary of State for War replying on behalf of the War Office, said it was true that the committee could not pay too high a tribute to the fortitude, courage and efficiency of the medical officers which had been displayed. They were not exalted by the joy and intoxication of battle, they were sustained alone by their devotion to suffering humanity and this rendered their services *in his opinion all the more heroic* The medical schools in supplying candidates had fulfilled their part of the bargain, to which the department was the other party in allocating military rank. The result had been, he hoped, satisfactory to them as it had been to the army, but the department did not reap the whole results of such a change in the first or second year The next point raised was that the present numbers of the Royal Army Medical Corps were not adequate to the size of the Army They might expect that the inducements which had been offered would, in the course of the next few years, give them numbers even more satisfactory than those which had been forthcoming recently It would be impossible to keep up at all times an establishment of the Royal Army Medical Corps which would be adequate to a time when they were mobilising the whole of the Army for an expedition Ordinarily there were 107,000 regular troops in this country, but at this moment there were or there would be very soon, 208,000 in South Africa alone who looked to either the Royal Army Medical Corps or civilian medical men And besides there were now 100,000 regular troops in this country If the Royal Army Medical Corps were sufficient to deal with the present numbers it would have to be three times as large as would be necessary one year in 20, certainly one year in 10 Reference had been made to the great services of Sir William MacCormac and Mr Treves He was sorry that some gentlemen had insinuated that the services of the other five consulting surgeons had been too generously recognised A surgeon of the standing which these gentlemen had achieved who went out to South Africa did not only risk his life but he made a great financial sacrifice His income was to be told in thousands and to leave a *clientèle* of that size in order to proceed to South Africa with the possibility of not returning for five, six, or seven months was really, *in addition to the* personal sacrifice, to make a present of £5000 or £6000, or perhaps £10 000 to the taxpayers of the country And, therefore he did not think that £5000 a year was a shilling too much to pay for the services that such gentlemen had rendered They were asked to offer such inducements to the Royal Army Medical Corps as would enable them to obtain the heads of the medical profession They hoped that gradually in respect to the Army Medical Corps as in respect to every other branch of the service they would be able to improve the conditions under which men served, and that, therefore, they would obtain the best material within their reach The statement that a number of men were landed in South Africa who were at once invalided was one which deserved and would receive examination He understood it referred exclusively to reservists and militia men But let it not go abroad that there had been any great amount of sickness in South Africa The percentage of sickness in this expedition had been far lower than in any case of which there was record. It might be that some civilian practitioners had not their eyes trained to the fact of certain chronic complaints which were injurious to the soldier, but he thought he had proved that when they were sending away a force of the size of that now in South Africa they must bring to their aid a great amount of civilian assistance and it might be that the special attention usually paid had not been paid to those chronic complaints with which military officers were now acquainted in their bearing upon soldiers It was quite true that enteric fever had been prevalent in Ladysmith as it was usually where men were encamped for a lengthy period But the Royal Army Medical Corps had made enormous progress in sanitary appliances during recent years. Great attention had been bestowed upon the conditions which enabled them to fight with this disease and taking it all round, he believed the amount of enteric fever in this campaign had been very much lower, for instance than it was in the Soudan That *he attributed partly to the* climate of South Africa and also largely to the progress made in the sanitation of camps. As to inoculation the first experiments did not cover any great number of men and he thought the committee would agree with him that they had done what was pr for the experience of the campaign generally befo statistics The hon and gallant member for the (Colonel Blundell) had invited them to return to the regiment having its own medical man He was afraid he co out any hope that even in the modified degree the hon a gentleman advocated the system could be adopted

Sir WALTER FOSTER said he agreed with every word the Secretary had said about the work of the Royal Army Medical and about the aid given by the distinguished civil surgeons wh gone to South Africa When, however, one of these distinguished surgeons had to take an assistant with him he thought it was unnecessary generosity on the part of the War Office to pay the assistant at the same rate as his chief, indeed, he considered it an abuse of the whole system That was the point he wished to put before the Committee He thought it was an unnecessary step to put all the surgeons on the same footing

Dr FARQUHARSON put forward the suggestion that officers of the Royal Army Medical Corps should have study leave granted to them

Mr WYNDHAM assured the hon Member that this matter was under consideration On the subject of inoculation Mr Wyndham said that the whole system was voluntary Every soldier proceeding to South Africa was given the opportunity if he wished of being inoculated and a very large number—nearly 60 per cent in some regiments—had availed themselves of it The time for drawing conclusions from the experiment would be when they had the whole results before them at the end of the campaign

MONDAY, MARCH 19TH

Hospitals and Local Rates

Sir CAMERON GULL asked the First Lord of the Treasury whether, having regard to the representations which had been made to Her Majesty's Government through the President of the Local Government Board, he could state if the Government would this session undertake legislation relieving hospitals in Great Britain from local rates —Mr BALFOUR replied As my hon friend is aware I have already expressed sympathy with the object which he has in view, but the question is one which is surrounded by a considerable amount of difficulty, and I think that probably the best plan would be to have a committee of this House to look into the subject.

TUESDAY, MARCH 20TH

Medical Appointment in Dublin.

Mr ARTHUR MOORE asked the Attorney General for Ireland whether it was intended to institute the office of medical referee to the Registrar-General's office in Dublin and what were to be the duties and emoluments of the appointment.—The ATTORNEY GENERAL (Mr Atkinson) replied It is proposed to appoint a medical man to the office of superintendent at present vacant in the Department of the Registrar General The salary attached to the post will be £350 rising by £15 annually to £500 The duties of the officer will be those generally of a superintendent, but particularly with regard to the preparation of vital statistics.

BOOKS, ETC., RECEIVED

ALCAN, FELIX, Paris
  Pratique de la Chirurgie Courante. Par Dr M Cornet. Preface de M le Professeur Ollier 1900

ARROWSMITH, J W, Quay street, Bristol.
  Nordrach at Home or Hygienic Treatment of Consumption adapted to English Home Life By J J S Lucas L.R.C P Lond, M R C S Price 1s

BAILLIÈRE, J B, ET FILS Paris
  Cancer et Tuberculose Hybridités Tuberculo-Cancereuses Par Dr H Claude 1900

BAILLIÈRE, TINDALL, AND COX King William street, Strand, London
  Aids to Practical Pharmacy By A. Campbell Stark Price 2s 6d
  Treatise on Orthopædic Surgery By E H. Bradford, M D, and R W Lovett, M D Second edition Illustrated 1900. Price 18s net.
  Medical Monograph Series No 1 Contagious Ophthalmia: Acute and Chronic By S Stephenson 1900 Price 2s 6d. net.
  Bubonic Plague With an Appendix. By Dr J V Montenegro Translated by W Munro M D 1900 Price 3s 3d. net
  Diphtheria. Being the Harben Lectures, 1899 By W R. Smith, M D, D Sc., F R.S Edin 1900 Price 6s net

BAUERMEISTER, F, Glasgow
  Ueber Bäderkuren in Bad Nauheim Von Dr Graupner 1900
  Die Paroxysmale Tachycardie (Anfälle von Herzjagen) Von Dr A Hoffmann 1900
  Das Sarkom des Auges. Von R P. Kerschbaumer 1900
  Die Neurologie des Auges Von Dr H Wilbrand und Dr A Saenger 1900
  Das Weib in seiner geschlechtlichen Eigenart. Von Dr Max Runge 1900
  Ueber Missbildungen der Menschlichen Gliedmassen und ihre entstehungsweise Von Professor Dr F Klaussner 1900
  Die Leukämie als Protozoeninfektion. Von Dr M Löwit 1900
  Experimentelle Untersuchungen ueber die Pathogenese der Cholämie Von Dr A. Bickel. 1900
  Somnambulismus und Spiritismus Von L. Loewenfeld 1900.

BLACK, A AND C., London
  Plea for a Simpler Life and Fads of an Old Physician By George S Keith M D LL.D F R C P E 1900
  Who's Who at the War 10th 1000 1900 Price 6d. net

BOWDEN, JAS, Henrietta street, Covent garden, London.
  Brain and Body the Nervous System in Social Life. By Dr A Wilson 1900. Price 1s 6d

BUTTERWORTH AND CO., 12, Bell-yard, Temple Bar, London.
Appeal Cases under the Sale of Foods and Drugs Acts, 1875 and 1879, and the Margarine Act, 1887. By B. Scott Elder. 1900.

CARRÉ, G., ET C. NAUD, Paris.
Préparation et Coloration du Système Nerveux. Par Bernard Pollack. 1900.
Les Sanatoria: Traitement et Prophylaxie de la Phtisie Pulmonaire. Par S. A. Knopf. 1900.

CHURCHILL, J. AND A., London.
St. Thomas's Hospital Reports. New Series. Edited by Dr. H. MacKenzie and Mr. G. H. Makins. Vol. xxvii. 1899. Price 8s. 6d.

DOWNEY AND CO., York-street, Covent-garden, London.
Medicine and the Mind. Translated from the French of Dr. Maurice de Fleury. By Stacy B. Collins, M.D. U.S.A. Illustrated. 1900. Price 12s. net.

GREEN, WM., AND SONS, Edinburgh.
Encyclopædia Medica. Under the general editorship of Chalmers Watson, M.B., M.R.C.P.E. Vol. iii. Diphtheria to Food. 1900.

GREVEL, H., AND CO., King-street, Covent-garden, London.
Muret-Sanders' Encyclopædic English-German and German-English Dictionary. Abridged edition. Vols. i. and ii. Vol. i., English-German, by B. Klatt; and Vol. ii., German-English, by H. Baumann. 1900. Price 14s.

GRIFFIN, C. AND CO., Exeter-street, Strand, London.
The Flowering Plant as Illustrating the First Principles of Botany. By T. R. A. Davis, M.F.C.P. Third Edition. Illustrated. 1900. Price 3s. 6d.

KEGAN PAUL, TRENCH, AND CO., Charing Cross-road, London.
Victor Von Richter's Organic Chemistry, or Chemistry of the Carbon Compounds. Edited by Professor R. Anschutz, assisted by Dr. G. Schroeter, and translated by E. F. Smith. Vol. ii. 1900. Price 15s.

KIMPTON, HENRY, High Holborn, London.
Physiology. By H. D. Collins, M.D., and W. H. Rockwell, jun., M.D. Series edited by B. B. Gallaudet, M.D. Illustrated. 1900.

LEHMANN, J. F., München.
Atlas und Grundriss der Verbandlehre. Von Dr. A. Hoffa. 1900.
Atlas und Grundriss der Lehre von Geburtsakt und der Operativen Geburtshilfe. Von Dr. O. Schaeffer. 1900.

LEWIS, H. K., Gower-street, London.
A Manual of Gynæcological Practice. By Dr. A. Duhrssen, Berlin. Second English edition, translated from the sixth German edition. By J. W. Taylor, F.R.C.S., and Frederick Edge, M.D. Lond., F.R.C.S. Illustrated. 1900. Price 6s.
Anæsthetics, their Uses and Administration. By Dudley W. Buxton, M.D., B.S. Third edition. 1900. Price 6s.

LIBRAIRIE MALOINE, Paris.
Mémentos de Médecine Thermale du Dr. G. Morice, avec une introduction par H. Huchard. 1900.

LIVINGSTONE, E. AND S., Edinburgh.
Midwifery Notes. By T. A. Glover, M.D. Edin. Illustrated.

LONGMANS, GREEN, AND CO., Paternoster-row, London.
The Annual Register and Digest: Being a classified register of charities, in or available for the Metropolis. By C. S. Loch. 1900. Price 4s.
The Morals of Suicide. By Rev. J. Gurnhill, B.A. 1900. Price 6s.
The Norwegian North Polar Expedition, 1893–1896. Scientific results. Edited by F. Nansen. Vol. i. 1900. Price 40s. net.

LUCAS GRÄFE AND SILLEM, Hamburg.
Mikrophotographischer Atlas zum Studium der Pathologischen Mykologie des Menschen. Von Dr. E. Fraenkel. Lieferung I.: Tuberkelbacillus. 1900.

MACLEHOSE, J. AND SONS, Glasgow.
Catalogue of the Anatomical and Pathological Preparations of Dr. Wm. Hunter's Museum, University of Glasgow. Prepared by J. H. Teacher, M.A., M.B., C.M. 1900. Vols. i. and ii.

MACMILLAN AND CO., London.
The Voice: Its Physiology and Cultivation. By Wm. A. Aikin. 1900. Price 3s. 6d.
An Elementary Course of Practical Zoology. By the late J. T. Parker, D.Sc., F.R.S., and W. N. Parker, Ph.D. Illustrated. 1900. Price 10s. 6d.
A Text-book of Physiology. By M. Foster, M.D., D.C.L., F.R.S., assisted by W. H. R. Rivers, M.D. Part 4, The Senses. Sixth edition. Price 10s. 6d. 1900.
The Nervous System of the Child. By F. Warner, M.D. Lond., F.R.C.P. Eng. 1900. Price 4s. 6d. net.
Imperative Surgery. By Howard Lilienthal, M.D. Illustrated. 1900. Price 17s. net.

MORISON BROTHERS, Renfield-street, Glasgow.
Morison's Chronicle of the Year's News of 1899. A diary and epitome compiled by Geo. Eyre-Todd (Oliphant Earl). Second year of issue. 1900. Price 3s. 6d. net.

MURRAY, J., Albemarle-street, London.
A Book of Whales. By F. E. Beddard, M.A., F.R.S. Illustrated. 1900. Price 6s.

NEW SYDENHAM SOCIETY, London.
Acromegaly. By Dr. Maximilian Sternberg, Vienna. Translated by F. R. B. Atkinson, M.D., C.M. Edin.

SANITARY PUBLISHING COMPANY, Fetter-lane, London, E.C.
House Drainage and Sanitary Fitments. By G. J. G. Jensen, C.E. Illustrated. 1900. Price 5s. net.

SCIENTIFIC PRESS, Southampton-street, Strand, London.
The Art of Feeding the Invalid. By a Medical Practiti
Lady Professor of Cookery. New edition.

SEITZ AND SCHAUER, München.
Die Prophylaxe bei Geschlechts- und Hautkrankheiten
Max Joseph, Berlin. 1900.
Die moderne Behandlung der Spondylitis. Von Profe
Hoffa. 1900.
Die Prophylaxe in der Geburtshilfe. Von Dr. O. Schae
Weitere Beiträge zum Nervösen Asthma. Von Dr. S. G
1900.

SOCIÉTÉ D'ÉDITIONS SCIENTIFIQUES, Paris.
Histoire Critique de la Chirurgie Antiseptique. Par
1900.
Précis d'Urologie Clinique. Par L. Lematte and Dr.

SPON, E. AND F. N., 125, Strand, London.
A Pocket-Book for Chemists. By Thos. Bayley, A
Seventh edition. 1900. Price 5s.

SWAN SONNENSCHEIN AND CO., Paternoster-square, Lond
A Primer of the Physiological Action of Alcohol.
L.R.C.P., M.R.C.S., with an Introduction by Dr.
trated. 1900. Price 1s. net.
The Management and Diseases of the Dog. By J
edition. Illustrated. 1900.

WILLIAMS AND NORGATE, Henrietta-street, Covent-garden, London.
Medical Indoor Gymnastics, or a System of Hygienic Exercises
Home Use. By D. G. M. Schreber, M.D., Leipzig. Revised
R. Graefe, M.D. Translated from the 26th German edition
H. A. Day. Illustrated. 1899. Price 3s. net.

WREDEN, F., Braunschweig.
Die Krankheiten der Frauen, dargestellt von Dr. H. Fritsch.

WRIGHT, J., AND SON, Bristol.
The Medical Annual and Practitioners' Index. 1900. Eight
year. Price 7s. 6d. net.

The Law of Wills for Testators, or How to make a Will. By G. F. Emery, LL.M. (Effingham Wilson, London), 1900; price 1s. 6d. net.—The Law affecting Trustees in Bankruptcy. By L. Duckworth. (Effingham Wilson, London), 1900; price 1s. net.—The Preservation of Health and the Hygiene of the Home. By J. E. Squire, M.D. Lond., D.P.H. Camb. (The Sanitary Publishing Company, Fetter-lane, London); price 3d.—Bishop's Travellers' Telegraph Code. (Effingham Wilson, Royal Exchange, London); price 1s.—Magazines, &c., for March: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Myra's Journal, Pall Mall Magazine, Windsor Magazine, English Illustrated Magazine, Knowledge, Humanitarian, Wide World Magazine, New Century Review.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ADAMS, J., M.B., C.M. Edin., has been re-appointed Medical Officer by the Runcorn Rural District Council.

ADAMS, J. D., M.D. St. And., M.R.C.S., has been re-appointed Medical Officer by the Langport Rural District Council.

ADENEY, E. L., M.D., M.R.C.S., has been appointed Physician to th
General Hospital, Tunbridge Wells.

ALDERSON, WILFRID E., M.D., M.S. Durh., has been appointe
Honorary Assistant Surgeon, Fleming Memorial Hospital f
Children, Newcastle-on-Tyne, vice R. F. Craggs.

ANDERSON, A. J., M.B., C.M. Edin., has been appointed Medical Offic
for the Ashford Sanitary District of the Staines Union, vice F. Tothill, resigned.

BAXTER, S. E., L.R.C.P. Lond., M.R.C.S., has been appointed Medi
Officer for the Wollaston Sanitary District of the Wellingborou
Union, vice J. W. Orr, deceased.

BERRY, FREDERICK CHARLES, B.A., M.D., B.Ch. Dub., has been appointed Medical Officer of Health for Burnham (Somerset).

BONE, B. M., M.B., C.M. Edin., has been re-appointed Medical O
of Health by the Towyn District Council.

BOYD, JOHN J., M.B., Ch.M. Glasg., D.P.H. Cantab., has been appoi
Assistant Medical Officer of Health for the Borough and Po
Southampton.

BREWER, D., L.R.C.P. Lond., M.R.C.S., has been appointed S
Assistant Medical Officer for the Workhouse and Infirmary
Parish of St. Mary Abbots, Kensington.

BROOK, W. H. B., M.D. Lond., F.R.C.S. Eng., has been appointed C
for the Lincoln North District.

BRUZAUD, ALFRED S., M.R.C.S., L.R.C.P. Lond., has been appo
Senior Assistant House Surgeon to the Huddersfield Infirmary.

BUCKLEY, JOHN, L.S.A., has been appointed Medical Officer for the Hasland Sanitary District of the Chesterfield Union, vice R. Hamilton, resigned.

Ahill, M., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Whitby Sanitary District of the Wirral Union, vice H. A. Bredin, deceased.

Cameron, H. C., M.D. Glasg., has been appointed to the Chair of Clinical Surgery in the University of Glasgow.

Chapelle, R. L., M.R.C.S., L.R.C.P., L.S.A., has been appointed Medical Officer for the Stairfoot District by the Barnsley Board of Guardians.

Clowes, Ernest Francis, L.R.C.P. Lond., M.R.C.S., has been appointed Deputy Medical Officer for the Charfield District of the Thornbury Union.

Cooper, C. E., M.B., B.C. Cantab., has been appointed Medical Officer of Health for the Ivybridge Urban District, vice J. M. Randle, resigned.

Eddowes, Alfred, M.D. Edin., M.R.C.P. Lond., has been appointed Physician for Diseases of the Skin to St. George's and St. James's Dispensary, King-street, Regent-street, London.

Edington, George H., M.D., M.R.C.S., has been appointed Visiting Surgeon to the Glasgow Training Home for Nurses.

Forbes, Norman Hay, F.R.C.S. Edin., L.R.C.P. Lond., J.P., has been appointed Medical Officer for the South Eastern District of the National Fire Brigades Union.

Goldie, W. H., M.D., C.M. Edin., has been appointed Registrar to the Chelsea Hospital for Women, Fulham-road, London, S.W.

Halliell, A., M.B., F.R.C.S., has been appointed Ophthalmic Surgeon to the Hastings, St. Leonards, and East Sussex Hospital.

Hamilton, David Livingstone, L.R.C.P., F.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Timsbury District by the Clutton Board of Guardians, vice Mr. Wood, resigned.

Harcourt, J. C., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Superintendent for the Infirmary of the City of London Union.

Hildyard, F. L., M.R.C.S., has been re-appointed Medical Officer by the Langport Rural District Council.

Hitchins, Charles Vernon, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for the Weston-super-Mare Urban District.

Hudson, F., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham-road, London, S.W.

Jones, Richard, M.D. Edin., D.P.H. Cantab., has been re-appointed Medical Officer of Health by the Blaenau Festiniog Council.

Keer, J. C., M.R.C.S., has been re-appointed Medical Officer by the Plomesgate Rural District Council.

Legg, T. Percy, M.B. Lond., F.R.C.S. Eng., has been appointed Senior Surgical Registrar and Surgical Tutor, King's College Hospital, London.

MacNalty, F. C., M.A., M.D., M.Ch., T.C.D., has been appointed Surgeon to the City of Winchester Police, vice T. D. Richards, resigned.

Manknell, A., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the First (East Bradford) Sanitary District of the Bradford (Yorks) Union, vice H. W. White, resigned.

Mason, William, L.R.C.P. & S. Edin., L.A.H. Dub., has been appointed Medical Officer of Health for St. Austell (Cornwall).

Mudge, Zachary Billing, M.R.C.S., L.R.C.P. Lond., has been re-appointed Medical Officer of Health for the Phillack (Cornwall) Urban District Council.

Mundey, Charles, M.R.C.S., has been re-appointed Medical Officer by the Langport Rural District Council.

Mussen, A. A., M.D., D.P.H., has been appointed Assistant Medical Officer of Health for the City of Liverpool, vice E. P. Manby, resigned.

Nettle, William, M.R.C.S., L.S.A. Lond., has been re-appointed Medical Officer of Health for Liskeard.

Nobbs, A., M.D., C.M. Edin., has been appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham-road, London, S.W.

Nott, H. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Eastham Sanitary District of the Wirral Union, vice H. A. Bredin, deceased.

Pardington, G. L., M.D. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Physician to the General Hospital, Tunbridge Wells.

Rix, B., M.R.C.S., L.S.A., has been appointed Surgeon to the General Hospital, Tunbridge Wells.

Simmons, Benjamin, M.R.C.S., L.S.A., has been re-appointed Medical Officer for three years for the Charfield District of the Thornbury Union.

Spencer, F. M., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Ninth Sanitary District of the Totnes Union, vice T. Lakeman, deceased.

Stevens, Bertram Crossfield, M.B., B.S. Durh., M.R.C.S., L.R.C.P., L.S.A., has been appointed Senior House Surgeon to the Huddersfield Infirmary.

Tarbet, P. R., L.R.C.P. Lond., M.R.C.S., has been appointed Senior Assistant Medical Officer for the Infirmary of the Parish of St. Pancras, vice T. S. Boden, resigned.

Taylor, J., M.D. Aberd., has been appointed Medical Officer to the General Post Office, Leith.

The Chief Inspector of Factories announces the following appointments of Certifying Surgeons under the Factory Acts:—Bernard Robinson, L.R.C.P. Lond., M.R.C.S., for the Civil Parishes of Croxden and Rocester in the Uttoxeter Rural District; J. M. Johnson, M.D., M.R.C.S., for Leek Urban District, Leek Rural District except the Civil Parishes of Norton in the Moors and the Civil Parishes of Cheddleton and Consall in Cheadle Rural District; L. I. M. Neave, M.B., Ch.B. Edin., for the Civil Parishes of Guthrie, Kirkden, Rescobie (south of the Caledonian Railway Line), Dunnichen (east of the road running through Dunnichen and Bowriefauld) and Kinnell in the county of Forfar; and R. B. Mahon, M.D. Irel., F.R.C.S. Eng., for the Ballinrobe Dispensary District, County Mayo.

Thomas, A. H., M.B., Ch.B. Edin., has been appointed Medical Officer for the Aldborough Sanitary District of the Great Ouseburn Union, vice J. Sedgwick, resigned.

Thomson, H. Campbell, M.D., M.R.C.P. Lond., has been appointed Assistant Physician to the Middlesex Hospital.

Valentine, W., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Fourth Sanitary District of the Warrington Union, vice J. W. Watkins, resigned.

Yearsley, Macleod, F.R.C.S., has been appointed Surgeon to the Royal Ear Hospital, Soho-square, London.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Birmingham General Dispensary.—Vacancy on the staff of Resident Surgeon, unmarried. Salary £150 per annum. £30 a year allowed for cab hire, and furnished rooms, fire, lights, and attendance.

Bootle Borough Hospital, Liverpool.—Junior Resident Medical Officer. Salary £50, with board, lodging, and washing.

Borough of Crewe.—Medical Officer of Health. Commencing salary £300 per annum. Applications to the Town Clerk, Municipal Offices, Crewe.

Canning Town Medical Mission Dispensary, 520, Barking-road, London.—Assistant Medical Officer (qualified woman). Board and lodging provided.

Cardiff Infirmary.—Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing and apartments. Also Resident Medical Officer for three years. Salary £100 per annum, with board, washing, and furnished apartments.

Chelsea Hospital for Women, Fulham-road, S.W.—Clinical Assistant. Tenable for three months on payment of 3 guineas.

Clayton Hospital and Wakefield General Dispensary, Wakefield.—Junior House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

Cumberland and Westmorland Asylum, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £100 a year, with board and residence.

East Sussex County Council.—Consulting Medical Officer for one year. Honorarium 100 guineas and travelling expenses.

Glasgow District Asylum and Mental Hospital, Gartloch.—Medical Officer (Junior Assistant or Locum Tenens). Remuneration as may be arranged. Apply to the Clerk, Glasgow District Lunacy Board, 38, Cochrane-street, Glasgow.

Govan District Asylum, Crookston, near Paisley, N.B.—Junior Assistant Medical Officer. Salary £120 a year, with rooms, board, laundry, and attendance.

Harris Parish Council, for the Southern Division of Harris.—Medical Officer. Salary £80. Apply to Mr. Thomas Wilson, Solicitor, Lochmaddy, Clerk.

Hospital for Consumption and Diseases of the Chest, Brompton.—Resident House Physicians for six months. Honorarium £25.

Hospital for Sick Children, Great Ormond-street, Bloomsbury, London.—House Physician for six months, unmarried. Salary £20, with board and residence in the hospital.

Hull Royal Infirmary.—Honorary Assistant Surgeon for five years.

Hulme Dispensary, Dale-street, Stretford-road, Manchester.—House Surgeon. Salary £150 per annum, with apartments, attendance, coal, and gas.

Italian Hospital, Queen-square, London, W.C.—House Surgeon. Salary £50 per annum, with board, residence, and laundry.

Leeds Public Dispensary.—Junior Resident Medical Officer. Salary £85 per annum.

Lincoln Hospital for the Insane.—Assistant Medical Officer. Salary £100.

Liverpool Infirmary for Children, Myrtle-street.—House Surgeon. Salary £25 per annum, with board and lodging. Also Assistant House Surgeon for six months. Salary £25 for that period, with board and lodging.

Liverpool Stanley Hospital.—Senior House Surgeon. Salary £80, with board, residence, and washing.

London County Asylum, Horton.—Medical Superintendent, Horton Asylum, Epsom, now in course of erection. Salary £1000 per annum, with unfurnished house, rates, taxes and water supply free. Applications to the Clerk of the Asylums Committee, Office, 6, Waterloo-place, London, S.W.

Metropolitan Asylums Board.—Four Assistant Medical Officers at the Fever and Small-pox Hospitals, unmarried. Salary £160 per annum the first year, and conditionally £180 the second, and £200 the third and subsequent years, with board, lodging, attendance, and washing, subject to statutory deductions. Applications to the Offices of the Board, corner of Carmelite-street, Embankment, E.C.

New Zealand Public Lunatic Asylums.—Two Assistant Medical Officers, unmarried. Salary £250, with board, lodging, and washing. Apply to the Agent General for New Zealand, 13, Victoria-street, London, S.W.

North Riding Infirmary, Middlesborough-on-Tees.—Assistant House Surgeon. Salary £75 a year, with lodging, board, and washing. No beer allowed.

Paddington Green Children's Hospital, London.—House Physician and House Surgeon for six months. Salary at the rate of 50 guineas a year, with board and residence.

Paddington Infirmary.—Resident Clinical Assistant and Second Assistant to the Medical Superintendent for six months. Board, residence, and washing provided, and an honorarium at the rate of £50 per annum conditionally. Personal application to Dr. M. F. Squire at the Infirmary, [illegible] Harrow-road, W.

Parish of Rousay and Egilsay, Orkney.—Resident Medical Officer (male or female). Salary £51 sterling per annum. Apply to the Clerk of Parish Council, Rousay, Orkney.

Peckham House Asylum, Peckham.—Junior Assistant Medical Officer. Salary £120 per annum, with board and lodging.

Licences of the conjoint licensing bodies in England, Ireland, and Scotland at the present time are far more searching and superior than any of the universities in the United Kingdom and the percentage of rejections is very much higher. My statement can be verified by a reference to the Minutes of the General Medical Council. The members of the General Medical Council occasionally visit the different examinations.

The following extracts may be of interest to the Admiralty. The visitors report on one university: "Our joint opinion is 'that the examination for the Degree of Bachelor of Medicine in the University of —— is inadequate for a degree admitting to the Medical Register and that the candidates were not sufficiently tested," &c. (see Minutes, General Medical Council, vol. xxiii., p. 344). The visitors report on another university: "We were much impressed with the insufficient knowledge of the essential subjects of the M.B. examination and the imperfect clinical training which a large portion of the candidates displayed" (see Minutes, General Medical Council, vol xxiii., p. 392)

I am, Sirs, yours faithfully,

March 14th, 1900. JUSTICE.

CAVE.

THE *Teignmouth Post* of March 9th has the following advertisement.—

> LADY MANAGER, or Lady and Gentleman, REQUIRED for Branch Office about to be opened by The British Viave Co. (Ld). Small investment necessary, but returnable at end of first year if contract cancelled by either party.—Address, FRANK RIDDING, Manager, British Viave Co, Ebrington House, Plymouth.

If the British Viave Co. is the same as the British Vlavi Co. we advise ladies and gentlemen and everyone else to leave the institution severely alone. See THE LANCET, March 10th, 1900, page 742.

THE LOT OF THE PUBLIC VACCINATOR.

To the Editors of THE LANCET.

SIRS,—In the capacity of a public vaccinator I visited yesterday the home of a child six months old whose name appeared on my list. The day previous (March 12th) I had visited the house where the child was born—a distance of about eight miles from my surgery—but found that the parents had moved to the house I visited yesterday. When I arrived there the mother was out and had left the child in charge of her sister. There was also a neighbour in the house at the time I informed them of the object of my visit and they saw no reason why I should wait until the mother's return, which was indefinite. I vaccinated the child accordingly, and after applying the necessary antiseptic pad the mother came in and began "blowing me up" and said that I had no legal right to do what I did. I took trouble to explain to her the circumstances, but to no purpose; she was adamant, and I left the house under heavy artillery fire. Kindly let me know your view of the case. I ought to say that she could not class herself a "conscientious objector."

I am, Sirs, yours faithfully,

March 14th, 1900 A PUBLIC VACCINATOR.

*** Our correspondent must obtain legal advice.—ED. L.

THE HYPODERMIC INJECTION OF ARSENIC.

C. H. would be grateful for information as to previous experiences, references to literature, and risks run as to hypodermic injections of arsenic, having regard to a case of severe leukæmia at present under his care. Into this patient have been injected hypodermically 5·33 grains of arsenious acid during 11 weeks inclusive of 14 days' interval, and 39½ grains (*sic*) of arseniate of soda during eight weeks inclusive of one week's interval, the whole course extending over 20 weeks. There are no signs of poisoning up to the present date, over a month since cessation of the treatment, and concurrent improvement of the blood during the injections.

"POPULAR MEDICINE."

To the Editors of THE LANCET.

SIRS,—Referring to your remarks in THE LANCET of March 10th on *Leach's Family Dressmaker* permit me to say that it is a perfectly erroneous statement that medical queries are either invited or answered in that journal; but were this the case we should but be adopting the methods of many other journals of a much higher class. The reply you quoted concerned the matter of a woman's personal appearance and not her health, and invidious as it may be to "apply to a popular paper" for advice it is well known that this is the only resource, as *doctors are apt to "pooh pooh" or smile good-naturedly over any such* query. It appears to me monstrously unfair that you should single out an odd bit of advice from such a paper as our own and use it in the connexion that it was used in, while others who sin far more and who *do* give real medical advice should be unnoticed. I have nothing to do with the management of the advertisements and fully endorse what you say respecting them; but were there no other dressmaking journals to which you could have drawn attention?

I am, Sirs, yours faithfully,

M. CHRISTINE, Toilet Editress.

PS.—You must at least adjudge me honest, since I gave a simple remedy *before* suggesting the "half crown bottle."

*** The statement which M. Christine calls "perfectly erroneous" was not made by us. The fact that other papers offend in a similar manner does not exonerate *Leach's Family Dressmaker* in respect of the matters to which we have called attention. If advertisements of abortifacient mixtures continue to be inserted in her paper it is *open for* Toilet Editress *to resign her position. During a recent trial* at Birmingham Mr. Justice Darling repeated his intention of sending to gaol, when opportunity served him, persons connected with the dissemination of these advertisements.—ED. L.

WHO IS RESPONSIBLE?

To the Editors of THE LANCET.

SIRS,—I should be glad to hear your opinion at your earliest convenience on the following point: A dentist (A) asks a medical practitioner (B) to come and give gas to a lady (C) who is having some teeth removed in order to have a new set. B is until this period *quite unacquainted with C who is A's patient.* As there are over a dozen stumps for removal B attends at A's house and gives gas on seven separate days. Nothing is said as to B's fee. A few weeks after B writes inquiring about the same. As no reply is received B writes a second letter to which also there is no reply. Two months have since elapsed and B has still heard nothing from A, who is still to his knowledge in the town. Who is really responsible for B's fees, the dentist or the patient? *A is an L D.S.*

I am, Sirs, your faithfully,

March 19th, 1900. M.R.C.S.

*** In our view A is responsible for the fees, and he is certainly wanting in courtesy in sending no reply to B's letters. Is B certain that A received them? B must, of course, consult a solicitor before taking legal proceedings.—ED. L.

A STORY OF GEOGRAPHY.

THE *Daily Chronicle* publishes a good little story illustrating the bias that exists in the British mind towards the foreign spa and incidentally showing that a certain wealthy clubman is a poor geographer. The story is as follows:—

> "A certain wealthy clubman was recently advised to try a course of baths at Droitwich. He had heard vaguely of the place and associating all forms of water-cure with the continent imagined that a town so named must be somewhere in Hungary or Poland. Having been in the habit of taking Paris as the base of operations in all his continental trips he took a ticket hither, put up at the Hôtel Bristol, and told the omniscient hotel clerk to work out the route to Droitwich. The clerk searched all the continental time-tables and guides to continental mineral cures in vain and had to admit that for once he was beaten. The Englishman, greatly annoyed, took a cab to Cook's Paris office, where he was informed that the route to Droitwich lay through London, whence it could be reached in about three hours."

ŒDEMA OF THE LOWER EXTREMITIES FOLLOWING INFLUENZA.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me what is the best treatment for the dropsical swelling of the lower extremities which occasionally takes place after influenza? I am, Sirs, yours faithfully,

March 19th, 1900. M.D., &c.

AN ASPIRANT TO QUACKERY.

WE *have received the following naive letter addressed to the* "Editorial Dept.":—

> DEAR SIR,—Do i require a License for making ointment to sell, and for making embrocation for sale, "ringworm," Cure, "Corn Cure" "Cure for cuts" Lct., or could i make and sell 'corn cure' only without the above, i think it would not be "patent. Medicine." any pacticlars on above will oblige. Yours
>
> E. M.

We suppress E. M.'s address and full name, for we believe him to be only an unconscious offender, and are not certain that in writing to us he has desired publicity. The handwriting is in keeping with the literary style. Is it not extraordinary that a man not only without special training but without the ordinary rudiments of education should feel himself quite capable of treating the minor maladies of the public medically? E. M. would, we are certain, not dream of attempting to clean a watch without understanding its mechanism.

PRINCIPLES WHICH OUGHT TO CONTROL THE CONSTRUCTION OF MODERN ASYLUMS

DR. R. H. STEEN of the West Sussex County Asylum publishes a paper briefly dealing with the above in the *Journal of Mental Science* (January, 1900). After a short historical review of the evolution of asylum architecture an account is given of modern asylum plans such as are embodied in the "pavilion" systems in vogue at the present day. This plan is to build the several blocks apart from one another and to make them each in a measure self-contained—i.e., each with its own dormitory, day room, dining-room, bathroom, lavatories, store-rooms, &c. These blocks are connected by corridors and may be arranged in linear series or in H-shape, or on the echelon plan and its modifications. Examples and plans are given to elucidate the descriptions of existing asylums. The detached villa system—viz., small home like buildings spread over a large estate—is illustrated by an account and plan of the celebrated Alt-Scherbitz Asylum near

Leipzig, built for 960 patients on an estate of 750 acres and which has become the prototype of other and similar institutions in Europe and America. Modern treatment demands that a hospital block furnished with the means and appliances for the most advanced medical and surgical procedure should be added to all large asylums. The best position for this is in the central block between the male and female sides, and the first floor should contain isolation rooms, sick attendants' room, and a small dormitory. The division of an asylum into two portions, acute and chronic, is, according to Dr. Steen, open to objection.

THE WOMB QUACK.

IN the *Lincolnshire Echo* of March 2nd appears an advertisement setting forth the talents of a certain Mrs. Slater. The advertisement is embellished with a portrait of a woman who, we take it, is the Mrs. Slater in question. We learn from the advertisement that she will attend Lincoln on March 3rd to afford an opportunity for ladies to consult her. "Her skill on all womb and internal complaints is well known throughout England. Every sufferer wearing an inward instrument ought to consult her. The most eminent operating surgeon alive said: 'If the use of inward instruments were persisted in they would have to build a hospital to treat the cancers and tumours created by them.'" We further learn that the Compress Belt for stout ladies is a great boon—first, it reduces measurement, and, secondly, it renders breathing easier. Further, it is worn by doctors' wives; it is worn by clergymen's wives; it is worn by hotel-keepers. We do not quite see that this proves the article to be so excellent for the same might be said of many other articles—e g., boots. Mrs. Slater also gives special and careful attention to all spinal complaints. Special bandages are to be obtained for varicose veins and swellings in the legs and Mr. Slater attends for men. All advice is free. We suppose the advice given is to buy a belt, for we do not for one moment imagine that Mr. and Mrs. Slater are actuated by pure benevolence. The advertising "womb doctor" is always a pestilent person and does an incalculable amount of harm.

TO MEDICAL FREEMASONS.

To the Editors of THE LANCET.

SIRS,—Will you permit me through your columns to bring before the notice of medical Freemasons the cases of Herbert Eric Skrimshire and Gwendoline Hudson, No. 36 and No. 26 respectively on the lists of candidates for election to the Boys' and Girls' Schools in April?

I am, Sirs, yours faithfully,

Woking, March 20th, 1900. T. CAWLEY EAGER.

*** "A Medical Mason" also writes to ask for support for these candidates who are, he states, the only children of medical Freemasons seeking election to the Masonic Schools on the present occasion.—ED. L.

LUNACY CERTIFICATES AND MEDICAL JUSTICES OF THE PEACE.

To the Editors of THE LANCET.

SIRS,—I shall be glad to have the opinion of your readers as to the action of C in the subjoined and like instances. A, B, C, and D are four practitioners in the same district and ostensibly the best of friends. C is also a Justice of the Peace. A is asked to visit an old patient who has become insane and, understanding that the friends desire the patient to go into a county asylum at a small weekly fee, he calls in B to examine and certify. A and B both issue certificates and an order for removal is signed by C. It is subsequently found that there is no county asylum in the county which takes in a paying patient. Accordingly, the relieving officer is called in who instructs C to judicially visit the patient who, in his turn, requests D to examine the case. C appears to have some special predilection for D and in all lunacy cases occurring in the district invariably seems to send D to examine, perfectly regardless of the professional attendant under whose charge the patient has been (on one occasion for 12 years in A's experience). 1. C may be within his legal rights, but is his action professionally friendly to either A or B and is it not likely to damage the prestige of both? 2. Is A correct in the feeling that the Commissioners of Lunacy prefer that certificates of lunacy should be issued (where only one is required) by the medical attendant who has had previous charge of the case and is therefore in a better position than any stranger to judge its merits?

I am, Sirs, yours faithfully,

March 20th, 1900. TWENTY YEARS' PRACTICE.

*** We can quite understand that A in the circumstances mentioned should feel a little disappointed at not being called in to certify in the case of his own patient, but there are several possible explanations of the course adopted by C. In the first place it is very usual for certain justices invariably, and as a matter of routine, to employ a certain medical man who knows the ordinary procedure for parish cases, that is to say, those which are removed to the county asylum. Although the guardians have no legal right to do so they sometimes stipulate for the employment of a certain medical man, and such stipulation has considerable moral, though no legal, binding on the justices. In point of fact, a contract not infrequently exists between the guardians and a certain medical man for the certification of such cases. Again, it is quite possible that C, although having the greatest respect for the opinions of A and B, might have wished for yet another and independent opinion on the state of the patient. In view, therefore, of all the circumstances of the case we cannot regard the action of C as being unfriendly either professionally or in any other respect, nor is it, in our opinion, likely to damage the prestige of either A or B. In answer to the second question the Commissioners of Lunacy have expressed no opinion upon the point and they invariably leave such matters entirely (as they must do in point of law) to the justice concerned in the case. It is he alone who is responsible for the legal procedure.—ED. L.

F. J. A. B.—We recommend the following list of books:—(1) "Hygiene and Public Health," Whitelegge (Cassell and Co., London); (2) Knight's "Annotated Model By-laws" (Knight and Co., London); (3) "Vital Statistics," Newsholme (Sonnenschein and Co., London); (4) "Manual of Bacteriology," Muir and Ritchie (Pentland, London and Edinburgh), (5) "Public Health Laboratory Work," Kenwood (Lewis, London). The above are essential; the following may also be consulted:—"Water Supplies," Thresh (Rebman Publishing Company, London); "Micro-organisms in Water," Frankland (Longmans and Co., London); the chapter on Water Analysis in "Volumetric Analysis," Sutton (Churchill, London); "Purification of Sewage," Barwise (Crosby, Lockwood, and Co., London); "Law and Chemistry of Food and Drugs," Robinson and Cribb (Rebman Publishing Company); "Cattle Tuberculosis," Legge and Sessions (Baillière, Tindall, and Cox, London). We cannot decide which is the more difficult examination.

A Sufferer should consult his medical adviser. The condition is dependent upon many different causes. If it persists after treatment his medical adviser will probably suggest that he should see some other medical man in consultation. We cannot insert the letter.

Maque.—The question of midwifery nurses being of either sex has been raised before, but our correspondent may help the class to which he alludes by continuing to ask it. The address he inquires for is 12, Buckingham-street, Strand, London, W.C.

U.L.M.S.—We lay down no geographical limits, but the Fund is designed to meet emergencies.

L.S.A.—1. Yes. 2. About 14 years ago.

ERRATUM.—In the annotation in THE LANCET of March 17th, p. 787, upon the National Association for the Prevention of Consumption, the name of the seconder of the report was erroneously printed as Dr. L. H. Bryson. It should have been Dr. W. B. Ransom (Nottingham).

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 22nd, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain-fall	Solar Radia in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 a.m.
Mar. 16	29 56	N.W.	0·13	63	48	39	29	40	Overcast
" 17	29 47	N.	...	67	41	31	32	34	Cloudy
" 18	29 50	N.E.	...	85	44	28	Fzn.	31	Fine
" 19	29 21	S.W.	0 50	83	46	30	36	36	Overcast
" 20	29 57	S.W.	0 03	92	54	38	40	41	Cloudy
" 21	29 77	N.E.	...	78	63	34	37	38	Hazy
" 22	29 47	E.	0·11	52	46	38	43	44	Overcast

During the week marked copies of the following newspapers have been received: *Birmingham Daily Post, Leek Times, Scotsman, Civil and Military Gazette (Lahore), South Wales Daily News, Chelsea Mail, Dundee Advertiser, Gainsborough Leader, Bradford Observer, Sheffield Daily Telegraph, Birkenhead News, Times of India, Pioneer Mail, Citizen, Isle of Man Times, Westminster Gazette, Leicester Daily Post, Englishman (Calcutta), Liverpool Daily Post, Bromley Chronicle, Manchester Guardian, Newcastle Daily Chronicle, Architect, Builder, Bristol Mercury, Glasgow Herald, Yorkshire Post, Gazette (Middlesbrough), Hereford Times, Mail and Empire (Toronto), Record (Chicago), Lancashire Weekly Post, Pontefract Weekly Herald, Surrey Times, Brighton Gazette, Leeds Mercury, Cheltenham Examiner, Sanitary Record, Staffordshire Sentinel, Local Government Chronicle, Hertfordshire Mercury, Public Health Engineer, Natal Advertiser, Mining Journal, Reading Mercury, City Press, Loughborough Examiner, Surrey Advertiser, Local Government Journal, Guy's Hospital Gazette, Perthshire Advertiser, North Middlesex Chronicle, Straits Budget, Malvern Advertiser, Norfolk Weekly Standard, Topical Times, Daily Messenger (Paris), &c., &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.

TUESDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat 2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (28th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.) Cancer (2 P.M.)

THURSDAY (29th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (31st).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (26th).—Medical Society of London.—8.30 P.M. Dr. Luff: The Gelatinous Form of Sodium Biurate and its bearing on the Treatment of Gout.—Dr. Bain The Action of Various Drugs and Diets on the Excretion of Nitrogen in Gout.

TUESDAY (27th).—Childhood Society (Library of the Sanitary Institute, 72, Margaret-street, W.)—8 P.M. Mr. S. H. Wells: Science Teaching.

Royal Medical and Chirurgical Society (20, Hanover-square, W.).—Dr. Bowles and Mr. G. R. Turner: A Case of Rupture of the Œsophagus caused by Vomiting.—Mr. A. Pearce Gould: A Case of Sarcomatous Tumour of the Gastro-Hepatic Omentum removed by Operation, with Remarks on the Diagnosis of such Tumours.

WEDNESDAY (28th).—Dermatological Society of Great Britain and Ireland (20, Hanover-square, W.)—4.30 P.M. Informal Exhibition of Cases. 5 P.M. Ordinary Meeting.

Hunterian Society (London Institution, Finsbury circus).—8.30 P.M. The President: Address. Paper:—Dr. D. Ross: Some Points in the Therapeutics of Gout.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (26th).—Medical Graduates' College and Polyclinic (22, Chenies street, W.C.).—4 P.M. Dr. A. Whitfield: Consultation. (Skin.)

TUESDAY (27th).—Royal College of Physicians of London.—5 P.M. Dr. P. Horton Smith: The Typhoid Bacillus and Typhoid Fever. (Goulstonian Lecture.)

Royal Institution of Great Britain.—3 P.M. Prof. E. Ray Lankester: The Structure and Classification of Fishes.

Medical Graduates' College and Polyclinic (22, Chenies street, W.C.).—4 P.M. Dr. W. Miller Ord Consultation. (Medical.)

WEDNESDAY (28th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—5 P.M. Mr. J. Hutchinson: Clinical Lecture.—The Present-day Treatment of Syphilis. 6 P.M. Annual Meeting

Hospital for Consumption and Diseases of the Chest (Brompton).—4 P.M. Dr Acland: Cases illustrating various Types of Pulmonary Tuberculosis

The Hospital for Sick Children (Gt. Ormond-street, W.C.).—4 P.M. Mr. Pitts: *Demonstration of Selected Cases.*

THURSDAY (29th).—Royal College of Physicians of London.—5 P.M. Dr. W. B. Cheadle. Some Cirrhoses of the Liver. (Lumleian Lecture.)

Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

FRIDAY (30th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W.C.)—4 P.M. Mr. T. Collins: Consultation. (Eye, Ear, Nose and Throat.) 5-7 P.M. Mr. J. Griffith: Class. Practical Ophthalmology. Demonstration IV.

Royal Institution of Great Britain.—9 P.M. Prof. J. A. Thomson: Facts of Inheritance.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of The Lancet should be addressed *exclusively* "To the Editors," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of The Lancet *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

The Index to Vol II. of 1899, which was completed with the issue of Dec 30th, and the Title-page to the Volume, were given in The Lancet of Jan. 6th.

VOLUMES AND CASES.

Volumes for the second half of the year 1899 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of The Lancet at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach The Lancet Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to The Lancet Offices.

Subscribers, by sending their subscriptions direct to The Lancet Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from The Lancet Offices or from Agents, are:—

For the United Kingdom		To the Colonies and Abroad.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

Subscribers abroad are particularly requested to note the rates of subscriptions given above. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of The Lancet necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of The Lancet have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—The Manager, The Lancet Offices, 423, Strand, London, England.

Communications, Letters, &c., have been received from—

A.—Ashwood House, Kingswinford, Medical Superintendent of; Messrs. Allen and Hanburys, Lond.; Messrs. Ayrton and Saunders, Liverpool; Anglo-Swiss Condensed Milk Co., Lond.

B.—Mr. C. A. G. Browne, Lond.; B. M. B.; T. B. Browne, Ltd., Lond.; Mr. A. Benthall, Lond.; Brin's Oxygen Co., Lond.; Mr. H. Browne, Lond.; Mr. Lennox Browne, Lond.; Mr. H. Borland, Glasgow; Mr E. C. Brodrick, Tavistock; Dr. V. Burrow, Tring; Mr. H. Brown, Leeds; Mr. L. A. Bidwell, Lond.; Bucklow Rural District, Medical Officer of Health of; Borough of Crewe, Medical Officer of Health of; Dr. Burton-Fanning, Norwich; Dr. H. M. W. Bridgman, San Remo.

C.—Dr. Alfred Cox, Gateshead; Childhood Society, Lond., Secretary of; Professor Corfield, Lond.; Chamfbandratintz; Benagaria; Cornwall County Council, Clerk of; Dr. A. Cordes, Geneva; Messrs. Cassell and Co., Lond.; Canning Town Medical Mission, Resident Medical Officer of; Mrs. Chapman, Lond.; Carnos, Ltd., Great Grimsby; Mrs. Cullen, Cheltenham; Clayton Hospital, Wakefield, Hon. Secretary of; Chelsea Hospital for Women, Secretary of; Dr. F. G. Clemow, Lond.

D.—Dr. D Duncan, Chester-le-Street; Sir Dyce Duckworth, Lond.; Dr. C. R. Drysdale, Lond.; Dr. S. Delépine, Manchester; Mr. A. Duke, Cheltenham; Dental Hospital of London, Secretary of; Deutscher Inserenten-Verband, Cologne.

E.—Mr. T. C. Eager, Woking; East End Mothers' Home, Secretary of.

F.—F. C. H. M.; F. J. McA.

G.—Mr. A. R. Galloway, Aberdeen; Mr. T. M. Griffiths, St. Louis, U.S A.; Messrs. Gallatly and Ferry, Lond.; Messrs. R W. Greeff and Co., Lond.; Gledhill's Medical Agency, Lond.

H.—Dr. de Haviland Hall, Lond.; Dr. E. M. Hasbrouck, Washington; Mr. David Harris, Lond.; Mr. T. E. Hayward, Haydock; Mr. Hayward-Pinch, Lond.; Dr. J. Hunter, Linlithgow; Messrs. J. Haddon and Co., Lond.; Hulme Dispensary, Manchester; Hart Accumulator Co., Lond; Dr. N. C. Hatherley, South Molton; Dr. Horton-Smith, Lond.; Hull Royal Infirmary, Secretary of; Hendon Grove, Hendon, Medical Superintendent of; Mr. J. J. Harding, Ballincollig.

I.—Mr. S. Iles, Bristol; Mr. E. H. Ireland, Lond.

J.—Mr. G. H. Johnston, Ticehurst; Jeyes' Sanitary Compounds Co., Lond.; J. H.; Dr. H. Joseph, Berlin; Dr. W. W. Jones, Bath; Mr. R. Johnson, Hollesley Bay; J. Y. Y.

K.—Dr. W. Kirk, Ichang, China; Mr. B. Kuhn, Lond.; Dr. J. P. Kitson, Cleobury Mortimer; Mr. W. Kühlenthal, Lond.; Mrs. Keene, Cambridge; Professor Stanley Kent, Bristol.

L.—Liverpool School of Tropical Diseases, Secretary of; Liverpool Infirmary for Children, Secretary of; Liverpool Stanley Hospital, Hon. Secretary of; Mrs. Lake, Guildford; Mr. R. M. Littler, *Southport*; *London and Counties* Medical Protection Society, Hon. Secretary of; Leeds Public Dispensary, Secretary of.

M.—Dr. F. A. H. Michôd, Lond.; Dr. W. G. Mortimer, Thorne; Mutual Life Insurance Co., New York, General Manager of; Messrs. May and Rowden, Lond.; Meaby's Triticumina Co., Reading; Medical Society of Victoria, *Melbourne, Hon. Secretary of*; Messrs. C. Mitchell and Co., Lond.; Macclesfield Infirmary, Secretary of; Medical Graduates' College, Lond.; Messrs. Masson et Cie, Paris; Messrs. P. Macfadyen and Co., Lond.; Dr. W. Murrell, Lond.; Dr. H. C. Marr, Lenzie.

N.—N. C.

P.—Sir R. Douglas Powell, Lond.; Dr. C. E. Paget, Northampton; Mr. Y. J. Pentland, Edinburgh; Prudential Assurance Co, Lond.; Paddington Infirmary, Clerk of; Public Vaccinator; Mr. J. F. Pink, Lond.; Dr. R. Pearson, Lond.; Messrs. A. H. Poole and Co., Waterford; Price's Patent Candle Co, Lond.; Mr. T. Parr, Stafford; Dr. J. B. Pike.

R.—Dr. W. B. Ransom, Nottingham; Royal Institute of Painters in Water Colours, Secretary of; Messrs. Reynolds and Branson, Leeds; Dr. A. F. Rogers, Ottawa, Canada; Dr. J. Ramsay, Launceston, Tasmania; Royal College of Surgeons, Lond., Secretary of; Mr. W. Rees, Brynamman; Mr. E. W. Richmond, Lond.; Royal London Ophthalmic Hospital, Secretary of, Royal National Pension Fund for Nurses, Secretary of; Royal Aquarium, Lond., Manager of; Rochford Union, Southend-on-Sea, Clerk of; Royal Surrey County Hospital, Guildford, Assistant Secretary of; Ramsgate, &c, Royal Dispensary, Secretary of; Dr. A. H Robinson, Low Moor; Messrs. G. Reiss and Co., Manchester.

S.—Mr. Simeon Snell, Sheffield; Dr. Septimus Sunderland, Lond.; Mr. J. V. U. Somers, Richmond, Yorks; Mr. A. A. Stempel, Lond.; Dr. W. A. Salmond, Acton; St. *Mungo's College, Glasgow*, Secretary of; Sufferer, Liverpool; St. Margaret and St. John, Westminster, Medical Officer of Health of; Stockport Infirmary, Secretary of.

T.—Mr. J. V. Taylor, San Francisco; Messrs. Tillett and Yeoman, Lond.

V.—Miss Vincent, Lond.

W.—Mr. C. A Wright, Lond.; Dr. C. St.J. Wright, Felsted; Messrs. W. Wood and Co., Lond.; Mr. J. Wright, Ravenscraig; Mr. E. S. Warrilow, Lond.; Mr. L. W. Williams, Lond.; Wigan, *Medical Officer of Health of*; Westport, Medical Officer of Health of; Messrs. Wright, Dain, Peyton, and Co., Birmingham; Messrs. Ward, Lock, and Co. Lond.; *Worcester Herald*, Manager of.

Y.—Yorkshire College, Leeds, Clerk of.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. F. C. Angear, Chatham; A. W. W. D.; Aberdeen Royal Asylum, Treasurer of; A. E. W., Birkenhead; A. J. R. O.; A. L.; Mr. F. Adams, Uxbridge; A. O.; Mr. R. Ambrose, Lond.; A. P.

B.—Mr. A. E Barker, Lond.; Mr. P. Benham, Lond.; Mrs. B.; Mr. J. Barr, Bolton; Mr. G. F. Burd, Dobcross; Messrs. Brady and Martin, Newcastle-on-Tyne; Messrs. Blake, Sandford, and Blake, Lond.; Mrs. Blackmore, Lond; Messrs J. Beal and Son, Brighton; Mr. T. Bamford, Uttoxeter.

C.—Mr. W. Cattell, Newhouse; Messrs. T. Cook and Son, Lond.; Mons L. Chevrier, Paris; C. B M.; C. P. K.; C. J. S.; Mr. T. F. Chavasse, Birmingham, C. E. H.

D.—Mrs H. E. Duke, Chichester; Devon County Asylum, Exminster, Secretary of; Messrs. H. Dawson and Co., Lond.; Dr. J. W. Dalgliesh, Newcastle-on-Tyne.

F.—Mr. A. E. Flaxman, Pittenweem; F. A. C, F. T. A.; F. A. H.

G.—Dr. J. W. Geddes, Winterton; G. D. V. B.; G. B. W.; G. W. O.; Messrs. W. Gaymer and Son, Attleborough; Mr. A. M. Gray, Melksham; Mr. G. W. M. Gleeson, Borrisokane, Ireland; G. B., Lond.

H.—Mr. R. F. Hiley, Newark-on-Trent; Messrs. Hockin, Wilson, and Co, Lond; H. O.; Messrs. Hardy and Co., Manchester; Head Master, Tiverton; H. C.; H. J. D. M.; Mr. J. Heywood, Manchester, Dr. W. T. Hedley, Hallaton; Mr. C. C. Hinson, Colchester.

I.—Mr. R. Irvine, Lond.

J.—Mr. E O. Jones, Amlwch; Mrs S. A. James, Lond.; J. S.; J. F. H.; J. F. T.; J. W. D.; J. H. J.; J. K. G.; J. M. F.; J. M. B.

K.—Dr. S Kitasato, Tokyo, Japan.

L.—Rev. W. Laycock, Hurdsfield; Mr. J. F. Lever, South Woodford; Lamborn, Battle; L. G. D.; Mr. H. K. Lewis, Lond.; Mr. W. Latham, Ashton-in-Makerfield.

M.—Mr. W. A. Mushé, Lond.; Mr. J. Maberley, Salt River; Messrs. Macmillan and Co., Lond.; Mr. J. J. Moynihan, Harpurhey; Dr. A. G. Macdonald, Coppull; M. E D.; Medicus, Great Yarmouth; Messrs. F. MacGeorge and Co., Lond.; Middlesbrough Corporation, Accountant of; Mercer's Hospital, Dublin, Registrar of; Dr. J. Merson, Willerby.

O.—Orthodox, Bayswater.

P.—Preston Royal Infirmary, Secretary of; P. T.; Messrs. W. Porteous and Co., Glasgow.

N.—Northern Medical Association, Glasgow; Dr. D. Neil, Acton.

R.—Ross Memorial Hospital, Scotland, Hon. Treasurer of; Mr. H. Roberts-Williams, Buckley; Dr. R. W. Richards, Dolgelly; Ripon *Nursing Institute, Hon. Secretary of*; R. I. B.

S.—Mr. W. Smith, Aberdeen; Mr. F. S. Sanderson, St. Just; Mr. J. P. Stilwell, Yately; Mr. E. Swindells, Tor Cross; Salford Royal Hospital, Secretary of; Messrs. Street and Co., Lond.; Surgeon, Cardiff; Surgeon, Lond.; Saarbach's News Exchange, Mainz, Germany; S. C.; Dr. S.

T.—Dr. W. J. Tyson, Folkestone; Teignmouth Hospital, Assistant Secretary of; Torquay Medical Society, Secretary of; T. D. P.; T. S.; Mr. J. Thin, Edinburgh; Mr. J. Taylor, Glasgow; Dr. T.; T. G. H.

V.—Messrs. G. Van Abbott and Sons, Lond.; Vinolia Co, Lond.

W.—Dr. C. E. Wilmot, Bulwell; Dr. R. B. Wallace, Cornholme; Dr. J. H. Waterhouse, Maltby; Mr. E. S Weymouth, Lond.; Mr. B Wheeler, Manchester; Wyleys, Ltd., Coventry; W. F. S.; W. A. M.; W. E. S.; W. M. M.; W., Sheffield; W. A. S; W. W.S.

EVERY FRIDAY. PRICE SEVENPENCE.

THE LANCET.

SUBSCRIPTION, POST FREE.

For the United Kingdom.		To the Colonies and Abroad.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

		£ s. d.
Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.
Terms for Position Pages and Serial Insertions on application.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France —J. ASTIER, 8, Rue Traversière, Asnières, Paris.

The Lumleian Lectures

ON

SOME CIRRHOSES OF THE LIVER.

Delivered before the Royal College of Physicians of London

BY W. B. CHEADLE, M.D. CANTAB., F.R.C.P. LOND.,

SENIOR PHYSICIAN AND LECTURER ON CLINICAL MEDICINE AT ST. MARY'S HOSPITAL; CONSULTING PHYSICIAN TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET.

LECTURE I.[1]

Delivered on March 29th.

MR. PRESIDENT AND GENTLEMEN,—When I was invited to give these lectures I felt very sensible of the honour conferred upon me. As soon, however, as the glamour of the situation moderated and the prospect cleared, I realised how difficult it would be worthily to fulfil the duty laid upon me. I called to mind the ox and the charger of the fable—"optat ephippia bos piger; optat arare caballus." There is always, however, something of value to be learned from the experience of the honest observer, and in this belief I venture to offer these results of my clinical experience.

In these later times that important organ, the liver, has, I think, hardly received the attention which it deserves. The rapid development of our knowledge of the nervous system and its diseases has largely absorbed the interest of clinical observers, and the apotheosis of the bacterium and *the bacillus has caused those organs which do not favour* their exploitation to be somewhat neglected. The heart, indeed, has held its own. It has a natural attractiveness, even fascination, for the clinical observer. The mechanism is well understood; the condition of its machinery is ascertained with comparative ease and precision by various simple means. The lungs, also, in like manner are open to physical examination, and are, moreover, the favourite haunt of micro-organisms; they also retain their position of clinical interest, while the kidneys, although hidden away from easy physical examination, furnish a means of testing their condition through the secretion of urine and thus secure their hold upon medical investigation. That great composite gland, the liver, is, however, less readily dealt with. Not only are its functions more complex and varied than those of any other abdominal organ, but it is a still and silent worker, doing its office noiselessly and without movement. There is no portion of the digestive machinery whose integrity is more important to nutrition; none in which slight disturbances are more common, or more productive of discomfort and impaired health; and yet there is no one of the viscera whose aberrations of function are less accurately and scientifically ascertained

The physical condition of the liver can only be examined during life partially by the sense of touch, aided in minor degree by auscultation and percussion. The state of its complex functions can only be inferred—and that imperfectly—by the effects of their disorder upon other organs. The difficulties which beset the investigation of the condition of the liver and its functions during life have prevented full knowledge being gained on certain points in its pathology, and the clinical history of its diseases has remained in many respects unsettled. Much excellent work has been done by many physicians during the last 20 years—but much remains to be done. Amongst undetermined questions with regard to disorders of the liver—questions, which still remain the subject of discussion, and about which opinion is not yet finally formed—are some relating to the cirrhoses; and it will be my endeavour in these lectures to throw light upon certain of the obscurities which still beset this group of hepatic affections.

Since my attention has been specially directed to this subject of hepatic cirrhoses a series of cases have come under my observation which have not corresponded strictly or satisfactorily, in clinical or pathological characters, with the description of the disease in its different forms as set forth by authority. I belive that the views generally regarded as established require modification and expansion. The lines laid down are altogether too absolute and too rigid. The conclusions drawn at first and accepted almost without question are necessarily built upon imperfect knowledge and require revision from time to time as experience grows. The clinical picture of cirrhosis, for example, gloomy as is the reality in many respects, has been painted in more melancholy colours than is altogether warranted by facts. The interest in the disease has centred in the post-mortem room rather than at the bedside; and the revelations of the former have overshadowed the brighter possibilities which are sometimes indicated by the latter. In passing judgment upon the disease all forms of it have commonly been vaguely run together under the general term "cirrhosis"; and the last stage of the most fatal condition has been regarded as representative; the remediable and the irremediable have been confused together in one stereotyped picture of unalterable disease, and this absolutely unfavourable verdict has, I think, been largely influenced by the disastrous results of mistaken treatment.

Cirrhosis of the liver occurs in various forms and in different degrees It does not, as some would appear to conceive, arise suddenly fully developed—in the extreme form of the final stage of atrophic degeneration. There are cirrhoses and cirrhoses, and each has its successive stages of development. It is no doubt a subtle and secret malady—as a rule its existence is not suspected until it has reached such degree that grave symptoms have arisen to draw attention to its presence. But disease does not always proceed upon the lines laid down for it; is not rigidly bound by routine and red tape; is occasionally unorthodox; and cirrhosis now and again betrays itself at an earlier period of its course than the final stage prescribed for its disclosure. Symptoms, such as ascites, may anticipate the ordinary term and give opportunity for remedial treatment, so that in comparatively favourable although infrequent cases the patient may recover for a time of varying length—months or even years—and be afforded a respite of appreciable value.

It is my purpose to deal mainly with the three chief forms of cirrhosis and those with which ascites in its most pronounced and characteristic form is specially associated. It is on those distinguished as atrophic cirrhosis, hypertrophic cirrhosis, and syphilitic cirrhosis—that the main interest of the subject centres. Before proceeding further, however, it will be well to clear the ground by putting aside certain minor forms which lie outside the strict lines of the present inquiry. Amongst these are those conditions of fibrosis which are due to the obstruction of venous escape from the hepatic vein—as in mediastinal tumours, mediastinitis—or associated with general dropsy in mitral and tricuspid disease of the heart. The hepatic fibrosis which is set up by chronic venous congestion of this kind, is, as a rule, only slight cirrhosis, not usually sufficient in itself to interfere materially with nutrition, or to cause such serious portal obstruction as to give rise to abdominal dropsy. The peritoneal effusion is not great, and forms merely a part as it were of the general dropsy which follows the damming back of blood in the systemic venous system. Yet in some instances of this congestive cirrhosis we meet with an ascites as a distinct feature which is out of all proportion to the effusion elsewhere—not merely a part of general dropsy, but a special effusion into the peritoneal cavity—a true ascites due to added difficulty in the portal area; the systemic obstruction, insufficient alone to produce a general dropsy, reinforced by the *hepatic* obstruction causing *peritoneal* dropsy. I wish to draw attention to this because it has, I think, an important bearing upon certain cases of hypertrophic cirrhosis of which I have to speak later. The condition of pure cardiac cirrhosis considerable enough to produce ascites is shown in the accompanying reproduction of a drawing (see Fig. 1) of a section from a case under the care of Dr. Penrose, to whom I am indebted for permission to use it. The great trio of representative hepatic fibroses, which have been distinguished as atrophic cirrhosis, hypertrophic cirrhosis, and syphilitic cirrhosis, all marked by the increased formation of fibrous tissue in the structure of the liver, in their perfect type differ in clinical character, course, and pathological anatomy each from the other.

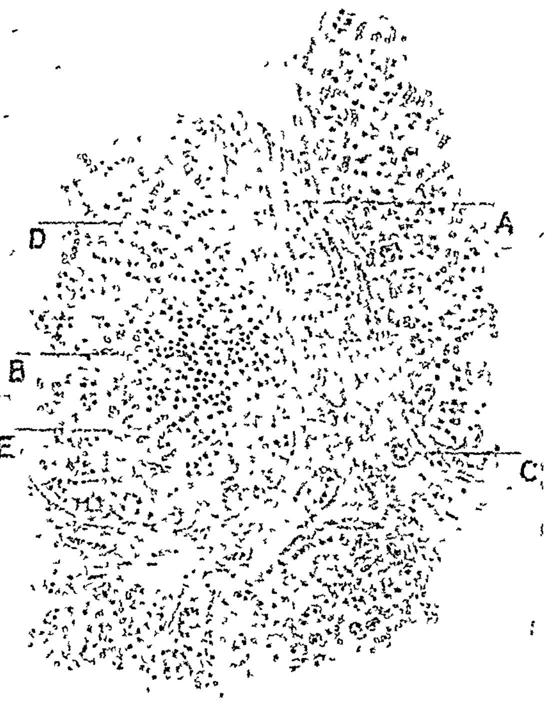
Although these things are familiar to all you will pardon me perhaps if, for the sake of greater clearness, I enumerate briefly the special characters which have been generally regarded as distinctive of each of the three cirrhoses.

---

[1] Lectures II. and III. will be delivered on April 3rd and 5th, 1900, respectively.

1. In atrophic cirrhosis the fibrous invasion is described as spreading along the main branches of the interstitial tree, embracing groups of lobules and compressing them, and thus causing atrophy and destruction of cells. The new fibrous growth between the enclosed groups of lobules contracts, and drawing in the surface at these points causes hobnailing of the surface and shrinkage of the whole organ, so that it is much smaller than normal, decreased in weight, tough, and hard. Amongst the clinical features which are laid down as characteristic of atrophic cirrhosis as contrasted with other forms are signs of portal obstruction, evidenced by the frequency of ascites and the occurrence of hæmorrhage from the stomach and bowels, the rarity of jaundice, the short course of the disease after it can be recognised, its inevitable fatality, and that it is almost invariably set up by chronic alcoholic irritation—atrophic multilobular cirrhosis or hobnail liver.

FIG. 1.



Hypertrophic cirrhosis of the liver due to long venous congestion from tricuspid incompetence A, Coarse fibrosis. B, Commencing fibrosis. C, Pseudo ducts D, Blood. E, Liver substance showing fatty change.

2. In the second form of cirrhosis—the hypertrophic form—described by Hanot as "biliary cirrhosis"—the liver condition is stated to be characterised by increase in size and weight. The fibrosis which invades the interstitial tree affects the smaller twigs rather than the main branches, embracing single lobules, and even single cells, instead of groups of lobules, accompanied, moreover, by a curious development of biliary canaliculi at the periphery of the lobule, due either to the formation of new ductules there or to the exposure of existing ones by denudation through the destruction of hepatic cells. In this form the liver is greatly enlarged, it is hard, smooth of surface, or only slightly granular—hypertrophic monolobular ciliary *cirrhosis.*

The clinical aspect of hypertrophic cirrhosis as laid down by authority is characterised by features which contrast sharply with those of the atrophic form. Ascites is described as entirely absent, or, if present, so slight as to be comparatively unimportant, while jaundice on the contrary is said to be an almost invariable symptom and is often intense and persistent. Intermittent attacks of pain and pyrexia, enlargement of the spleen, and a liability to the supervention of acute symptoms, such as severe delirium, hæmorrhages, coma, and a chronic course of some years, are other signs which are said to distinguish hypertrophic cirrhosis. Its cause is involved in obscurity; a doubtful factor, in some instances supposed to be malarial, in some alcoholic, in some obstruction to ducts, is credited with setting up inflammation of the biliary canaliculi, which is regarded as the starting-point of the pathological change.

3 The third variety of cirrhosis—the syphilitic—is described as characterised by the presence of broad bands of fibrous tissue separating isolated masses of liver tissue and causing destruction of hepatic cells. The organ is often much deformed by the gradual contraction of these several fibrous bands giving it a lobulated appearance, its surface is marked by rounded bosses, often scarred and furrowed, or only slightly uneven; gummata may also be present in various stages. A hard liver, usually enlarged, sometimes contracted, with uneven, bossed, or slightly irregular surface.

The clinical features of this kind of cirrhosis closely resemble one or other of the preceding forms—in the early stage of enlargement the hypertrophic and in the later either the hypertrophic or atrophic alcoholic form. In one case there is jaundice but no ascites; in another there are both; in a third there is neither, but, as a rule, when advanced, ascites and *perihepatitis. There is another form of syphilitic* cirrhosis described as chiefly limited to the hereditary syphilis of childhood—a diffuse fibrosis, characterised microscopically by its immature, partly cellular, character, penetrating the lobules and even between the cells. The liver is greatly enlarged—clinically, jaundice, ascites, and emaciation are amongst the chief symptoms.

POINTS IN THE PATHOLOGY AND CLINICAL HISTORY OF THE CIRRHOSES NOT YET FINALLY DECIDED.

Although there is a tolerably consistent general agreement as to the main features of the morbid anatomy of cirrhosis there is still some confusion as to the relation of the different changes to clinical conditions; discrepancies of opinion on certain points of etiology; divergent views as to the symptoms and course of the disease in its different forms. Amongst the questions awaiting an accepted and final settlement are the following. Is atrophic cirrhosis—i.e., the contracted hobnail liver—always of alcoholic origin? Is the liver small from the first or is there an earlier stage in which it is enlarged, becoming contracted later? Or is atrophic cirrhosis merely a late stage of hypertrophic cirrhosis? Or is there an alcoholic cirrhosis in which the liver is hypertrophied and enlarged from first to last? Or is hypertrophic cirrhosis limited to the biliary cirrhosis of Hanot and Charcot of uncertain origin? Or it is even asked, Does the biliary form described by French authorities exist at all as a distinct entity? Again, is ascites practically limited to the atrophic form—almost unknown in the hypertrophic? and, on the other hand, is jaundice rare in atrophic cirrhosis—almost invariable in the hypertrophic form? Are the microscopic characters of monolobular cirrhosis, with hyperplasia of the bile-ducts, as described in the biliary hypertrophic cirrhosis of Hanot and Charcot, found only in cases which correspond to that clinical type? or are they met with in both atrophic and hypertrophic cirrhoses of alcoholic origin? The part played by alcohol, syphilis, and malaria in causation and their connexion with special types of affection; the incidence and significance of perihepatitis, the curability of ascites, the efficacy of paracentesis or its uselessness in the treatment of it, the possibility, not of curing cirrhosis, but of prolonging the life of the cirrhotic patient by this and other means, the conditions under which the course of cirrhosis can be favourably influenced in this way—are other points upon which there is a general agreement. It is to some of these questions that I shall endeavour to find an answer.

FACTORS IN THE CAUSATION.

Atrophic cirrhosis of the contracted hobnailed liver would appear to be almost invariably of alcoholic origin. It is said that malaria sometimes plays a part in its production, but the evidence of this is by no means conclusive. I have met with no instance of the kind; yet it is not intrinsically improbable that a disease like malarial fever which sets up such marked fibrosis of the spleen should also set up an analogous fibrosis of the liver. In those cases attributed to malarious influences, however, when the cirrhosis is of the contracted hobnailed variety, at all events it is probable that alcohol, an agent by no means inactive in malarial districts, is largely concerned in its production.

The Question of an Early Stage of Enlargement in the Atrophic Form.

Another question which has been much debated is, Is the liver enlarged in the early stage of atrophic cirrhosis? Is it first hypertrophied and subsequently diminished in size as fibrotic contraction proceeds? The older writers generally held that this was so occasionally but that it was exceptional. Murchison[2] expressed the opinion that it was a matter for further investigation whether, if a patient with enlarged liver survived long enough, the enlargement would be followed by cirrhotic contraction? In one case reported by him in which the liver was greatly enlarged from cirrhosis attributed to alcohol and malaria the organ was found to be of its natural size three years later. The patient was treated with mercury, however, and it is doubtful if the condition was one of simple alcoholic cirrhosis. The patient got well and the decrease of size ceased at the normal level.

Instances have been recorded by Dr. Frederick Taylor and others[3] in which the greatly enlarged liver of alcoholic cirrhosis has been observed to undergo contraction. I have watched a number of these cases of cirrhosis with enlargement for considerable periods—one for nearly 12 years, one for eight years, and one for two years. In the first there has been some slight decrease in size, but great enlargement is a characteristic feature still, and in no case have I observed the condition change from an enlarged to a small contracted liver. I think, however, that there is a stage of engorgement and congestive swelling in the atrophic cases before fibrotic contraction is fairly in process. We are all of us familiar with the enlarged liver of the drinker who has not developed any symptoms of actual cirrhosis. This, however, is quite distinct from the large, hard liver of hypertrophic cirrhosis, which does not merge into the atrophic form. Such contraction as that described in Dr. Taylor's case must at least be extremely rare. The hypertrophied liver does not regularly represent the early stage of the contracted form. The microscopic characters alone negative this—in the one the fibrosis multilobular almost invariably, in the other monolobular or a combination of the two. Hanot, indeed, recognised that hypertrophic cirrhosis of alcoholic origin was not merely an early stage of the atrophic form.[4]

The error of regarding the hypertrophic and atrophic condition as different stages of the same thing has probably arisen from its being observed that in some cases the liver was large and that in others it was small; and since a permanent hypertrophy was supposed to be limited to Hanot's biliary form the inference was too hastily drawn that in alcoholic cirrhosis the large and small were connected and merely different stages of the same affection. They are distinct varieties, rather than different stages of alcoholic cirrhosis.

Ascites in Atrophic Cirrhosis—its Significant Viability in Atrophic Cirrhosis

In the next place, Is the occurrence of ascites a special feature of atrophic cirrhosis and practically limited to the final stage of it? and is it as rare in the hypertrophic form as it is common in the atrophic? There can be no doubt as to the frequency of ascites in atrophic cirrhosis. In 23 consecutive cases of fatal cirrhosis at St. Mary's Hospital in which the liver was small (under 60 ounces) ascites was present in 17 cases and absent in six only. Nor can there be any question of its grave significance in the majority of cases. It indicates generally that the disease has progressed towards its end—that the collateral circulation established has become inadequate to the full relief of the obstructed portal circulation and that the destruction of liver tissue, advancing usually *pari passu*, has reached the limit of viability. As a rule, but by no means invariably, the patient has only a few months to live; now and again, however, the months are extended to a year or two. As a matter of fact, the supervention of marked jaundice in atrophic cirrhosis is of more immediately fatal augury than the appearance of ascites. There are cases of atrophic cirrhosis in which ascites supervenes before the final stage, when sufficient glandular structure still remains intact and functionally effective to carry on life, and the obstruction to the portal system is not yet so great as to be past compensation by collateral channels, so that partial recovery may take place for a time.

The stage of the liver change at which such survival for a time, after the advent of ascites, is possible, is illustrated by the case of a woman admitted to St. Mary's Hospital for hæmatemesis and ascites in October, 1891. She was a confirmed spirit drinker. She was tapped three times at intervals and recovered her general health sufficiently to return to her usual home life, but came into hospital more than a year later with acute bronchitis from which she died. Post mortem the liver was found to be moderately hobnailed, small, but microscopically a large portion of liver tissue, calculated at about one-half, was found to be normal and presumably effective. Her condition, although vulnerable, was still viable under favourable circumstances. I might adduce a number of other examples which show in like manner that the occurrence of ascites in atrophic cirrhosis is not always such sentence of immediate death as is commonly inferred. This evidence will, however, be brought forward more appropriately when I come to speak of prognosis.

The Occurrence of Jaundice in Atrophic Cirrhosis.

In the standard descriptions of the symptoms pertaining to atrophic cirrhosis a point is made of the fact that although a slight icteric tint may be present, marked jaundice is conspicuously absent as compared with its almost invariable presence in the hypertrophic form. Here, again, we have been misled by the assumption that hypertrophic cirrhosis usually corresponds with Hanot's special biliary form. The matter is of no great moment, but no such hard-and-fast line as to the occurrence of jaundice can be drawn. Jaundice of a marked character is not consistently absent in the small liver of alcoholism, and on the other hand it is by no means constantly present in the hypertrophic form; Murchison[5] observed that although decided jaundice is rarely met with in atrophic cirrhosis in the early stage it may occur in advanced stages and is then an ominous symptom. Dr. Foxwell,[6] as the result of his investigation of 67 cases, concludes that jaundice and cerebral symptoms are as common when the liver is small as when it is large. In 53 fatal cases of cirrhosis of all kinds at St. Mary's Hospital during the last ten years I find eight in which marked jaundice was observed. In four of these cases the liver was small and in four enlarged. The distinction between the two forms with regard to the occurrence of jaundice should be, that whilst it is met with pretty equally in both forms, it occurs at an earlier stage in the hypertrophic than in the atrophic condition, in which latter it is often indicative of the approach of a fatal termination.

The Character of the Fibrosis in Atrophic Cirrhosis.

Another question of some interest in connexion with atrophic cirrhosis is whether the fibrosis is always of the coarse multilobular kind, affecting the main branches of the interstitial tree, or whether the finer interlobular variety, which is undoubtedly most characteristic of the hypertrophic form, is found in the small contracted liver also. In the 53 cases adduced the liver was specially examined microscopically in 18 In one only of the distinctly contracted specimens was the fibrosis diffuse; in the rest it was coarse and multilobular In a few instances a small amount of finer fibrosis was observed invading the lobules.

The Association of Atrophic Cirrhosis and Bright's Disease.

A certain amount of interstitial change is found in the kidneys in a large proportion of cases (about one half) of alcoholic cirrhosis In most it is not extreme; and this fibrosis of the kidney is to be regarded as a result of alcoholism—just as is the fibrosis of the liver—the kidney being affected usually in minor degree. In some cases the interstitial nephritis is advanced and, associated with the Bright's disease, a special form of cirrhotic atrophy is occasionally found which has been more particularly described by Dr. C. H. Fagge and Dr Hale White. In this the liver is greatly contracted, its substance is atrophied, but the connective tissue is not always greatly increased. The capsule is much thickened, and there are also extensive perihepatitis and associated adhesive peritonitis and ascites, which are attributed chiefly to the perihepatitis and chronic peritonitis. This condition of perihepatitis and chronic peritonitis is well exemplified by a case that was under my care in 1896.

---

[2] Diseases of the Liver, second edition, p 140

[3] Guy's Hospital Reports, 1883, vol xlv., p 310

[4] Hanot and Gilbert: Bulletin de la Société Médicale des Hôpitaux, 1893, vol clxvi.

[5] Diseases of the Liver, second edition, p. 123

[6] Birmingham Medical Review, vol. i, 1896.

A woman, aged 50 years, had been a patient at intervals for the previous 12 months for ascites and had been tapped nine times. The last operation proved fatal owing to septic peritonitis. The stomach and intestines were thickened and adherent from old peritoneal inflammation of which the hepatic region was the chief centre. The liver was small, surrounded by a thick, false membrane, moderately cirrhosed, weighing 40 ounces. The kidneys were extremely granular.

This same condition of perihepatitis and dry peritonitis with adhesions occurs, however, in atrophic cirrhosis apart from Bright's disease. In one case, that of a patient (Dec. 2nd, 1898) who was tapped 11 times, there were perihepatitis, chronic peritoneal adhesions, perisplenitis, and thickening of the intestines with advanced cirrhosis; the liver weighed only 33 ounces, but the kidneys were normal.

In another still more extreme case under my care, that of a woman, aged 39 years, a confirmed gin drinker, this condition of perihepatitis and associated adhesive peritonitis was equally marked. She was admitted first in July, 1893, for ascites and peripheral neuritis; she was tapped twice, discharged relieved, and admitted again six months later for the same trouble; she was again tapped twice and discharged relieved; she was admitted a third time one year later and again tapped. On this occasion, however, suppurative peritonitis followed, apparently from fouling of the drainage tube; which was accidentally displaced and the case ended fatally. The post-mortem examination revealed extreme perihepatitis with thickening and adhesion of adjacent intestines and advanced cirrhosis of the liver, which was typically hobnailed and which weighed only 18 ounces. The kidneys were not affected.

In the 53 cases mentioned there are 15 in which extensive perihepatitis is recorded, usually with extension of peritonitis and adhesions to neighbouring structures, notably the diaphragm, stomach, and transverse colon. Of these 15 four were syphilitic; in one of these parenchymatous nephritis was present; in the remaining three the kidneys were normal. Of the 11 others, in four the kidneys were more or less granular, in three they were enlarged, and in five they were normal. In 22 cases of the 53 the perihepatitis was slight or not recorded. In four cases there was acute peritonitis. Of these the kidneys were fibrosed in three; in one (which was syphilitic) there was cloudy swelling. In five of the 53 cases there was some chronic peritonitis other than perihepatitis. Of these in one the kidneys were granular, in two they were large and tough, and in two they were not affected. In six of the last cases examined in which the condition was specially noted it is stated positively that there was no peritonitis In five of these the kidneys were cirrhotic; in one they were congested only.

Since therefore in these cases of cirrhosis with extensive perihepatitis and adhesive peritonitis of neighbouring structures the kidneys are not constantly affected and, on the other hand, when the kidneys are granular there may be no peritonitis, the presumption is that the cirrhosis, perihepatitis, and Bright's disease are probably due to the same cause—chronic alcoholic poisoning. As I shall show later the most marked instances of perihepatitis and related peritonitis which I have seen have been in connexion with syphilitic cirrhosis, in which connexion Murchison also observed it.

HYPERTROPHIC CIRRHOSIS.

The first question which arises with respect to cirrhosis with enlargement of the liver, is whether the affection described by Hanot and Charcot as a biliary cirrhosis of uncertain origin is to be accepted as the representative form of hypertrophic cirrhosis, or if it exists even as a separate entity or is merely a modified form of alcoholic cirrhosis. It will be remembered that hypertrophic cirrhosis is described as having a special morbid anatomy and a distinct clinical history and course which give it a marked individuality of its own. I think that we have been unduly biased by the classical description of Hanot, as we were formerly by Laennec's description of the atrophic form, and have had no eyes to see obvious facts. Just as deference to Laennec's authority led to the too ready assumption that an enlarged fibrosed liver must be an early stage of the atrophic form, so, when the existence of a distinct hypertrophic condition, always hypertrophic, and of special character was demonstrated it was assumed that every cirrhosis with enlargement must conform to this special variety. It is surprising how a definite observation of this kind, stated with authority, holds sway, and its general application long remains unquestioned, as all-comprehensive, without further examination or inquiry. Subsequent research, however, has proved that many of the features which were considered to be distinctive of the so-called biliary cirrhosis are not peculiar to that exact type, but occur also in cirrhoses which in other points do not conform to Hanot's description.

THE CHARACTER OF THE FIBROSIS.

Thus, for example, there is now no question that a fine fibrosis, monolobular or intralobular in arrangement, occurs in conjunction with hypertrophy of the liver in cirrhosis due to alcohol; and this diffuse fibrosis appears also to be met with in the cirrhosis attributed to malaria which is usually hypertrophic and in pure cardiac cirrhosis.[7] It is also established, I think, without question that the appearance of hyperplasia of bile ducts in the highly nucleated tissue between the lobules is not met with in cirrhosis with the clinical characters of Hanot's form alone. Dr. R. Saundby[8] has shown that this appearance of new canaliculi occurs in cases of ordinary cirrhosis, and also that it is not always present in any marked degree in cases presenting the clinical characters of biliary cirrhosis. Dr. Frederick Taylor has produced evidence of a like nature,[9] In a case of alcoholic cirrhosis with enlarged liver recently under my care this appearance was found in conjunction with a coarse fibrosis and in another instance a fine fibrosis was observed in a case of alcoholic cirrhosis without jaundice in which the liver was not enlarged, weighing 53 ounces. This same formation of so-called biliary canaliculi is also seen in the simple fibrosis of heart disease as shown in the illustration (see Fig. 1). The interstitial fibrosis most commonly met with in cirrhosis in which the liver is enlarged is a combination of coarse multilobular and fine monolobular development. The microscopic distinction therefore does not hold.

THE OCCURRENCE OF JAUNDICE.

In the next place, the presence of jaundice is by no means a constant or, according to my experience, a very common symptom of hypertrophic cirrhosis. In 17 consecutive fatal cases of cirrhosis with enlarged liver, varying in weight from 60 to 134 ounces, I find jaundice noted as a marked symptom in four only; in six it is described as slight, and in the remaining seven none is recorded. Again, out of 27 more cases of cirrhosis with enlarged liver in which the patients have either recovered or have been relieved or in which, if fatal, no post-mortem examination was made, jaundice was absent in 19 and present only in eight. In 10 cases of enlarged fibrous livers from different causes recorded by Murchison jaundice is mentioned as a symptom in four only, and, as noted before, Dr. Foxwell's investigation of 67 cases of cirrhosis yielded the conclusion that jaundice was as common when the liver was contracted as when it was enlarged.[10] It is clear, therefore, that jaundice is by no means a constant or characteristic symptom of hypertrophic cirrhosis generally; and, on the other hand, as we have seen before, jaundice in marked degree is by no means rare in the atrophic form.

ASCITES IN THE HYPERTROPHIC FORM.

Again, in the typical form of hypertrophic biliary cirrhosis the absence of ascites in any important degree is described as being as distinctive a feature as the presence of jaundice. This certainly does not hold good with regard to the hypertrophic cirrhosis which has come under my observation. In the 25 fatal cases of hypertrophic cirrhosis in which the liver weight varied between 60 and 134 ounces ascites was present in 16. In six which recovered more or less perfectly ascites was a prominent symptom in all but one. In the 10 cases of hypertrophic cirrhosis given by Murchison ascites was present in seven. Bristowe records one of alcoholic cirrhosis with great enlargement in which the patient was tapped 14 times for ascites. In the 67 cases of alcoholic cirrhosis recorded by Dr. Foxwell he found that ascites was as common when the liver was large as when it was small. The absence of ascites, therefore, is not a constant and typical negative symptom of cirrhosis when the liver is enlarged, any more than the presence of jaundice is a reliable sign or distinctive symptom of the hypertrophic form. It is, I think, probable that this impression of the frequency of the occurrence of ascites in contracted liver, and its absence in the enlarged liver, has arisen partly from the fact that atrophic cirrhosis escapes notice until ascites arises to draw attention to it. A liver smaller than natural is not obtrusive. When the liver is enlarged, however, it challenges recognition and is often discovered before ascites supervenes. *Enlargement of the spleen, again, is not an especial feature* of hypertrophic cirrhosis. In the 53 cases which I have instanced it was enlarged in the great majority of alcoholic cirrhoses, both large and small; but the greatest size was reached in the syphilitic cases, in one of which it attained to 42½ ounces, or six times the normal weight.

---

[7] Davidson Hygiene and Diseases of Warm Climates.

[8] Transactions of the Pathological Society, 1879, p. 200.

[9] Guy's Hospital Reports, 1895, p. 65.

[10] Birmingham Medical Review, vol. 1, 1896.

PAIN AND PYREXIA; SUPERVENTION OF DELIRIUM, COMA, AND THE TYPHOID STATE.

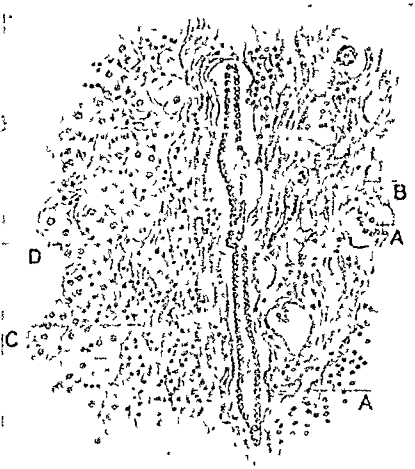
Another feature which is said to mark the course of biliary cirrhosis is the occurrence of attacks of pain and pyrexia. These symptoms are not, however, peculiar to cases of the kind. They are met with in atrophic cirrhosis,[11] in alcoholic hypertrophic cirrhosis without the characteris*tics of the biliary form, and notably in syphilitic cirrhosis.*[12] *Pain, tenderness, and pyrexia are, I imagine, merely* an indication of the supervention of perihepatitis. The charts show the pyrexia, coexisting with pain and tenderness, which mark the presence of perihepatitis in all forms of cirrhoses. Grave symptoms, such as delirium, the typhoid state, and coma, are not confined to hypertrophic cirrhosis of the so-called biliary type. They occur in hypertrophic cirrhosis of alcoholic origin and type and, as Murchison noted, and as I have seen, in atrophic cirrhosis also. These symptoms cannot therefore be regarded as distinctive of special forms of hypertrophic cirrhosis.

THE CHRONIC COURSE.

Lastly, the *course of the typical form of hypertrophic* cirrhosis is stated to be a chronic one of two, four, or six years, or more. It must be allowed that the cases which run a protracted course are those in which the liver is enlarged; they are as a rule more benign. This is, however, not invariable, and Dr Dreschfeld[13] has recently published a case of alcoholic hypertrophic cirrhosis which, while agreeing with Hanot's affection in many respects, differed in the presence of ascites, and in the short course of the disease. Chronicity then cannot be regarded as a constant character of hypertrophic cirrhosis.

It will be seen therefore that a cirrhosis in which the liver is greatly enlarged may fail to correspond in one case or other in nearly every particular with the classical type *for which we all look and so rarely find. Further, from* the time of Murchison downwards a number of cases of cirrhosis have been recorded by Saundby, Bristowe, Dreschfeld, Foxwell, and others in which, although the liver was greatly enlarged, the symptoms have been those usually ascribed to the contracted liver, rather than those attributed to so-called biliary cirrhosis. And in the majority of instances the cause has been traced to alcoholic intoxication. A number of like cases have come under my own observation, the details of some of which I shall giver later. For the present I may say that the hypertrophic cirrhosis which I have met with corresponds with the cirrhosis of Hanot chiefly in two respects—viz., in the smooth, hard enlargement of the liver, and that the fibrosis is usually diffuse and monolobular and sometimes partly multilobular. In one instance, however, in which the liver weighed 152 ounces the cirrhosis was coarse and multilobular, with much fatty deposit. Is it, therefore, to be inferred that no such special form of hypertrophic cirrhosis *as that described by Hanot and recognised by Charcot* actually exists? I think that we are not warranted in assuming this absolutely. In addition to the original cases described so graphically by the French writers other isolated instances have been observed now and again in this country and abroad which agree closely with the so called biliary type. For my part I have not, in spite of a close scrutiny for 16 years, met with a case which has exhibited in full completeness the typical presentment of the French authorities. In three instances only have I seen any close approximation to it. One of them occurred in a boy aged eight years who was admitted for jaundice, enlarged liver, and ascites, and who died from exhaustion and emaciation four years later. He had had repeated attacks of jaundice since birth. Post mortem a smooth large liver was found weighing 60 ounces, with fine diffuse fibrosis, abundant nuclear growth, and imperfectly formed fibrous tissue. There was extensive perihepatitis, and the vessels of the portal fissure were found to be matted together, the cystic and hepatic ducts being reduced to mere cords and quite impervious. In another example[14] in which the patient was admitted for abdominal pain and jaundice which had existed on and off for six years the liver was enlarged to the level of the umbilicus. The spleen was also enlarged and ascites was present. Post mortem the liver was slightly granular and it weighed 80 ounces. The common bile duct was found to be enormously dilated from blockage by two large gall-stones. Microscopically the fibrosis was seen to be fine, with some coarse strands in which pseudo ducts were conspicuous (see Fig. 2).

FIG. 2.



Diffuse hypertrophic cirrhosis of the liver associated with obstruction of the common bile-duct by gall stones. A, Pseudo duct. B, Coarse fibrosis C, Fine fibrosis. D, Liver cells.

These two cases are especially interesting, because they correspond in most respects with results obtained experimentally by the ligature of the common duct in animals. They differ from Hanot's form chiefly in the existence of ascites and the occlusion of the duct. Cases of cirrhosis associated with gall-stones have been recorded by Dr. S Mackenzie,[15] Mr. D'Arcy Power,[16] and others. The fact remains, however, that in the majority of cases of obstructive jaundice, even when prolonged, no cirrhosis follows.

The third case was that of a man aged 42 years (Case 8, 1898), an indoor servant and heavy drinker, whose *face bore testimony to his habits,* who was admitted with deep jaundice of five weeks' duration, delirium, and pyrexia, and who died on the next day; there was no ascites Post mortem the liver was found to be greatly enlarged, weighing 114 ounces; it was smooth, bile stained, free from perihepatitis, and the *structure showed a fine fibrosis of* ill-formed nuclear fibrous tissue. Many of the hepatic cells were destroyed; the others were fatty. The kidneys were slightly granular and fatty. *Here again the disease was* not chronic or the jaundice of long standing, and the cause was alcoholic.

Although in view of the detailed description of such cases occurring in the experience of others it must be allowed that, clinically at all events, cirrhosis of that precise character does arise from time to time, it is certain that it is rare, at least in this country. It is, moreover, still doubtful whether these rare examples are entirely distinct from hypertrophic cirrhosis of alcoholic origin or are merely an exceptional variety of it. At all events, the representative fibrosis of the liver with enlargement is, in the vast majority of cases, a hypertrophic cirrhosis set up by alcohol equally with the atrophic form, in other instances by syphilis, and not the rare condition described by the French pathologists.

---

[11] Case 22, 1894; Case 10, 1898

[12] O. H., 1899

[13] THE LANCET, Nov 18th, 1899, p 1377

[14] E. W., December, 1893.

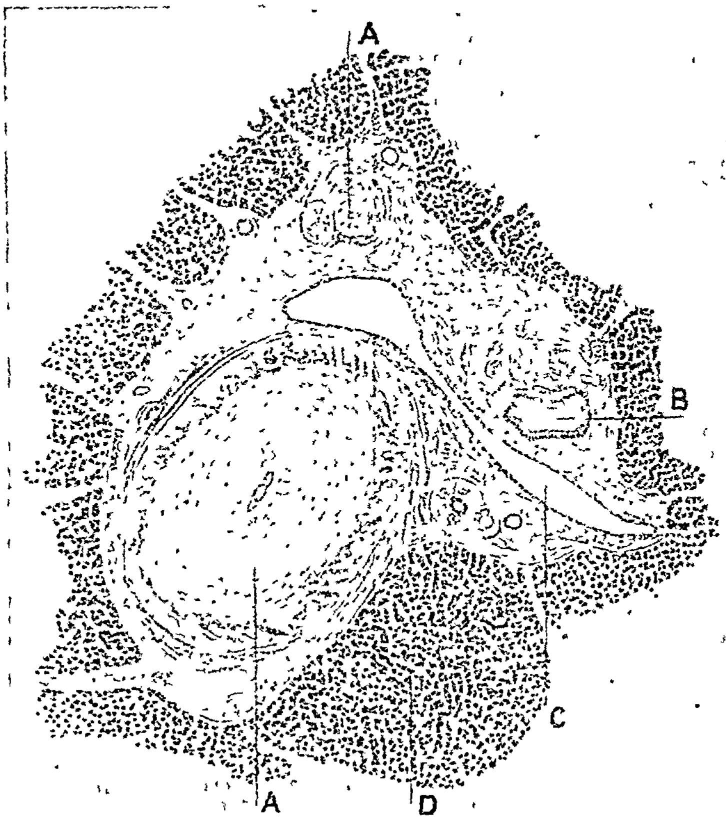
[15] Transactions of the Pathological Society of London, 1889.

[16] Ibid., 1890.

SYPHILITIC CIRRHOSIS.

The points at issue with regard to syphilitic cirrhosis are comparatively few. The ordinary form which results from acquired syphilis in the tertiary stage has usually well-marked characteristics when the liver is examined after death, although its identification during life is often extremely difficult and mistakes in diagnosis are frequent with regard to it. In a typical instance the gummata in various stages, the massive wedges penetrating the liver substance at various points, the scarring and puckering and lobulation, and the extensive perihepatitis are striking and unmistakeable morbid appearances. Microscopically may be seen the gummatous cellular growth developing into fibrous tissue or undergoing caseation. In the specimen represented here, for which I am indebted to my friend Dr. Poynton, there is seen also well-marked endarteritis obliterans—a condition well known as the result of tertiary syphilis elsewhere, but, as far as I am aware, not observed directly in connexion with hepatic syphilis, until it was noted in this case by Mr. Plimmer, our able pathologist at St Mary's Hospital (see Figs. 3 and 4). In a paper by Hanot and Chauffard[17] this condition of arteritis is described, and drawings of it given, as met with in hypertrophic cirrhosis with pigmentation and diabetes, to which latter affection the cirrhosis was regarded as secondary. In one case, however, scarring is mentioned, a condition which is very suggestive of syphilitic affection. In the second case, it is said, there was no history of syphilis and the surface of the liver was flat and finely granular.

FIG. 3.



Syphilitic cirrhosis of the liver showing endarteritis obliterans of the hepatic artery in a portal vein. A, Endarteritis obliterans in various stages. B, Bile-duct C, Portal vein D, Liver substance.

One point which is not sufficiently recognised and which I would emphasise is that the morbid changes in syphilitic cirrhosis may exist in every degree. Occasionally they are so slight as scarcely to alter the normal appearance of the organ; a few small scars, some thickening of the hepatic capsule, or slight perihepatitis, may be the only morbid features perceptible externally on post-mortem examination. This fact is of great importance in its bearing upon diagnosis. There may be no suspicious history, nothing whatever distinctive in the physical signs made out during life. The condition of the liver, as ascertained by examination of the abdomen, may correspond exactly with that of an ordinary alcoholic cirrhosis. Another feature of syphilitic cirrhosis is the degree of perihepatitis and local peritonitis in the region of the liver. This condition of general perihepatitis with extension to neighbouring structures is far more marked in connexion with syphilitic disease than in any other condition. The four most notable examples which I have met with, as I stated previously, have been in this relation.[18] In these the kidneys were normal except in one instance when there was parenchymatous nephritis. In the most extreme of all[19] the liver was studded with gummata in various stages, the capsule being covered with thick coating and adherent to the diaphragm, the abdominal wall, and the transverse colon. The stomach and spleen were bound down by adhesions and the liver and adjacent viscera were glued together in an inseparable mass. The liver was clearly the centre from which all the neighbouring peritonitis had spread. The kidneys were absolutely healthy, yet there was no history of syphilis. The man was married and had healthy children.

---

[17] Revue de Medecine, 1882. "Cirrhose Hypertrophique pigmentaire dans le diabète."

[18] A. B., liver weight 134 ounces; C. D., liver weight 60 ounces; E. F., liver weight 88 ounces, G. H., liver weight 58 ounces.

[19] G. H.

This point of the great development of perihepatitis and local peritonitis in many cases of syphilitic cirrhosis has been imperfectly recognised. Perihepatitis has been usually regarded as more especially associated with other forms. Murchison, however, observed that it was met with in marked degree in syphilitic cirrhosis and in connexion with long-standing disease of the heart. He described it as accompanied by fibrous bands extending from the capsule into the liver structure and causing atrophy. The fact of the association of extensive perihepatitis and local peritonitis with syphilitic cirrhosis is of considerable clinical importance. There may be, as I have observed, no history of syphilis in these cases. In 10 cases of which I have notes—eight of which were fatal, the gummata being found post mortem—in two only was there any definite history of syphilis; in two others syphilitic scars were found during life, but distinctive physical signs in the shape of irregularities or bossing of the surface were found in three only. The usual condition disclosed by physical examination of the abdomen was a large liver, smooth and slightly irregular and hard, or sometimes simply that the liver was small and contracted.

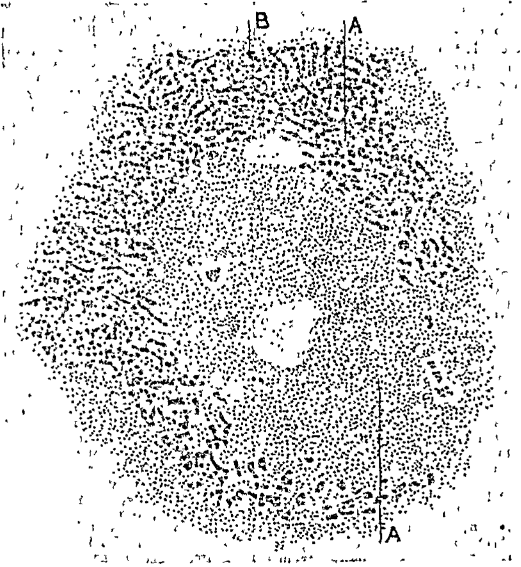
The syphilitic liver, then, is liable to be mistaken clinically, and as a matter of fact is, I believe, frequently mistaken, for the alcoholic liver, an error which in view of the remedial power of anti-syphilitic remedies may be a disastrous one. Let me repeat that one helpful symptom in such cases is the existence of signs of perihepatitis, pain, and tenderness over the liver, and pyrexia. When these exist in marked degree and are at all persistent they afford a presumption in favour of the syphilitic nature of the affection. The charts of temperature afford valuable indications of the existence of perihepatitis. Perihepatitis does occur in pure alcoholic cases, and in connexion with Bright's disease, but, according to my observation, it is not so constant or so extreme as in syphilitic cirrhosis.

Another undetermined question is as to the specific cirrhosis which arises in young children as a result of congenital syphilis. I have not met with any instance of gummatous development such as is found in the acquired disease, although it has been described by Ziegler and others. The smooth liver greatly enlarged offers no points of distinction from a liver enlarged from other causes, and the diagnosis must depend upon the history or the existence of other signs of the disease.

Post mortem the microscope reveals a very distinct form of cellular infiltration and early fibrosis which spreads through the lobule between the cells in a diffuse and characteristic manner. There may be no thickening of the capsule or external change perceptible.

In eight cases of cirrhosis in children between five and nine years of age of which I have careful records there was a reliable history of congenital syphilis in two only. In two there was one of alcoholism and in the remaining four no cause could be made out. In connexion with this subject of cirrhosis in children there are many interesting points—such as the effect of congenital obliteration or stenosis of the bile-ducts as recorded by Dr. John Thomson,[20] the question of hereditary tendency as noted by Dr. Howard[21] and Dr. Finlayson,[22] and the connexion of this with nervous lesions. I think it is probable that congenital syphilis will furnish the key to the relation of these several conditions. With these matters, however, it is beside my present purpose to deal.

FIG. 4



Syphilitic cirrhosis showing the early stage of a gumma. A, Small cell infiltration. B, Liver cells.

---

[20] Congenital Obliteration of the Bile Ducts, 1892.

[21] *International Journal of Medical Science*, 1887

[22] Glasgow Hospital Reports, 1899

The Goulstonian Lectures

ON

THE TYPHOID BACILLUS AND TYPHOID FEVER.

Delivered before the Royal College of Physicians of London on March 20th, 22nd, and 27th, 1900,

BY P. HORTON-SMITH, M.A., M.D. CANTAB., F.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO THE BROMPTON HOSPITAL FOR CONSUMPTION AND TO THE METROPOLITAN HOSPITAL, ASSISTANT MEDICAL TUTOR TO ST BARTHOLOMEW'S HOSPITAL.

LECTURE II.[1]

Delivered on March 22nd.

MR. PRESIDENT AND GENTLEMEN,—In my first lecture I discussed the bacteriology of an ordinary case of typhoid fever. To-day I desire to consider abnormal varieties of typhoid infection, and the relation which the bacillus bears to the chief complications and sequelæ of the disease. Before, however, passing to this subject it will be well to turn our attention for a short time to the question of relapses, for recent work enables us to offer at least a partial explanation of this interesting condition.

RELAPSES IN TYPHOID FEVER.

In the first place it must be allowed that a relapse is nothing less than a complete renewal of the primary disease. As a rule the whole cycle of changes met with in the first attack is again passed through. Thus fresh intestinal lesions are produced and a second generalisation of the bacilli occurs, as evidenced by the recurrence of the typical eruption. Indeed, the only difference which can be noticed between the attack and the relapse is that, as a rule, the duration of the latter is somewhat less than that of the former, though even in this respect exceptions are by no means uncommon. How, then, are we to explain this complete re-infection, at a time, too, when the protection acquired by the former attack has already begun to manifest itself? The experiments of Chantemesse and Widal and of Sanarelli throw light on the matter.

It is well known that the typhoid bacillus, whether isolated from the tissues after death or obtained from the stools or urine during life, has, for animals at least, but a low degree of virulence. If injected in large quantities into the peritoneal cavity of a guinea-pig it is capable of causing death; subcutaneously, however, as a rule it is without effect. Chantemesse and Widal,[2] however, show that if in addition to injecting the bacillus subcutaneously the toxines of the streptococcus pyogenes are injected intra-peritoneally, then the virulence of the typhoid bacillus becomes greatly increased, so that after several such passages the typhoid bacillus finally becomes so pathogenic that even by itself, without the aid of streptococcus toxine, a small quantity injected under the skin is sufficient to cause death within 24 hours from general typhoid septicæmia.

The toxines of the streptococcus, however, are not the only soluble poisons which, by diminishing the resistance of the organism, allow of the rapid growth and increased virulence of the typhoid bacillus. The toxines of bacillus coli and bacillus proteus vulgaris may be used instead, as Sanarelli[3] has shown. Now it is noticeable that these very micro-organisms, the toxines of which when absorbed so assist the growth and further the generalisation of the typhoid bacillus, are normal inhabitants of the human intestine. In addition, it is known that during typhoid fever they themselves, and especially the bacillus coli, rapidly increase in number, while their virulence becomes greater.[4] Lastly, in many cases of the disease their toxines *are* absorbed, for, as I shall show, it is by no means uncommon to find that the blood of a typhoid patient is also agglutinated by the bacillus enteritidis, while Lorrain Smith[5] has shown the same to be true for other varieties of bacillus coli, evidently proving that the toxines of these bacilli have been absorbed into the system.

It is evident, then, that these facts offer us a clue whereby to explain the occurrence of relapses. If in a given case at the end of the attack the immunising properties have been as yet but poorly acquired, only just in sufficient degree to destroy the majority of the bacilli but leaving others intact, and if under these circumstances a further absorption of toxines from the alimentary canal should take place, then we shall have all the conditions which will enable the typhoid bacilli to acquire fresh virulence and to re-invade the organism.

Further, the experiments of Sanarelli,[6] if they should be fully confirmed, seem to lift this view from the domain of theory into that of fact. Thus Sanarelli showed that it is quite easy to produce experimentally a relapse of the acute septicæmic typhoid fever from which animals in general suffer. All that is necessary is to inject into a guinea-pig at first a dose not quite sufficient to be fatal. The animal recovers, but for some time afterwards attenuated typhoid bacilli may still be found in the purulent focus at the seat of inoculation. If, now, in this condition a dose of toxines, either of bacillus coli or of bacillus proteus vulgaris, be injected into the peritoneum, the typhoid bacilli at once acquire fresh virulence, the organism is invaded afresh, and the animal dies from acute experimental typhoid fever. More important still, on two occasions he was able to determine such a relapse by injecting small quantities of the toxine into the stomach and so into the intestines, thus exactly reproducing the conditions occurring in the human [illegible]

It would seem, then, probable that auto-i[illegible] a very impor[illegible]t part in the causation [illegible] sideration [illegible]marked, in favour of [illegible] ment of the [illegible]sease and one which a[illegible] wisdom of the common practice of withh[illegible] some considerable time after the norm[illegible] been reached. If this be given too early, b[illegible] juices have recovered their full power, marke[illegible] changes would be likely to occur in the undigested [illegible]nd thus the conditions favouring a relapse would arise.

Is, however, the rôle played by auto-intoxication [illegible]nited to its connexion with relapses? May it not be of [illegible]al or even greater importance, as indeed Chantemesse and Widal suggest, in determining the primary disease? The knowledge which we now possess concerning the enormous numbers of bacilli which may be excreted from a patient suffering from typhoid fever renders it more and more evident that the typhoid bacillus is not the only factor necessary for the production of typhoid fever. Were it so no one should escape, least of all those who work at the disease. To originate the fever other factors must cooperate after the introduction of the bacillus. The gastric juice has no power to destroy the micro-organism and it therefore always passes into the intestine, and yet typhoid fever, as we see in cases of epidemics, by no means always results. May it not be that, in some cases at least, disease only follows when as the result of some trifling derangement of the bowel the soil has already been prepared by the absorption of toxic products or, in other words, by auto-intoxication?

TYPHOID FEVER WITHOUT INTESTINAL LESIONS.

In my first lecture, after discussing the relation which the bacillus bore to an ordinary case of typhoid fever, I showed that the evidence pointed convincingly to the view that the disease was really of the nature of a septicæmia—modified septicæmia, it is true, in that in nearly all cases the primary lesion is in a definite situation, but septicæmia none the less, in that in all cases the generalisation of the bacilli through the blood takes place, with the subsequent growth of the organism in the most diverse organs of the body. Closely connected with this more modern view of the disease is a question which has lately been exciting much interest, whether, namely, it is possible to have typhoid fever without intestinal lesions—to have, in fact, a typhoid septicæmia without a marked primary focus of disease. Evidently, from what has been said, there would seem to be nothing to prevent such a variety of the disease occurring. Indeed, we might go further and say even that we might expect it. The question is one which can only be settled finally by bacteriology, but it should not be forgotten that in reality this is no new idea It is, indeed, as old as our knowledge of typhoid fever itself Thus Louis[7] records among his cases one (Observation 52) in which, while clinically the case seemed undoubtedly one of typhoid fever, yet post mortem there were no intestinal lesions It is true that he himself refused to believe that this and similar cases were really typhoid fever, but such was not the opinion of all his contemporaries. Since the time of Louis, also, many similar cases have been reported from time to time, and of late years a certain number with bacteriological examinations. In all some 18 of the latter have now been described. Of these a considerable number, especially those of earlier date, have to be excluded for our present purpose, since the tests applied to the isolated bacilli were not sufficiently stringent But even if we thus eliminate the cases of Vaillard,[8] Karlinski,[9] Vincent,[10] Beatty,[11] Pick,[12] Ohiari and Kraus,[13] we are still left with others, which are almost certainly representatives of this group, such as, for example, those described by Du Cazal,[14] by Dr. Cheadle,[15] by Dr. Bryant,[16] by Flexner and Harris,[17] and finally by Lartigau.[18] In these cases the patients, after having suffered during life from a disease resembling typhoid fever, presented no intestinal lesions post mortem, but the typhoid bacillus was recovered from many of their organs and often from the blood of the heart as well. *It is true that in none of* these cases was the reaction of the isolated bacillus to high dilutions of typhoid serum investigated. Dilutions of 1 in 20, of 1 in 50, and of 1 in 100 have been made by different observers, but not higher, and a possible source of error has thereby been introduced. Still, remembering that we are not dealing with a single case but with a series of cases all of which present more or less similar characters, remembering, too, that during life these patients have often presented the typical symptoms of typhoid fever, including the presence of rose spots, and bearing in mind that some at least of them have evidently been exposed to typhoid infection, other members of the family being ill with typhoid fever at the same time, there cannot be any moral doubt that the bacilli found were in truth the typhoid bacilli and that this variety of typhoid fever does really exist That it is uncommon is proved by the fact that at St. Bartholomew's Hospital no case has occurred during the last three years, though Widal examinations have been made in all suspicious cases as a matter of routine, and therefore such a case if it had occurred could not have been overlooked.

---

[1] Lecture I. was published in THE LANCET of March 24th, 1900

[2] Annales de l'Institut Pasteur, 1892, p 759

[3] Ibid., p 725

[4] Ibid , 1894, p 214

[5] Brit. Med Jour., Jan 28th, 1899

[6] Annales de l'Institut Pasteur, 1892, p 741.

It is interesting to speculate on the entry of the bacillus in these cases. In this connexion an important fact strikes one on reading the records of the post mortem examinations It is that, though in all cases the intestine is described as being quite natural, yet in nearly all we find that the mesenteric glands were affected, being for the most part enlarged, swollen, and reddened, very much indeed as we find them in ordinary cases of typhoid fever. This would seem to suggest strongly that in these cases also the bacilli commonly enter the body through the intestine, passing, however, directly through the intestinal wall into the lymphatic glands, where they germinate and whence they become generalised as usual The passage of microorganisms such as bacillus coli through an apparently healthy intestinal wall is by no means uncommon There is no reason, therefore, to doubt that a similar passage might be sometimes effected by the typhoid bacillus

There would seem, then, to be the strongest evidence in favour of the view that sometimes, though rarely, the typhoid bacillus may pass into the blood and become generalised in the organs, just as occurs in ordinary typhoid fever, but without first causing any intestinal disease, even though, as is probable, the bacilli enter through the intestinal tract.

TYPHOID FEVER IN THE FŒTUS

In connexion with this class of cases it is interesting to notice that a very similar form of the disease is by no means uncommon in the fœtus. Indeed, fœtal typhoid fever of the primary septicæmic type is a frequent, though by no means the only, cause of the abortion which so commonly occurs during the disease. Experimentally it was shown many years ago by Chantemesse and Widal[19] that the placenta formed no bar to the typhoid bacillus, and at the present time a considerable number of cases are on record in which the micro organism has been found in the human fœtus. One of the most interesting of these is the following, observed by Dr. Andrewes, in the case of a fœtus from a woman suffering from typhoid fever, who aborted in the fourth month during the epidemic at King's Lynn. The typhoid bacillus in this instance was found in pure culture in the heart's blood and also in the spleen. Morphologically (including flagella) and culturally in all respects it resembled the typhoid bacillus while its agglutinable qualities were so marked that for a time it was used as the laboratory standard culture.

It should be noted, too, that in these cases, though the bacillus may be found in the blood and in many of the internal organs, the intestine is always natural (Etienne,[20] Freund and Lévy,[21] and Janiszewski[22]), and this indeed is what we might expect, seeing that the bacilli having broken through the placental barrier pass directly into the circulating blood without coming first in contact with the alimentary canal Typhoid fever, then, in the fœtus is an example of a primary typhoid septicæmia.

LOCAL TYPHOID INFECTION.

We have seen, then, firstly that ordinary typhoid fever consists in a primary intestinal lesion followed by a secondary generalisation of the bacilli, and, secondly, that cases may occur, very similar, clinically, in which the septicæmia is present but in which the primary focus of disease is wanting. We may now ask ourselves whether it is possible for the typhoid bacillus to produce merely a local disease without there being any symptom of general infection at all. Analogy would lead us to believe that this might be possible. Thus the pneumococcus is the specific cause of acute pneumonia, but sometimes it may produce a fatal septicæmia, and, again, in other cases it may give rise to merely a local disease such as an otitis media. As regards the first two lesions, therefore, it presents an almost exact parallel with the typhoid bacillus, and we have now to ask whether the parallel may not be drawn yet closer by an agreement on the third point. Experimentally in the lower animals there is no doubt that this is the case Thus it has been shown by Dmochowski and Janowski[23] that in dogs and guinea-pigs, if a subcutaneous injection of typhoid bacilli be made under certain conditions no general disease follows but merely a localised abscess We might, therefore, expect that occasionally in man a similar result might occur if from any cause the general resistance of the organism to the typhoid bacillus be increased. Two cases at least of this kind have been described and probably a third, two being examples of cholecystitis and one of cystitis. The first case to which I may refer is that of Dr. Cushing[24] The patient was a woman, aged 26 years, who, with the exception of an attack of pneumonia 10 years before, had never had any illness whatever, the history being perfectly clear on this point. She was admitted into the hospital with pain in the right hypochondrium which had attacked her five days before and had continued since Her temperature was 101° F., but it fell the next day to normal and remained down. The total duration of the fever therefore could not have been more than seven days at the most. The pain soon left her and a tumour, which proved to be the enlarged gall-bladder, was then felt. A fortnight later, the patient continuing well, abdominal section was performed and the gall-bladder was found enlarged, inflamed, and containing 15 stones The typhoid bacillus was found in pure culture in the contents of the gall-bladder. The patient made a rapid recovery. Here then we have a case of typhoidal cholelithiasis and cholecystitis, but without any evidence of typhoid fever, such as we understand it, having occurred at any time.

The case recorded by Dr. T. Houston[25] is also very similar.

---

[7] Recherches sur la Fièvre Typhoïde deuxième édition, tome ii., p 301

[8] La Semaine Médicale, March, 1890 p 94; Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris, 1890, p. 201.

[9] Wiener Medicinische Wochenschrift, 1891, pp. 470 and 511.

[10] Annales de l'Institut Pasteur, 1893.

[11] Brit. Med Jour, January, 1897, p 143

[12] Wiener Klinische Wochenschrift, 1897, No 4, pp 82 to 86.

[13] Zeitschrift für Heilkunde, xviii. p. 471

[14] Bulletins et Memoires de la Societe Médicale des Hôpitaux de Paris, 1893.

[15] THE LANCET July 31st, 1897, p. 254

[16] Brit Med Jour, April 1st, 1899

[17] Johns Hopkins Hospital Bulletin, 1897, p. 256.

[18] Ibid, April, 1899, p. 65.

[19] Archives de Physiologie, 1887, p 270.

[20] Gazette Hebdomadaire, 1896, p. 184

[21] Berliner Klinische Wochenschrift, 1896, p 529

[22] Münchener Medicinische Wochenschrift, 1893, p 765.

[23] Ziegler's Beitrage zur Pathologischen Anatomie, 1895, Band xvii., Heft 2, p 221.

[24] Johns [illegible] Hospital [illegible]

[25] [illegible]

In this case the patient had suffered for three years from symptoms of cystitis. The trouble began soon after she had been nursing a child who had died from "diarrhœa," but she herself had never had at any time any illness to suggest typhoid fever. After the symptoms had lasted for three years a bacteriological examination of the urine was made. It was found to be acid, to contain some pus and typhoid bacilli in pure culture.

In the third case, one of cholecystitis, recorded by Hunner,[28] the patient's symptoms, mostly attacks of severe pain in the right hypochondrium, had lasted on and off for some three and a half years. Operation was at last perform and the gall-bladder was found to be greatly distended and contain pus. Typhoid bacilli were obtained in pure cult from the latter. In this case, however, the patient had what she described as "remittent fever" 18 years befo so that it is conceivable that we are here dealing with case of prolonged retention of typhoid bacilli within body and not a local infection. The evidence, howev *seems to point to the latter.*

These cases, then, lend support to the view that typhoid bacillus is capable of causing sometimes merel

TABLE V.—SHOWING THE RELATIVE FREQUENCY OF THE VARIOUS COMPLICATIONS OF TYPHOID FEVER AS T OCCURRED IN THE FATAL CASES EXAMINED AT ST. BARTHOLOMEW'S HOSPITAL DURING THE PAST 30 YEARS.

Condition found post mortem.	Actual frequency of the condition.	Frequency per cent.
SKIN, MUSCLES, PAROTID, THYROID (Number of times examined, 300).		
Purpura	8	2·66
Jaundice	2	0·66
Bedsores	14	4·66
Parotitis, purulent ...	1	0·33
Goitre	3	1·00
Hæmorrhage into rectus muscle... ...	1	0·33
Idem with abscess ...	1	0·33
BRAIN (Number of times examined, 117).		
Natural...	107	91·45
Engorged	4	3·42
Blanched	4	3·42
Ecchymosed	1	0·85
Meningitis	1	0·85
EARS (INT.) (Number of times examined, 25).		
Natural...	16	64·0
Otitis media	9	36·0
HEART (Number of times examined, 290).		
Muscle, (*a*) natural ...	196	67 58
(*b*) parenchymatous degeneration, muscle soft and flabby ...	83	28·62
(*c*) fatty degeneration	7	2·41
Endocarditis (not rheumatic)	4	1·37
Recent endocarditis in old rheumatic subjects	2	0 68
Pericarditis...	2	0·68
Ante-mortem clot in ventricle	1	0·34
Old morbus cordis ...	5	1·72
Thrombosis, pulmonary artery	1	0·34
Phlebitis	1	0·34
AORTA (Number of times examined, 171).		
Natural	143	83·62
"Atheromatous patches"	28	16·37
LARYNX (Number of times examined, 165).		
Natural	115	69·69
Inflamed (not ulcerated)...	7	4·24
Ulcerated	42	25·45
Diphtheritic membrane...	1	0·60
Perichondritis	6	3·63
Œdema of the glottis	—	—
PHARYNX.		
Ulcerated	5	—
ŒSOPHAGUS (Number of times examined, 178).		
Natural	177	99·43
Ulcerated	1	0·56
LUNGS (Number of times examined, 295).		
Natural	89	30·16
Congested	75	25·42
Œdema	49	16·61
Congestion and œdema	29	9·83
Bronchitis (severe but without bronchopneumonia)	8	2·71
Broncho-pneumonia	23	7·79
Lobar pneumonia ...	13	4·4
Hypostatic pneumonia	4	1·35
Subpleural hæmorrhage...	6	2·03
Pleurisy—		
(*a*) Dry	16	5·42
(1) Primary	5	1·69
(2) Secondary to other pulmonary complications ...	11	3·72
(*b*) With effusion ...	12	4·06
(1) Primary	9	3·05
(2) Secondary to other pulmonary complications ...	3	1·01
LUNGS (*continued*).		
Empyema	3	1·01
Abscess	2	0·67
Infarct, hæmorrhagic	3	1·01
" septic	1	0·33
Gangrene	1	0·33
Active phthisis ...	3	1·01
INTESTINES AND PERITONEUM (Number of times examined, 300).		
Ulceration of large intestine	105	35 00
Idem, extensive ...	35	11·66
Appendix—		
Condition noted ...	26	—
Natural...	15	57·69
Ulcerated	11	42·30
Perforation of the intestine	94	31·33
General peritonitis from perforation ...	92	30·66
Localised peritonitis from perforation ...	1	0·33
Localised peritonitis from perforation with abscess formation	1	0·33
General peritonitis without perforation	13	4·33
Fatal intestinal hæmorrhage	23	7·66
Ascaris lumbricoides	2	0·66
Tapeworm	1	0·33
STOMACH (Number of times examined, 242).		
Natural or slightly engorged	234	96·69
Ecchymosed	6	2·47
Ulcerated	2	0·82
MESENTERIC GLANDS (Number of times examined, 256).		
Abscess of	17	6·25
Sloughing of	1	0·39
Caseous degeneration (no other evidence of tubercle) ...	7	2 73
SPLEEN (Number of times examined, 2		
Infarcts	9	
LIVER (Number of times examined, 2		
Natural	186	6
"Cloudy"	73	2
Fatty	28	
Abscess	2	
Suppuration of bile-ducts and impacted stone	1	
GALL-BLADDER (Number of times examined, 5		
Natural	54	9
Ulcerated	1	
Catarrh of	1	
Suppuration of (impacted stone)	1	
PANCREAS (Number of times examined, 1		
Natural	166	9
"Large and soft" ...	9	
SUPRARENALS (Number of times examined, 141		
Natural	141	10
KIDNEYS (Number of times examined, 28		
Natural	152	5
"Cloudy swelling"	111	3
Congestion	19	6
Simple infarct	1	0
Septic infarct; abscess	1	0
"Acute nephritis" ...	1	0
Pyelitis	1	0
BLADDER (Number of times examined, 141		
"Natural"	134	95
Cystitis	7	4

Note.—Every complication which was observed has been classified in the Table. Any unusual complication not mentioned may therefore be regarded as not having occurred in this series of cases.

---

[28] Johns Hopkins Hospital Bulletin, August and September, 1899.

local disease, and it is probable that with the increasing number of careful bacteriological examinations now being made similar cases will soon be described.

COMPLICATIONS OF TYPHOID FEVER.

We may now pass from typhoid fever itself to a consideration of the complications and sequelæ which occur so frequently in connexion with it and which form so important a part of the disease. In considering them it was impossible not to be struck with the fact that we have no very comprehensive data concerning their frequency in England, none, at all events, comparable to those collected by foreign observers, and since there is no doubt that in different countries the relative frequency of various complications differs much it seemed that it would be of interest to analyse the results of the post mortem examinations in cases of typhoid fever which have occurred at St Bartholomew's Hospital during the past 30 years. The results are given in Table V. In all 300 post mortem examinations have been analysed, but, all the viscera not having been examined in each case, the percentages often depend on a smaller number. This, however, is noted in the table.

If, now, these results be compared with those of other observers as, for example, with the elaborate statistics obtained by Hölscher[27] from the Munich records, it will at once be seen that whilst some of the figures agree well together others show the most extraordinary differences. Thus, to name a few, while broncho pneumonia, empyema, and meningitis seem to occur as frequently in London as in Munich in connexion with typhoid fever, ulceration of the larynx is nearly five times more frequent in London, while perforation occurs in 30 6 per cent of our cases as compared with only 5 7 per cent in Munich. In London, that is to say, nearly one out of every three fatal cases is due to perforation, in Munich only one in 17—a truly extraordinary difference. On what exactly these great variations depend it is difficult in all cases to say, but the figures obtained at any rate clearly show the danger of believing that foreign statistics may represent even approximately the condition of affairs at home.

In considering the complications of typhoid fever one is naturally tempted to try to divide them into two great groups according as they are truly typhoidal—produced, that is to say, by the typhoid bacillus—or merely the result of a secondary infection by the pyogenic cocci. This, however, is impracticable, for, as we shall see, it is not uncommon for a given complication to be in one case homologous and in another heterologous in nature. Nevertheless certain complications are especially associated with the typhoid bacillus, and to a consideration of them I now propose to turn.

NERVOUS SYSTEM.

Meningitis.—Two complications referable to the nervous system may occur in typhoid fever, meningitis and neuritis. Both agree in being uncommon, both, too, in being truly typhoidal. The rarity of meningitis is well shown by the fact that it only occurred once in 117 cases at St Bartholomew's Hospital, the Munich records also in this case giving a very similar percentage. From the literature Keen[28] has collected 15 cases in which a bacteriological examination was made, and in all of them the typhoid bacillus was described as being present in the meninges and the meningeal exudation and in a considerable proportion in pure culture. Some of the cases doubtless are open to criticism, but the later ones and especially one by Ohlmacher,[29] have been carefully worked out and may be accepted. Meningitis, then occurring in typhoid fever, unless it be secondary to otitis media, should for the most part be regarded as directly caused by the typhoid bacillus, and to typhoid fever so complicated the term "meningo typhoid" may be justly applied. It should be noticed, also that in these cases the usual clinical symptoms of meningitis, strabismus and opisthotonos, are not as a rule present, but simply delirium or profound unconsciousness and coma. It is probable, too, that if the meninges were examined more frequently, especially in cases with severe nervous symptoms, the typhoid bacillus would be found not infrequently in this situation even in the absence of definite meningitis.

Neuritis.—The pathology of neuritis occurring after typhoid fever was not at first so clear. Thus it had been found by Dr. Sidney Martin[30] impossible to produce an artificial neuritis in animals by the injection of typhoid toxines, even though these were powerful enough to give rise to fatty degeneration of the heart and to kill the animals. It was conceivable, therefore, that it might be due to some secondary infection. Recently, however, Nicholls[31] in a very careful paper has shown in the case of the rabbit, that if the bacilli themselves be injected and the dose of poison thereby be greatly increased, then neuritis follows. Experimentally, then, the typhoid poison is capable of producing neuritis, and there seems no reason to doubt that when this complication occurs in man it is in general due to a similar cause.

RESPIRATORY SYSTEM.

The complications affecting the respiratory system in typhoid fever are numerous. Among the most important we may class ulceration of the larynx, bronchitis, and pneumonia, both lobar and lobular. Of these, bronchitis and broncho pneumonia need not detain us long, for though of very great importance clinically their pathology seems clear. They are examples of a secondary infection and are produced by the rapid growth under the influence of the fever of the pneumococci, streptococci, and staphylococci, normally present in the respiratory tract.[32]

Ulceration of the larynx.—Ulceration of the larynx, however, deserves a more special mention, both on account of its frequency (it occurred in 25 per cent of our post mortem examinations) and also because the condition was for long regarded as a specific part of the disease, the ulcers being looked upon as directly caused by the typhoid bacillus, in exactly the same way as are the ulcers of the intestine. The observations, however, upon which this view depended were made at a time when the widespread distribution of bacillus *coli communis* was unsuspected, and therefore cannot be relied upon. Moreover, the late Professor Kanthack and Dr Drysdale[33] in their interesting paper on this subject, showed how unlikely such a view was and how much more probable it was that the laryngeal ulcers were due to secondary infection, the tissues being predisposed by the disease itself. The accuracy of this view also has been strongly supported by the fact that since their paper was written no recent observer has discovered the typhoid bacillus in the ulcerations, though bacillus coli, streptococci, and other micro organisms have been found. There is little doubt, then, that the complication is not really specific but due to the pyogenic micro organisms.

Lobar pneumonia.—We may now consider the pathology of lobar pneumonia occurring in typhoid fever, a complication probably rather more frequent than is generally supposed, it having occurred in nearly 5 per cent of our fatal cases. It has been argued by some that, in certain cases at least, this complication is directly produced by the typhoid bacillus, while others hold that in all cases the pneumococcus is responsible for it, whether the pneumonia occur quite at the commencement of the typhoid fever or during its course. The matter is not a very easy one to settle finally. In the first place, it must be allowed that the typhoid bacillus may be found sometimes in the lungs even in large numbers, just as it may be found in other organs. Thus in a recent case in which infarction of the lung had occurred I obtained a pure culture of the bacillus from the infarct itself, the heart's blood, however, being sterile. There would therefore be nothing improbable in finding the specific bacilli in the consolidated lung, though this alone, of course, would not prove that they stood in causal relation with the pneumonia. In the second place, it is beyond question that in a great majority of the cases the pneumococcus is found in the lung, either alone or more rarely associated with the typhoid bacillus. This is generally admitted, and as an example it may be added that in two cases which have occurred recently at St Bartholomew's Hospital the pneumococcus was on each occasion present, the typhoid bacillus not being found in the lung. Whenever, then, the pneumococcus is present we must attribute to it without hesitation the pneumonia, and must assume that the typhoid bacillus is present only in a secondary capacity, just as it may occur sometimes in an infarct or in a fairly normal lung. As a result, then, we must allow that without doubt the great majority of typhoid pneumonias are due to the action of the pneumococcus. A few cases, however, are on record in which the typhoid bacillus has been found in culture but in which the pneumococcus has not been obtained, in one case at least, even after the inoculation of a mouse, the most certain test for the presence of the organism. It has, therefore, been hastily assumed that in these cases at all events we have to do with true typhoidal pneumonia. If, however, these cases be carefully investigated it will be seen that, as Karlinski originally pointed out, those cases in which the pneumococcus was not found were only examined quite late in the disease, at a time when commonly this micro-organism has already disappeared. In the very interesting case recorded by Bensaude,[34] for example, in which the patient had all the symptoms and physical signs of an initial pneumonia passing directly into typhoid fever, the exploratory puncture of the lung was only made on the tenth day. The fact, therefore, that only the typhoid bacillus could be grown from the exudation withdrawn while the pneumococcus could not be found, has but little weight. Similarly in the case recorded by Flexner and Harris[35] the patient had been ill for about two months, and from the history it would seem probable that the pneumonia started about two weeks before death. The absence here again of the pneumococcus has but little significance. At the present moment, then, we may say that no evidence exists to show that true lobar pneumonia is ever the result of the action of the typhoid bacillus. The future may conceivably reveal such cases, but before we can accept them two things are necessary: the bacteriological examination must be made early in the disease and several cultures from various parts of the diseased lung must be made. The absence of the pneumococcus, in fact, must be clearly demonstrated, not merely taken for granted as it were. If, then, the term "pneumo-typhoide," so commonly used by French writers, be retained, it must be understood that reference is merely made to cases of typhoid fever complicated by pneumonia, and that the term does not imply that the pneumonia is typhoidal. Probably, therefore, at present it would be wiser not to use the term. Similarly with regard to the term "pleuro-typhoide." A few old observations are on record in which apparently the first sign of the typhoid fever was a pleural effusion, and in one case Valentini,[36] and in a second Fernet and Girode,[37] isolated, as they thought, the typhoid bacillus in pure culture. Recent observations, however, have not confirmed this discovery, so that if the term be retained it must be merely as a clinical expression and must not at present be taken to imply a localisation of the typhoid bacillus in the pleura.

---

[27] Münchener Medicinische Wochenschrift, 1891, p 45

[28] The Surgical Complications and Sequels of Typhoid Fever, London 1898.

[29] Journal of the American Medical Association, 1897 p 419

[30] Croonian Lectures, THE LANCET 1898, vol i, pp. 1685 and 1737, vol. ii, pp. 1 and 71

[31] Journal of Experimental Medicine vol iv, 1899 p. 189

[32] Horton Smith: St. Bartholomew's Hospital Reports 1897, p 46

[33] Ibid, 1895.

CARDIO-VASCULAR SYSTEM.

With the exception of phlebitis the complications referable to the heart and blood-vessels in typhoid fever are very rare, and even phlebitis in fatal cases is most uncommon. Thus in the last 30 years at St Bartholomew's Hospital only four cases with endocarditis have come to necropsy, two with pericarditis, and one with phlebitis. The cases in which arteritis leading to gangrene has occurred have all ended in recovery. As yet the pathology of these affections is somewhat obscure.

Endocarditis.—It may be said, however, that the endocarditis is generally of the malignant type and that it is the result of a secondary infection. This, however, is not so always, for the typhoid bacillus has been found in the warty vegetations. In one case observed by the late Professor Kanthack it was so found, not however in this case alone, but in conjunction with the pyogenic cocci.

Arteritis.—Of arteritis, the common cause of that dreaded though fortunately very rare complication, spontaneous gangrene, it is difficult to speak with certainty, owing to the extreme difficulty in obtaining material. In a recent case of typhoidal meningitis, however, described by Ohlmacher,[38] produced by the presence of the typhoid bacillus, marked acute endarteritis of the meningeal vessels was found. It is, therefore, probable that when the affection attacks the peripheral vessels it may have a similar pathology and may be due directly to the specific micro-organisms, or their toxines, and not to any secondary infection. It is likely, too, that if the state of the peripheral vessels were more carefully and frequently examined a mild degree of the condition would not uncommonly be found.

Phlebitis.—With regard to phlebitis a considerable number of recent observations have been made (Vincent[39]) and in many of the cases streptococci and staphylococci have been found in the clot and vessel walls, suggesting that the inflammation is really septic in nature, though probably produced by micro-organisms with but a low degree of virulence.

URINARY SYSTEM.

Nephritis.—The exact relation which the typhoid bacillus bears to the nephritis which in varying degrees of severity occurs so commonly in typhoid fever is hard to decide. It is certainly true that the typhoid bacillus may be present in the kidney after death in cases which show some evidence of nephritis, but lesions similar or even more severe frequently occur in cases in which the kidneys are sterile and in which therefore nephritis is evidently due to the excretion of toxic substances produced either by the typhoid bacillus alone or combined with those of other micro-organisms in cases where a secondary infection has occurred. Melchior[40] thus in his monograph records three cases of nephritis in which casts were found in the urine but in which in two cases the urine was sterile during life, showing that the kidneys could not have harboured the bacillus, while in the third case, which ended fatally, cultures proved the absence of the bacillus in the kidneys after death. The conclusion at which we may arrive, then, is that nephritis in typhoid fever is no proof of the presence of the bacillus in the kidneys. The toxines of the typhoid bacillus alone (or in combination with those of other micro-organisms) are quite sufficient to account for the majority of cases of nephritis which occur in typhoid fever. In some cases, however, in addition the bacillus may be present in the kidneys and will tend therefore to aggravate the condition.

Nephritis directly produced by the typhoid bacillus.—Very occasionally, indeed, cases of typhoid fever do occur, complicated by marked nephritis, in which it seems that the inflammation is directly produced by the local growth of the bacillus. The best known case of the kind is that reported by Thue[41] as early as 1889, in which on the thirteenth day the patient was found to be suffering from hæmorrhagic nephritis and in which post mortem the typhoid bacillus, as it was believed, was found in pure culture in the spleen and kidneys. The date of this observation, however, forbids us to place implicit confidence in it. Recently, however, a somewhat similar case has occurred at St. Bartholomew's Hospital. The patient, a man aged 22 years, who was under the care of Dr. Hensley, was taken ill on Dec. 21st, 1899, with pain and difficulty in micturition. He, however, continued his work until Dec. 30th, the ninth day of his illness. On Jan. 1st, 1900, he was admitted and was found to be suffering from typhoid fever (spots being present and the Widal reaction positive) and also nephritis. The urine contained blood, *very many casts*, a good deal of pus, and one-tenth of albumin. On Jan. 3rd (the thirteenth day) it was examined bacteriologically and was found to contain a pure cultivation of typhoid bacilli. The patient had a severe attack of fever, complicated by laryngitis. The temperature reached normal on the thirty-fourth day. The nephritis continued throughout the illness and the bacilli still persisted in the urine in undiminished numbers. (For exact details concerning the date and number of the observations made on the urine compare Table VI., Case 17*a*, and Appendix, Case X.) On the thirty-fifth day, the day after the temperature had reached normal, the urine under the administration of urotropin was freed from bacilli and the thick deposit of pus which had hitherto been present (typhoidal cystitis). After a few days, also, the casts became less and with the albumin gradually disappeared. It would seem, then, that in this case the nephritis stood in direct relation to the typhoid bacilli, for, apart from the striking effect of treatment, the improvement in the condition, dating almost directly from the elimination of the bacilli, it seems difficult to ascribe so marked a nephritis observed on the eleventh day, and undoubtedly present earlier, to toxines only. Moreover, the bacilli were evidently present in the urine and kidneys from a very early period of the disease. They were cultivated first on the thirteenth day, but the first symptom which drew the patient's attention to his condition was some pain and difficulty in micturition, due doubtless to typhoidal cystitis, and evidencing the presence of the micro-organisms even at this earlier stage. For these reasons, then, we must regard the case as one of true typhoidal nephritis, or in its truest sense one of "nephro-typhoid." The extremely early date at which the generalisation of the bacilli must have occurred is of great interest.

---

[34] Thèse de Paris, 1897, p 115.

[35] Johns Hopkins Hospital Bulletin, December, 1897.

[36] Berliner Klinische Wochenschrift, 1889, p. 368

[37] Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris, 1891, p 236.

[38] Loc cit., vide note 29

[39] La Semaine Médicale, 1895, p. 377.

[40] Cystitis und Urininfection, Berlin, 1897.

[41] Charcot Traité de Médecine, tome i., p. 775.

TYPHOID BACILLURIA AND CYSTITIS.

I may now pass to the bladder and the urine in typhoid fever. In drawing attention to the presence of the bacilli in the urine some little time ago[42] I was only able to prove without doubt the existence of the condition and could not venture at that time to state how frequent its occurrence might be. Lately, however, I have had the opportunity of examining a larger series of cases and the results of my observations I now bring forward. They are recorded in Table VI. It will be seen from it that in all 45 cases of typhoid fever have been investigated. In 28 of these, though examined on several occasions, the urine was never found to contain typhoid bacilli, while in 17 the bacilli were found. This would give apparently a percentage of nearly 38 for the positive results. It is, however, undoubtedly too high, for out of the 17 positive results six were cases in which the abnormal condition of the urine had attracted attention and in which a bacteriological examination was therefore requested. Eliminating these, then, we find that 39 typhoid fever cases have been taken at random in the wards and the urine examined on several occasions. Of these cases 28 never contained typhoid bacilli, while 11 contained them in large quantities, constituting a percentage of 28. In London, then, at all events it will probably be correct to say that at least 25 per cent. of all cases present this serious and dangerous condition. This conclusion is also supported by the fact that it agrees approximately with the results obtained by Richardson.[43] This observer, working in Boston, examined the urine in 102 cases of typhoid fever, and in 23 he was able to isolate the bacillus, obtaining therefore a percentage of 22.5. At the present time, then, the evidence would show that the condition is one frequently met with and that it probably occurs in one out of every four typhoid fever patients.

Naked-eye recognition of typhoid "bacteriuria."—An important point, also, in connexion with the condition is the fact that very commonly the bacilli are present in enormous numbers, so that the urine is rendered turbid. I was at first inclined to regard these cases as rare, but really they are the rule rather than the exception. Thus out of 14 recent cases in which this point was especially looked for, in 12 I found that the urine was turbid with bacilli, while in two only was it noted as "clear," and the microbes were accordingly first discovered on cultivation. The enormous numbers in which the micro-organisms may be present, though it increases the danger of the complication, brings with it the advantage that the condition can be recognised, or rather suspected, more easily. Indeed, this can often be effected by the naked eye. All that is necessary is to pour the turbid urine into a test tube and then holding it up to the light gently to shake it. If the turbidity be due to the presence of micro-organisms we notice at once a curious shimmer in the liquid exactly comparable to that seen in shaking any turbid broth culture, a phenomenon which is not seen when the urine is cloudy from other causes, such as phosphates, urates, &c., probably because the amorphous particles of which these deposits consist are unable to catch and reflect the light in the same way as the regularly shaped bodies of the bacteria. If, then, in a turbid typhoid urine this curious shimmer is seen it may at once be predicted that the urine is full of micro-organisms, and the typhoid bacillus should be at once suspected, for experience shows that when this condition is noticed in typhoid fever, *if the case be a male*, it is most commonly due to the presence of the true typhoid bacillus. This, however, can only be proved by cultivation, and even in the male the same naked-eye appearance may sometimes, though much less commonly, be produced by other microbes, such as the bacillus coli communis, the streptococcus pyogenes, and the staphylococcus aureus. In the female, however, much less reliance can be placed on a mere inspection of a naturally passed urine, the sources of contamination being too gross.

Conditions governing the appearance of the bacilli.—The conditions under which typhoid bacilluria occurs are subject to great variation. Thus, the bacilli may make their first appearance in the urine at any period of the disease, from the early days of the fever down to a time when convalescence is already established. The earliest date on which I have myself isolated them was the thirteenth day, and in this case they had undoubtedly been present from a much earlier period. The latest date, on the contrary, on which I have known them first to occur was the fourteenth day of convalescence. Speaking generally, however, we may say that the condition is rare before the third week of the disease. After this it may occur at any time during the fever, but not uncommonly its occurrence is delayed until the early days of convalescence. It is, therefore, much more closely associated with the later stages of the disease. The duration of the bacilluria also varies much, but it nearly always persists for some considerable time. The shortest duration recorded is eight days, but in four other cases it had not disappeared until after the lapse of 21 days, 25 days, 30 days, and 70 days. Occasionally it may persist, not for months, but for years, as in a remarkable case recorded by Gwyn.[44] In this case the patient had been in hospital five years before with an attack of typhoid fever. Ever since his discharge he had had trouble with his bladder, and on re-admission five years later he was found to be suffering from cystitis and the typhoid bacillus was obtained in pure culture from his urine.

Frequency of associated pyuria.—The condition of the urine, too, offers no constant qualities. Not uncommonly, even when millions of bacilli are present, albumin is totally absent, and when present it usually does not amount to more than a trace or a cloud. In rare cases it may be present in larger quantities—one-sixth or one-seventh in two of my cases. In one case hæmaturia occurred. Although, however, albuminuria is not conspicuous in these cases it is not at all uncommon to find pus, sometimes even in considerable quantities. Thus of my 17 cases nine, or over 50 per cent., showed pyuria. The urine in nearly all cases was acid. It was never ammoniacal.

Lastly, it has sometimes been said that the cases in which typhoid bacilluria occurs are more severe clinically than those not showing this condition. Taken as a whole this is true, but it is equally true that patients may have typhoid fever of extreme severity without the urine ever becoming infected. In no case, then, we can say from the condition of the patient or from the presence or absence of albuminuria that bacilluria has occurred. We should, however, suspect it if either the urine becomes suddenly turbid and manifests the "shimmer" appearance or if pyuria occurs.

THE PATHOLOGY OF THE CONDITION.

A few words may now be devoted to the pathology of this condition. How is the bacilluria produced and on what does it depend? The simplest explanation which suggests itself—namely, that we have to do with a mere filtration of the bacilli from the blood—may be at once dismissed. The extreme difficulty in finding the bacilli in the blood during life, to which I have already referred, would point to its improbability. Moreover, I have on four occasions examined the blood bacteriologically, at a time when the urine was swarming with bacilli, and on all occasions I failed to find the typhoid bacilli therein. Evidently we are not dealing with a mere filtration. A second possibility is that the condition arises from suppuration set up in the kidney by the typhoid bacillus, accompanied by the secondary passage of the bacilli and pus into the urine. Such cases of suppuration do undoubtedly occur, one being recently recorded by Flexner,[45] but they are extremely rare. Thus out of 289 typhoid post-mortem examinations at St. Bartholomew's Hospital in one case only were abscesses found in the kidneys. This rare condition, therefore, could hardly explain the very frequent presence of the bacilluria.

We are driven, then, to our third possibility to offer an adequate explanation of the condition. According to this view, which I believe to be correct, the whole would depend on the rapid growth of the bacillus in the urine itself within he bladder, a stray micro-organism having found its way there from the blood, doubtless after its passage through the kidney. This explanation would seem to meet the facts of the case, for it would explain the chief peculiarities of the condition—viz., the sudden onset of the affection, the enormous numbers of the micro-organisms, and not uncommonly the total absence of albuminuria. It would also readily explain the frequency of pyuria in these cases, which would be thus due to the onset of cystitis. It has, however, by some observers been doubted whether the typhoid bacillus can grow and multiply in urine. As a matter of fact, there is no doubt that it is able to do so. Thus I found that out of six samples of urine taken and inoculated with the typhoid bacillus and then incubated at 37° C. four showed general turbidity, though varying in degree, from growth of the micro-organism at the end of 18 hours, while two did not. These latter, however, showed good growth at the end of 48 hours. The typhoid bacillus evidently, then, can grow in most urines, though the rapidity of growth varies with the specimen of the urine used. On the latter fact also doubtless in part depends the absence of the bacilli in the urine in so many cases of typhoid fever. We must believe that in every case, since the bacilli always pass into the blood, every now and then a stray bacillus is carried into the kidney and so passes into the urine. If, however, the urine be in this case not very suitable to the growth of the micro-organism, and if, too, the bladder be evacuated frequently and completely, then no harm will result, for the micro-organism will be excreted in the urine before it has time to multiply. If, however, as is often the case in typhoid fever, the patient only passes his urine at long intervals, perhaps not emptying the bladder completely, then if the urine be a favourable medium the bacillus will have ample opportunities to grow and multiply, and marked infection of the urine will result.

---

[42] Transactions of the Royal Medical and Chirurgical Society, 1897.

[43] Journal of Experimental Medicine, vol. iii., May, 1898, and vol. iv., January, 1899.

[44] Johns Hopkins Hospital Bulletin, June, 1899, p. 103.

[45] Journal of Pathology and Bacteriology, 1898, vol. ii.

In addition, however, to the above considerations we have positive evidence that the *fons et origo* of the condition lies in the bladder itself. In the first place, the condition can be cured by local treatment—viz., the injection of antiseptics into the bladder. This was shown very clearly by Richardson[46] who in a given case, having failed with boric acid, was at once successful when perchloride of mercury (1 in 7000) was substituted. Gwyn[47] also has had a similar experience. Secondly, a short time ago I had the opportunity of examining one of these cases post mortem. The

TABLE VI.—SHOWING THE FREQUENCY OF TYPHOID BACILLURIA AND THE PERIOD OF THE DISEASE AT WHICH IT OCCURS, BUT, EXCEPT IN THE FIRST TWO CASES, NOT ITS DURATION. IN THE REMAINDER, EXCLUDING THE THREE FATAL CASES, AFTER THE CONDITION HAD BEEN OBSERVED FOR A LONGER OR SHORTER PERIOD, IT WAS CUT SHORT BY TREATMENT (UROTROPIN).

Number of case.	Age of patient.	Sex.	Date on which cultivations from the urine were made.	Day on which the temperature reached normal.	Typhoid bacilli found.		Condition of the urine.	Remarks.
1	18	M.	10, 11, 13, 16, 19, 22, 25, 27, 31, 35, 39, 40, 41, 44, 46, 49, 51, 54, 58, 63.	41	39, 40, 41, 44, 46, 49, 51, 54, 58, 63.		Turbid with bacilli; sometimes a cloud of albumin, sometimes *none*.	A mild case of typhoid fever.
2	22	M.	39, 44, 47, 54, 58.	37	39, 44, 47.		Pyuria.	A severe case. The pyuria started suddenly on thirtieth day. Before this the urine had been natural.
3	18	M.	13, 15, 17, 23.	Fatal.	15, 17, 23.		Clear; no albumin.	Died on the twenty-third day from perforation
4	18	M.	28.	"	28.		—	Died on the twenty-eighth day with marked typhoid septicæmia
5	31	M.	19.	"	19.		Turbid with bacilli, one-seventh albumin.	Died on the nineteenth day from "heart failure"
6a[1]	29	F.	50 (R) 52 (R), 55	56	50 (R), 52 (R).	Duration of the bacilluria cut short by treatment.	Pyuria; turbid with bacilli.	A serious case of typhoid fever; the pyuria started suddenly on the fiftieth day. Before this the urine had been natural.
7a[2]	24	M.	18, 19, 20, 21, 28, 31, 32, 33, 37, 38, 41, 46, 56.	27	18, 28, 31, 32, 33, 37.		Pyuria; turbid with bacilli.	A serious case of typhoid fever.
8a[3]	21	M.	24, 26, 27, 35, 42, 54, 65.	28	24.		Clear; thick cloud of albumin.	A case of medium severity.
9	11	M.	19, 20, 21, 23, 24, 27, 48, 51.	30	19, 20, 21, 23, 24.		Turbid with bacilli, faint trace of albumin.	A serious case.
10a[4]	31	M.	23, 27, 28, 29, 32, 34, 37, 44.	31	23, 27, 28, 29.		Pyuria; turbid with bacilli.	A case of medium severity.
11a[5]	36	M.	30, 38, 45, 58, 59, 60, 61, 62, 65, 70, 76.	53	58, 59, 60.		Pyuria; turbid with bacilli.	"
12a[6]	13	M.	29, 31, 32, 33, 34, 36, 39, 46	27	29, 31, 32, 34.		Turbid with bacilli, trace of albumin.	"
13b	32	M.	33, 41, 44.	24	38, 41.		Pyuria.	A case of medium severity. The pyuria was first noticed when the temperature had been normal 14 days. Before this the urine had been natural.
14a[7]	6	M.	33, 34, 35, 36, 37, 39, 42.	30	33, 34, 35, 36.		Pyuria, turbid with bacilli.	A very severe case. Hæmaturia and pyuria occurred suddenly when the temperature had been normal one day. Before this the urine had been natural.
15a[8]	20	M.	44 (R), 46 (R), 51 (R), 52, 53, 63.	51	46 (R), 51 (R).		Turbid with bacilli; faint cloud of albumin	A very severe case
16a[9]	42	M.	14, 21, 33, 46 (R), 61, 68, 69, 72, 78.	52	61, 68		Pyuria, turbid with bacilli.	"
17a[10]	22	M.	13, 16, 25, 32, 34, 35, 36, 37, 39, 41, 44, 46, 50, 55, 60, 65, 74	34	13, 16, 25, 32, 34, 35		Pyuria, turbid with bacilli; much albumin, casts.	A very severe case. The patient suffered from true typhoidal nephritis

a. For further details consult Appendix to Lecture III.; notes 1 to 10 give the numbers of the cases in the Appendix. [1] Case II. [2] Case III. [3] Case I. [4] Case IX. [5] Case IV. [6] Case VIII. [7] Case V. [8] Case VI. [9] Case VII. [10] Case X.
b. Observed by Dr. Andrewes
(R) signifies that the observation was made during a relapse

---

[46] Loc. cit., vide note 43.

[47] Loc. cit., vide note 44.

patient was a man, aged 31 years, who died on the nineteenth day of the disease from heart failure The urine was examined a few hours before death and was found to contain one seventh of albumin and to be strongly turbid with typhoid bacilli in pure culture Death occurred a few hours later At the post mortem examination the usual intestinal lesions of typhoid fever were found. The Peyer's patches and solitary follicles were swollen and beginning to ulcerate. The spleen was enlarged and soft The kidneys to the naked eye showed only engorgement and microscopically nothing beyond "cloudy swelling" could be demonstrated. The bladder, however, showed a few scattered hæmorrhages and its mucous membrane was slightly injected Bacteriologically the typhoid bacilli were demonstrated by culture in the spleen, the liver, and the gall bladder, as well as the bladder urine, but the cultures from the heart's blood, the lungs and both kidneys were sterile I should say that four separate bacteriological examinations were made from the kidneys, two from each organ, but all four yielded absolutely negative results In this perfectly typical case, then, there can be no doubt as to the source of the bacilli They were not found in the blood or in the kidneys, but they were present in the urine in enormous numbers There would seem therefore to be no reasonable doubt that a stray bacillus had passed into the urine and had multiplied there and so given rise to the condition

TABLE VI—(continued)

Negative Cases.

Number of case	Age of patient.	Sex	Date of examination of urine	Day on which the temperature reached normal	Typhoid bacilli found	Condition of the urine	Remarks.
1	8	M	12, 19, 31 (R), 44 (R), 53	44	0	No albumin	A case of medium severity
2	13	M	41, 62.	40	0	No albumin	,,
3	20	M	20, 25, 40, 48, 73	63	0	Thick cloud of albumin	,,
4	11	M.	29, 42.	21	0	No albumin	A mild case.
5	16	M	9, 17, 25, 35	23	0	,,	,,
6	39	M	12, 18, 26, 36	27	0	,,	,,
7	18	M	25	Fatal.	0	Faint cloud of albumin	Died on the twenty seventh day from heart failure.
8	36	M	21, 30, 37, 51	27	0	No albumin	A mild case.
9	22	M	16, 24, 31, 43	27	0	Faint trace of albumin	Very ill, but recovered
10	33	M	20, 28 31, 34 38 42, 66	35	0	From the twenty-eighth day onward the patient suffered from cystitis caused by bacillus coli	,,
11	20	M	38 (R), 49 (R), 59, 73	51	0	Cloud of albumin.	Very ill
12	18	M	11	Fatal	0	,,	Died on the eighteenth day from heart failure
13	13	M	29, 40, 47	30	0	,,	Very ill.
14	14	M	11, 21, 30	21	0	No albumin	A mild case
15	20	M	13, 20 27 (R), 34 (R), 41 (R), 51, 58.	41	0	Haze of albumin	Extremely ill
16	14	M	21, 30, 47	22	0	No albumin	A mild case
17	29	M	20, 29, 36, 51 (R) 63	62	0	Trace of albumin	A case of medium severity
18	21	M	9, 12, 18	Fatal	0	One fifth albumin	Died on the eighteenth day from heart failure.
19	12	M	18, 27, 34 49	25	0	No albumin	A mild case
20	16	M	16, 25, 32, 48, 58	46	0	,,	Very ill.
21	10	M	22 31, 39 53.	31	0	,,	A mild case
22	19	M	20 28, 35, 48	—	0	,,	—
23	31	M	12, 23 27, 30	Fatal	0	,,	Died on the thirtieth day from lobar pneumonia
24	21	F	9 12, 17	15	0	Faint cloud of albumin.	A mild case
25	15	M.	7, 10, 13, 15, 18, 21, 24	21	0	,,	,,
26	28	M.	10, 12, 14 17 19, 21 24, 27 30	22	0	Trace of albumin	,,
27	19	M.	9, 11, 13 16, 18 20, 24 26 29, 31, 34	27	0	No albumin	,,
28	—	M	29 41, 54	31	0	,,	,,

(R) signifies that the observation was made during a relapse

If, then, this proves to be, as I believe, the true pathology of the affection we are evidently dealing with what may be called a specific "bacteriuria," meaning by this term that the urine is swarming with micro organisms, though no definite symptoms are produced by this condition This affection has been known for years Indeed, it was the late Sir William Roberts[43] who first drew attention to it. His observations, however, did not attract general notice and it was not until 1894 that Krogius[44] again brought the matter forward In the *Annales Génito Urinaires* for that year he published eight cases of this condition all due to the presence of bacillus coli communis, and since this date other writers have confirmed his observations Indeed, the condition is almost certainly more common than is generally imagined.

It is, however, recognised by those who have worked at this subject that no hard and fast line can be drawn between bacteriuria and cystitis That is to say, that while a typical case of bacteriuria will give rise to no symptoms and will at most show under the microscope a few scattered pus cells in addition to the bacilli, there are others in which the patient may complain of slight pain in passing the urine and slight frequency of micturition, the number of leucocytes also increasing, but still not forming a deposit visible to the naked eye Finally, these cases merge again into cases of frank cystitis Now this is exactly what is also noticed in the bacilluria of typhoid fever According to my experience about half the cases are examples of simple bacteriuria. The patients complain of absolutely no symptoms whatever; there is no frequency of micturition and no pain accompanies the act. The urine itself swarms with bacilli and beyond this nothing can be seen abnormal in it. Under the microscope, however, an occasional pus cell can generally be found. These cases are nearly always undetected because of the absence of symptoms. There are, however, others in which, in addition to the bacilli, there is an evident deposit of pus visible to the naked eye, showing that the bladder mucous membrane has become slightly inflamed. The inflammation, however, must be very slight, for usually in these also no symptoms are manifested. Lastly, we have cases in which, while the urine remains the same—that is to say, contains bacilli and pus, but remaining of course acid, since the typhoid bacillus has no power to decompose urea—we have clinical symptoms—namely, pain and frequency of micturition and possibly tenderness over the region of the bladder. These cases of obvious typhoidal cystitis are rare. No. 6*a*, Table VI. of my series (Appendix, Case II.) was, however, such a case, and other cases have been reported, for example, by Krogius[50] and a notable one by Melchior.[51] To this latter case I should like to draw special attention, for though published in 1897 in his monograph on cystitis it was observed in 1892, and is probably the first case of cystitis due to the typhoid bacillus ever diagnosed.

---

[43] Brit. Med. Jour., vol. ii., 1881, p. 353 and p. 623.
[44] Annales Genito-Urinaires, 1894, p. 19.

How are we to explain these differences—viz., that in some cases we have merely a bacilluria and in others a true cystitis? Evidently from our knowledge of the fact that the mere presence of bacteria in the bladder is not sufficient of itself to cause cystitis. Some predisposing cause is also necessary, as, for example, some injury to the bladder walls. Now, in typhoid fever so many tissues suffer from the effects of the fever that it is not a very hazardous assumption to believe that in some cases the mucous membrane of the bladder may be damaged with the rest.

If, then, in a case of typhoid fever the bladder mucous membrane is in a natural condition and if the urine be passed at the usual intervals, then if bacilluria occurs it will remain a simple bacilluria. But should there be marked retention or should the bladder walls have been damaged in any way during the course of the disease then we have the condition in which a frank cystitis may be set up.

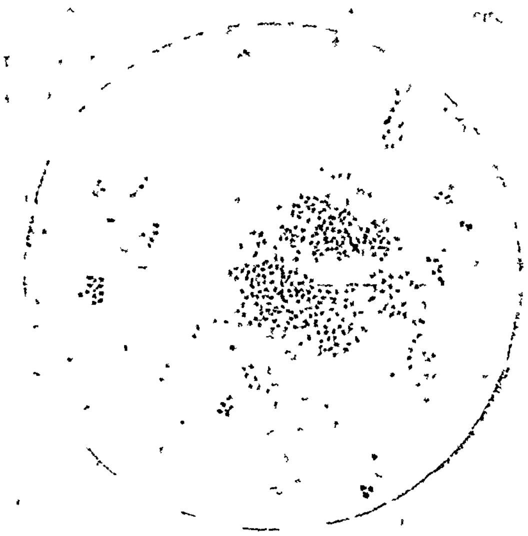
It is interesting to note, too, that this view receives valuable support from experiment, which shows that according as the circumstances vary the typhoid bacillus is capable of causing now a simple bacilluria, now a pure cystitis. Thus, Melchior[52] showed that if a rabbit be taken and one cubic centimetre of a broth culture of typhoid bacilli be injected into the bladder no symptoms follow, but a bacilluria lasting for about ten days results. If, however, immediately after the injection the penis be ligatured for some hours and retention be produced then true cystitis follows. *There can be little doubt, then, from the above considerations that typhoid bacilluria, such as we see it in the wards, is due to infection of the urine by a stray typhoid bacillus, excreted by the kidneys from the blood, and its immediate multiplication in the bladder-urine. If in addition the bladder walls have been in any way damaged, then true typhoidal cystitis follows.*

Specific bacilluria and cystitis occur, as we have seen, not infrequently in typhoid fever. It would be a mistake, however, to suppose that in every case when "bacteriuria" occurs in this disease it is due to the typhoid bacillus As a rule, the typhoid bacillus is the microbe present, but in rare cases bacteriuria may be produced by the streptococcus pyogenes, or even by the staphylococcus aureus, facts demonstrated in the accompanying reproductions of photographs, which represent in each case a drop of the urine as passed dried on a cover-glass and stained. Similarly, though cystitis in typhoid fever, when not the result of catheterisation, is far most commonly set up by the typhoid bacillus, we must remember that other micro-organisms may produce it. Thus cases exactly similar to the typhoidal ones may result from the invasion of bacillus coli. Indeed, it is surprising that invasions by this and other micro-organisms are not more common when we remember the opportunities offered by the ulcerated intestines.

CHOLECYSTITIS.

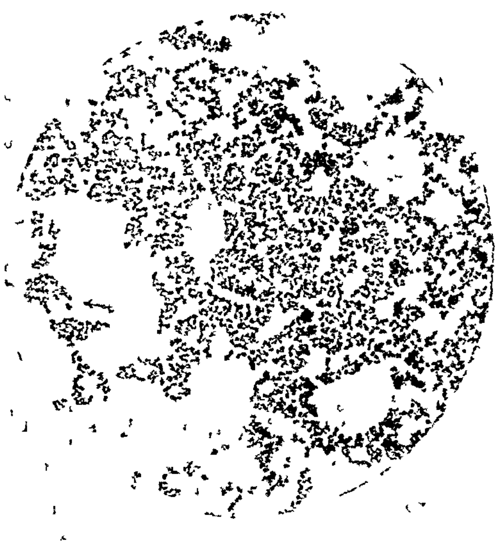
It is interesting to note that a very close parallel may be drawn between the relation of the bacillus to the urinary bladder and that which it bears to the gall-bladder. In the latter, just as in the former, it is not uncommon for the micro-organisms to be present in large numbers, but to give rise to no symptoms. Should, however, retention be produced or the walls irritated by the presence of gall-stones then cholecystitis follows, just as cystitis does in the case of the urinary bladder. Ten such cases have been recorded by Hunner,[53] many of them occurring at some considerable time after the attack of typhoid fever, and in all the typhoid bacillus was found at the time of operation in pure culture. Moreover, the parallelism may be pressed further, for, just as cystitis in typhoid fever will sometimes depend on the presence of bacillus coli and not on that of the specific micro-organism, so also the same may occur in the case of the gall-bladder Thus five cases of post-typhoidal cholecystitis in which bacillus coli communis was found in pure culture in the inflamed organ are recorded in Cushing's[54] interesting paper.

FIG. 1.



"Bacteriuria" in typhoid fever. Staphylococcus pyogenes aureus. Rare. × 1000.

IG. 2.



"Bacteriuria" in typhoid fever Streptococcus pyogenes. Rare. × 1000.

TYPHOIDAL CHOLELITHIASIS.

In reading the record of the true typhoidal cases of cholecystitis it is noteworthy how almost constantly gall-stones were found at the time of operation. Indeed, so striking is this fact that it early led to the idea that the typhoid bacilli themselves were the cause of the cholelithiasis, and that, as a rule, it was only after the formation of the stones that the inflammation of the gall bladder took place—a view which would well agree with the fact that not uncommonly it may be months, or even years, after the original fever before the cholecystitis occurs. *The theory is supported by the fact* that, as Naunyn[55] and others have shown, micro organisms may often be found in the centre of recently formed stones, and also by the observation of Richardson[56] that not uncommonly after death the typhoid bacilli in the bile may be found agglutinated. He observed this in five out of six cases in which he examined the bile, and although these numbers give too high a percentage they certainly prove that the condition is no uncommon one. It is easy to see how this agglutination, when it occurs would form a nucleus round which biliary salts would be deposited and thus lead directly to the formation of stones. Recently the matter has been carried a stage further, for both Gilbert and Fournier[57] and also Richardson[58] have succeeded in producing artificial biliary calculi—the former in the rabbit by the injection into the gall bladder of attenuated typhoid cultures and the latter in the guinea pig by the use of already agglutinated bacilli. From the centre of Gilbert's calculus, also, typhoid bacilli in pure culture were obtained. There can be hardly any doubt, then, that the typhoid bacillus is capable of leading directly to the formation of gall stones, and it is easy to see how the latter would assist the former in setting up the cholecystitis. If, then, inflammation of the gall bladder occur after a case of typhoid fever, and the specific bacilli be found in pure culture, the sequence of events in all probability has been, first the formation of gall stones and only secondly cholecystitis. In a few cases—and this is especially seen in those rare ones occurring during the fever itself—the gall bladder may become inflamed primarily through the action of the typhoid bacillus, without gall stones being present. But in these cases just as with typhoidal cystitis, the walls have in all probability been damaged through the stress of the disease and the predisposing cause is therefore already present.

---

[50] Ibid, May, 1894, p. 370.

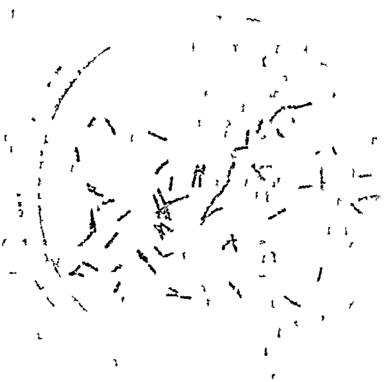
[51] Loc cit., vide note 40.

[52] Loc. cit., vide note 40.

[53] Loc. cit., vide note 26.

[54] Loc. cit, vide note 24.

FIG 3



"Bacteriuria" in typhoid fever. Bacillus typhosus. Common variety × 1000.

SUPPURATION IN TYPHOID FEVER

We may now turn our attention to suppuration in typhoid fever. In the earlier days of bacteriology all suppurations occurring in typhoid fever were regarded as due to a secondary infection by the pyogenic micro organisms, and the experiments of Dmochowski and Janowski[59] and others, showing that experimentally the typhoid bacillus itself is quite capable of producing suppuration, came therefore somewhat as a surprise. *Their correctness, however, was soon* demonstrated, for it was shown that not uncommonly in man the typhoid bacillus could be obtained from the pus in pure culture. These cases have lately been collected by Keen,[60] and they show clearly that in the most diverse situations *suppurations due to the typhoid bacillus have occurred.* It would be a grave error however, to suppose, as is sometimes done, that the majority of typhoid suppurations are directly due to the typhoid bacillus. This is certainly not the case; the greater number are without doubt the result of secondary infections and are produced by the ordinary micro-organisms of suppuration. This point was very clearly brought out by Vincent,[61] who in 1893 examined bacteriologically 41 cases. 32 of these cases were produced by the staphylococcus aureus or citreus, eight by the "streptococcus pyogenes either alone or in conjunction with the typhoid bacillus," and one only was produced directly by the typhoid bacillus alone. The great preponderance of cases due to the pyogenic cocci is thus well shown, and this is a point which we are apt to forget at a time when nearly every case due to the typhoid bacillus rapidly finds its way into print.

In suppuration, however, connected with bones, post-typhoidal periostitis and osteomyelitis, which Sir James Paget[62] was one of the first to describe, it is undoubtedly much more common to find the typhoid bacillus, and the reason of this is not far to seek when we remember how constant is the presence of the bacillus in the bone marrow during the disease. Keen[63] in a careful survey of the lately published cases finds that of 51 cases in which a bacteriological examination was made, 38 contained the typhoid bacillus and 13 the pyogenic micro organisms, while Parsons[64] in six cases found the typhoid bacillus in pure culture in four cases and associated with the staphylococcus citreus in one case; in only one case did he find the staphylococcus aureus alone. At St Bartholomew's Hospital the typhoid bacillus has not been found quite so *frequently*. Thus out of four cases of periostitis examined in two only was the typhoid bacillus found, once alone and once associated with the staphyloccus.

Speaking generally, however, it will be true to say that *while it is very common to find the typhoid bacillus in pure culture in the abscesses connected with bone, in suppurations occurring elsewhere its presence is undoubtedly rare.*

The following table from the records of St Bartholomew's Hospital, the observations having been made by the late Professor Kanthack, Dr Drysdale, or myself, demonstrates these points clearly and especially shows the rarity of the typhoid bacillus in inflammations unconnected with bone. In eight such cases examined it was not once found.

TABLE VII.—*Typhoid Suppurations.*

No.	Nature of the suppuration	Micro-organisms found	—
1	Periostitis, sternum	Typhoid bacillus (pure culture)	—
2	" " right tibia.	Typhoid bacilli + staphylococci	—
3	" " left tibia	"No typhoid bacilli"	Typhoid bacilli not present
4	Periostitis distal phalanx of the thumb	"Pyogenic cocci"	
5	Parotid bubo	Staphylococcus pyogenes aureus	
6	*Ischio-rectal abscess*	Bacillus coli and streptococci	
7	" "	Streptococci.	
8	Subcutaneous abscess	Staphylococcus pyogenes aureus and albus.	
9	"	Staphylococcus pyogenes aureus	
10	" "	Staphylococcus pyogenes aureus	
11	Subcutaneous and intra muscular	"Pyogenic cocci."	
12	Mammary abscess	Staphylococcus pyogenes aureus	

---

[55] Cholelithiasis, New Sydenham Society, 1896, p. 51.

[56] Journal of the Boston Society of Medical Sciences January 1899 iii p 79.

[57] Comptes Rendus de la Société de Biologie, 1897 p. 936.

[58] Loc cit. vide note 56.

[59] Loc cit, vide note 23.

[60] Loc. cit vide note 23.

[61] Annales de l'Institut Pasteur 1893.

[62] St. Bartholomew's Hospital Reports 1876.

[63] Loc cit., vide note 23.

[64] Johns Hopkins Hospital Reports, 1895, p. 417.

THE PERSISTENCE OF THE TYPHOID BACILLUS IN THE BODY.

There is one other point which it may be of interest now to consider, and that is, what is the length of time during which the bacillus may remain in the body? It was naturally supposed at first that as the fever passed away and as health returned the bacillus, the cause of the disease, would disappear from the tissues also. This apparently was demonstrated by the earlier observations Thus it was shown long ago that if the spleen or mesenteric glands—the classical breeding grounds of the microbe—be examined late in the disease no typhoid bacilli are found, the organs being either sterile or possibly containing bacillus coli communis. This has been noticed by Flexner[65] as early as the sixth week, while Dr. Klein[66] has recorded it in the ninth week of the disease. The experiments of Blackstein and Welch,[67] however, showed that, sometimes at least, the typhoid bacillus might remain for much longer periods in the body. Thus after intravenous injections of the bacillus into rabbits they found that the bile still contained the micro-organism when the animals died or were killed at such long intervals as 84 days, 109 days, and even 128 days after the date of inoculation. The other organs were, however, found sterile.

These experimental results in animals naturally suggested that the same thing might occur in man after typhoid fever, and this has been amply demonstrated, for we now know that it is nothing uncommon for the bacilli to remain dormant in the bile or the bone marrow for long periods, the patient, just like the experimentally inoculated animal, being meanwhile often in perfect health, and then under the influence of some passing stimulus to resume their activity and to give rise now to periostitis, now to osteomyelitis, or it may be to cholecystitis. Of the later cases belonging to the former group (bone affections) the chief interest centres round those recorded by Buschke,[68] Sultan,[69] and Bruni,[70] in which the bacilli were found in pure culture in the pus in two cases six years after the primary fever and in one case seven years afterwards. By far the most important is that of Bruni, on account of the very great care exercised in testing the isolated bacillus, so that his case may be accepted without hesitation The patient was a woman, 36 years old, who suffered from typhoid fever in September, 1889. During convalescence she had some pain over the right tibia which lasted for some time, but which gradually disappeared. After some years, however, it returned and becoming worse she presented herself at the hospital in the year 1895 six years after her primary attack. The upper part of the right tibia was found to be swollen and reddened, and osteomyelitis was diagnosed. The bone was consequently trephined and in the centre a cavity filled with grumous pus was discovered. The contents contained the typhoid bacillus in pure culture. This case may be accepted without any doubt, and is only a type of many others recorded though not so rigorously examined. If we now turn to cholecystitis we find the same remarkable facts. Thus, to mention but a few, though many are recorded in Hunner's interesting paper.[71] In one case the bacilli were found in pure culture in the inflamed gall-bladder three months after the fever, in another eight months, and in a third after an interval of seven years. The most remarkable case of all, however, and one very carefully tested, is that recorded by Von Dungern[72] in which fourteen and a half years after the attack of typhoid fever the bacilli were still present in pure culture in the pus. Truly no longer can we say with Dr. Budd[73] that "by destroying the infectious power of the intestinal discharges the disease may be in time finally extinguished." So far, indeed, from the stools being the only agents by means of which the disease is spread they are but one of a series of agents So far, too, from the patient ceasing to be a source of danger after his restoration to seeming health he may carry about in himself the seeds of infection for months and even years.

---

[65] Johns Hopkins Hospital Reports, 1895, p 377.

[66] Report of the Medical Officer to the Local Government Board, 1892-93

[67] Johns Hopkins Hospital Bulletin, 1891, pp 96 and 121.

[68] Fortschritte der Medicin, 1894, p 572.

[69] Deutsche Medicinische Wochenschrift, 1894, p 34.

[70] Annales de l'Institut Pasteur, 1896, p. 220

[71] Loc. cit, vide note 26.

[72] Munchener Medicinische Wochenschrift, 1897, p 699

[73] Typhoid Fever, London, 1873, p. 180.

THE TREATMENT OF RHEUMATISM, ITS PROPHYLAXIS AND CARDIAC COMPLICATIONS.[1]

By SIR RICHARD DOUGLAS POWELL, BART., M.D,
F R.C.P. LOND,
PHYSICIAN-IN ORDINARY TO THE QUEEN; PHYSICIAN TO THE MIDDLESEX HOSPITAL AND TO THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON

I MUST first of all acknowledge the great honour, which I feel it to be, to be requested to make some final remarks in conclusion of this discussion and I will mark my sense of that honour by being as brief as I can consistently with due respect to the number of very able and eminent speakers who have preceded me. I think, after hearing the remarks of some speakers at the last meeting and still more after the remarks of most speakers at this meeting, that we may fairly say that the profession are certainly prepared to accept, if not to welcome, the arrival of a microbe as representative of the rheumatic disease provided that it be duly accredited to us by scientific investigation. I am bound to say that although we have been well prepared for the possible advent in some saprophytic form of such an organism by the most elaborate and able Milroy Lectures of Dr. Newsholme to the Royal College of Physicians of London, the points of which have been given to us so carefully by Dr. W. Ewart, yet these arguments, meteorological, bacteriological, epidemical, or clinical, do not, I think, do more than lend colour to a preconceived hypothesis, however scientific it may be, of the possible existence of such a microbe. The position most likely occupied by such an organism has been placed near the surface of the soil. It is presumed to dwell in certain localities and even to lurk about certain houses; its avenues of entry have been defined as through the tonsil or possibly the air-passages or digestive tract, but beyond these statements with regard to the organism we cannot say that we know anything whatever about it and it has never been demonstrated to us It does not, however, follow that it may not appear, and that soon. We can have no quarrel with any hypothesis which leads to so practical a therapeutical suggestion as that initiated by Dr. T. J. Maclagan—viz., the introduction of the salicyl compounds in the treatment of rheumatic fever

There have been certain organisms discovered in rheumatic fever alluded to by Dr. Ewart—viz., the staphylococci, the streptococci, the pneumococci, and I think a few others—which have been found by certain observers more particularly in those cases in which the rheumatic fever has been associated with tonsillitis, and an interesting paper was read by Dr. P S Abraham before the Clinical Society last June in which he speaks of cases of rheumatic fever associated with throat affection. He divided these cases of rheumatic tonsillitis into two forms—faucial erythema, with which we meet as part of the rheumatic illness and tonsillitis proper, the latter including follicular tonsillitis and ordinary quinsy. Dr. Abraham found these organisms in the secretions and sections of the tonsils, in the blood, in the urine, and I think in the joint fluids. Dr. Abraham's observations are to my mind of great interest, but I venture to doubt whether they really throw much light on the point which he was trying to introduce—viz, the possible result of rheumatism from these causes. Dr. Abraham alluded to 11 cases, all of which were children except one, and from other facts mentioned in the paper I gather that almost all his throat cases were cases of follicular tonsillitis. I am not surprised at these organisms being found in the follicles of the tonsils and in the blood in the case of follicular tonsillitis, for follicular tonsillitis is a disease which is always regarded as one suggestive of at least a mixed infection, and one never sees a case without careful inquiry as to drains and sanitation. It was interesting to me to remember the occasional occurrence—I have only met with two cases—of infective endocarditis as a process arising in the course of primary acute rheumatism, and the fact of finding such organisms in association with acute rheumatism would lead one to see how perilously possible the occurrence of infective endocarditis may be in such cases.

---

[1] The reply to the debate on the Treatment of Rheumatism at the Chelsea Clinical Society delivered on March 20th, 1900

With regard to the blood, however, but little has been said. There is a characteristic sign and a diagnostic sign almost, one might say, of a remarkable increase of fibrin in rheumatic patients only equalled by that found in pneumonia; the red corpuscles are notably decreased and the white corpuscles are increased. The total acidity of the blood is increased, or it is better, perhaps, stated that the total alkalinity of the blood is diminished. This acidity of the blood led many years ago to the lactic acid hypothesis of rheumatic fever which, I think, has been trenchantly criticised by Dr. Pye-Smith as an exploded idea. Whether this increased acidity be the result of some modified local metabolism or of some disordered intestinal secretion leading to the production of some ferment or to the advent of the bacterial ferment, which has been so largely supposed in the present discussion and in the current literature of the day, I am quite unable to say. On these points we must wait with due reserve for the further researches which are sure to be made and the enlightenment which will surely come to us.

It is a curious fact that the nervous system has been almost entirely forgotten in the present discussion and yet some will remember how lively a discussion took place 25 years ago as to the origin of rheumatic fever as a neuropathy, in which Dr. T. Buzzard took a very prominent part. When one considers how very closely allied the nervous system and arthritis are one cannot be surprised at such a hypothesis having arisen We know perfectly well that rheumatic arthritis is almost invariably a disease preceded by some appreciable nervous shock, agitation, or prolonged anxiety, and Charcot's neuro-arthritic cases are well known. Hyperpyrexia in rheumatic fever is almost the only possible way of people dying in this disease except from direct cardiac lesions. Hyperpyrexia is a paralysis of the thermic control centres and is closely associated with the recedence of the proper rheumatic manifestations, although it is found in other diseases as well. Again, chorea is a disease of rheumatic and of nervous manifestation, and I must say that it was ingeniously and attractively disposed of by Dr. A. E. Garrod by saying that it was a sequel of rheumatic fever just as diphtheritic paralysis and such nerve-lesions may be sequelæ of diphtheria arising from the specific action of toxins on the nerve centres.

With regard to the prophylaxis of the disease I do not think anything is to be said. Dr. Ewart asked many questions about the prophylaxis of rheumatic fever and he proposed to us a good many conundrums, but he did not answer them so far as I know. If one may criticise Dr. Ewart's paper in a kindly spirit I should agree with Dr. A. E. Sansom's remark that it was a little too arthritic Arthritis is an essential feature of rheumatism even in children. You rarely meet with a child with "cardiac rheumatism" who has not exhibited pains called by the friends "growing pains" sufficient to hamper the liveliness of the child. The peculiar arthritis in acute rheumatism is a part of the disease, it is as ephemeral as the rose-spot of typhoid fever, with which to my mind it is closely analogous, and the duration in each joint is about the same. When it lasts longer in one or more joints one finds that the disease is not a pure disease but a mixed disease, such as gonorrhœal rheumatism or a rheumatism in association with hæmophilia, or possibly complicated by tubercle.

Still greater difficulty have I in regarding rheumatism exclusively from the cardiac side. Dr. D. B Lees says it is a cardiac disease with arthritic complications. Dr. Lees deserves our gratitude for the clearness with which he puts before us any hypothesis he may have. There is no doubt whatever as to what he means; he briefly and frankly states the whole case from his point of view. With regard to cardiac dilatation in rheumatism, he regards cardiac disease not necessarily as endocarditis, but as a gradual affection leading to the dilatation of the organ, and I think it is an interesting thesis for discussion. I confess that I had not observed this dilatation of the heart as a constant effect in rheumatism. It is possible that I have overlooked it. One examines patients, but looking back no one can say that he has examined all the cases with sufficient accuracy with regard to this one point to be able to exclude it. In anæmic cases, and especially in anæmic young women, who so commonly come into hospital with rheumatic fever, one frequently, of course, observes some cardiac dilatation. One may meet with cardiac dilatation in any febrile condition, and one is accustomed to regard it as attributable to that condition of muscle present in association with high temperatures to which pathologists give the delightful term of "cloudy swelling." I do not know quite what it means, but it is attended with a somewhat less distinct outline of the elements of the muscle and an increased softness of the tissues and is a condition that is very compatible with the possible yielding of the muscle before the blood pressure. Myocarditis we meet with as a cause of the enlargement of the heart, and fatty degeneration is a rare cause of sudden death in rheumatism. But these facts will not at all explain Dr. Lees's findings with regard to the heart in acute rheumatism; there is, so far as I can gather, scarcely any way out but that the heart must be partially paralysed by some definite poison affecting it, such a poison as Dr. Lees describes as an undue acidity of muscular texture. Then, again, the rapid diminution in the enlargement of the heart under treatment is another point observed by Dr. Lees. Dr. Ewart at a meeting of the Clinical Society of London endeavoured to explain these cases by saying that there was some temporary effusion into the pericardium, but Dr. Lees will not admit this; and I can conceive no explanation except that which Dr. Lees expounded, only I think that he would fully expect that his observations would be received with a respectful scrutiny on the part of those to whom it was first presented. As regards the description, the definition of rheumatism, I should much prefer the very accurate definition which was given us by Dr. Archibald Garrod that it is "a systemic disease with arthritic and cardiac manifestations," a definition which is accurate and which is safely within the limits of our knowledge of the actual causes at work in acute rheumatism.

In my second Lumleian Lecture two years ago I ventured to sum up in a sentence the current treatment of acute rheumatism, which has drifted down to us from the experience of many years past. Such patients should be treated by "absolute rest in bed in woollen wrappings, a free relief of the bowels, and the administration of salicylate of soda in efficient doses in combination with such alkaline remedies as the condition of the urine may suggest," and I have been interested to see how far this ordinary routine treatment has been exemplified or departed from by those who have spoken. The object of the treatment is to diminish suffering, to lessen the duration of the disease, and to protect the heart. It is, of course, absolutely unnecessary in an assembly of practical men such as this is to speak of the necessity of keeping rheumatic patients in warm wrappings in a comfortable, well-ventilated room, and of securing a free relief of the intestinal secretions. I do thoroughly approve of the diet of patients being strictly liquid, and mainly milk, for a good many days. Dr. Burney Yeo's remark was a valuable one and one apt to be forgotten in hospital practice, and that is, "Let the patient have a good drink of water if he wants it." One sees in hospital wards the careful manner in which water is given as if it were a potent medicine instead of a soothing drink. With regard to rest in the treatment I feel bound to linger a little, although less to-night as so much has been said. I do think that the profession have not yet fully grasped the exceeding importance of absolute and prolonged rest in the treatment of rheumatic fever, especially, of course, when the heart is involved. The inadequacy of treating the patient by rest has largely affected the statistics of the salicylate treatment. A practitioner will give salicylates to a patient and in two or three days the patient is free from pain and does not see why he should not get up. Determination is required to make him keep at rest. The salicylate treatment relieves the *symptoms* of the disease and subdues many of its important features, but it does not cure the rheumatic illness, it does not shorten the duration of that illness. You cannot get out of the rheumatic illness under four or six weeks, and if, because the patient is relieved of pain he begins to move about he nevertheless is still a patient with latent rheumatic fever and may have a relapse and in all probability a relapse with cardiac complications. With children the slight joint affections often mislead the practitioner and the rheumatism may not be detected, with the consequence that relapses occur with cardiac complications. Dr. R. Caton was very emphatic about the importance of rest in the treatment of rheumatism. I may venture to say that I think a good deal of Dr. Caton's great success in the treatment of rheumatism is due to his having so early recognised the extreme importance of continued long rest throughout the rheumatic illness. Dr. Sibson, who was the first advocate of the 'rest' treatment in rheumatic fever, was curiously inadequate in his directions in regard to it, and his directions were that the patient should be kept quiet in bed "for a period of several days after the complete disappearance of the local inflammation of the joints." The point in the treatment of rheumatism is that so long as the tongue is coated, the urine is loaded, and so long as there is a trace, even the slightest trace, of pyrexia, people must be kept rigidly in bed in warm clothing and also for a period of a good many days afterwards even in the complete absence of any cardiac affection.

There is one little point in regard to temperature that is important. One so often hears it said that a patient has no fever of any consequence, that the temperature only runs up to about 99° F., or a little below, and you are told he is not feverish. But 99° in the mouth or the axilla is a morbid degree of temperature, and taken in association with the history of recent rheumatism or a slight endocarditis it is an absolute sign of the importance of preserving complete rest. As Dr. Maclagan said, inflammation in the valves of the heart is very slow to subside, and it is not a mere surface inflammation but affects the fibrous texture of the valves, which are ever in function: and when diminished in resisting-power by recent inflammation the extra strain upon them of several thousand impulses per day involved by the patient changing from the position of absolute rest to the upright posture, or sitting or moving, is enough to keep up the inflammation and to cause a deforming valvulitis. I remember well Sir William Jenner's memory-clinging words when he used to say in the clinical wards, "Children do not grow out of heart disease, they grow into it." That statement was mainly founded on the treatment of rheumatic fever in our hospitals and especially in children's hospitals where, at that time particularly, rest, complete rest, for a sufficient length of time was not observed. I do not know whether the rest treatment can be observed fully in children's hospitals, the want of it is an explanation to my mind of that statement.

Again, I would venture to say from clinical experience that those two most grave cardiac affections of rheumatic origin, mitral stenosis and aortic regurgitation, are valvular lesions which are scarcely ever met with in primary rheumatic illnesses—they are almost always found in those cases which have left the hospital after a primary attack of acute rheumatism and have returned some months later. These two lesions are the consequences of subsequent slow deforming valvulitis from strain put upon the valves before they have completely recovered from the primary rheumatic lesion. In my experience, and in that of many of those who have spoken to-night, primary endocarditis is a curable disease in a large number of cases if taken in time and if the patient is retained at rest for a sufficient time to allow the valve to make recovery before the extra strain or function is put upon it.

With regard to salicylates, if they do not do all that which was originally claimed for them, their usefulness cannot be gainsaid. Those who remember the controversies of some 30 years ago, when the relative values of alkalies, blisters, iron, mint-water, and cotton-wool wrappings were discussed, will agree that there was no very marked advantage in the treatment of the disease by any of them. As already said, it is the universal experience that salicylates do not affect the duration of the rheumatic illness, but they do reduce the temperature and relieve the joint affections. It would be idle to discuss the mode of action of the remedy with which we are after all somewhat imperfectly acquainted which neutralises, although it does not extirpate, the rheumatic poison, a poison of which we know absolutely nothing. The salicin compounds are certainly remote antiseptics of considerable power. Those who have watched patients taking considerable doses of salicylate will have noticed how long the urine can be left standing exposed to the air without undergoing decomposition. It is said that statistics prove that cardiac complications are more frequent in those who are taking salicylate and that relapses are more to be feared than under the alkaline treatment. I think that Dr. Ewart hit on the fallacy of the inference from these statistics when he remarks upon "the indirect risk that arises that we may be misled into over-estimating its anti-rheumatic powers and relax too early both treatment and diet."

It is said, again, that salicylates have no influence upon hyperpyrexia in rheumatism. I do not know that any drug has an influence on hyperpyrexia when it is established, but in my experience hyperpyrexia has enormously diminished as a complication of rheumatism since the introduction of the salicylate treatment. Dr. W. E. Wynter has been kind enough to look through the records of the Middlesex Hospital for the last 30 years. In the years from 1870 to 1876—that is, before the period of the salicylate treatment—there were 952 cases of rheumatic fever with 30 deaths, that is to say, there was an average of 136 cases of rheumatic fever every year with an average death-rate of four and a quarter. In this period there were 11 cases of hyperpyrexia of which one case recovered. In the remaining 21 years, from 1877 to 1897, all within the period of treatment by salicylate, there were 2552 cases of rheumatic fever admitted into the hospital with 27 deaths, or an average of 121 cases instead of 136 cases per year, and with a death-rate of one and a half in 121 as against four and a half in 136 In that period there were only six cases of hyperpyrexia, all of which occurred in the first two years and four of which recovered. There has been no death from hyperpyrexia in the hospital since 1889. My impressions have been thus borne out by the hospital records. Then, again, in the treatment of hyperpyrexia I have made it a rule after reducing the temperature by cold to adhere to the salicylate treatment. I think it will be found that where hyperpyrexia occurs in a considerable proportion of the cases the salicylate treatment has not been pushed very vigorously.

Pericarditis is spoken of as a common complication of rheumatic hyperpyrexia. My experience, and I should like to know if it is the experience of others, is to find in high temperature that it is common to hear a pericardial friction sound or a rough murmur at the base of the heart, which is found to disappear when the temperature comes down nearer to the normal range. I have come to regard with great suspicion such adventitious sounds when presented in cases with a temperature above 104° and wait till the temperature is lower, looking upon them as often due to some temporary dryness of pericardial membrane or some changed hæmic state.

There have been various statements as to the unfavourable effects of the drug, some maintaining that these effects are rather imaginative. I must confess that I do not agree with this opinion. I have observed a distinct case of renal hæmorrhage associated with salicylate treatment and I think Dr. Pye-Smith mentioned some cases also. Then, again, the occurrence of great slowness and great feebleness of the pulse is sometimes met with in people taking salicylates, so notably met with as practically to interrupt the treatment by salicylate. Now and again one meets with delirium with a falling temperature coming on in the course of rheumatic fever; that is in my experience always an untoward consequence of salicylate treatment and requires the treatment to be interrupted. With regard to the dosage various opinions have been expressed. I for my part should say that a 15-grain dose is better than a larger dose, but it should be repeated at sufficiently short intervals to get the patient under the influence of the drug. When too large doses are given at first the drug is apt to cause vomiting or other disagreeable symptoms. I fully agree with Dr. C. O. Gibbes that the influence of the drug should be maintained.

The effect of the discussion will be to rehabilitate alkalies in our good graces The alkaline treatment was tried in its thoroughness many years ago and was found wanting, and although it still lingers as a tradition in some London hospitals yet it has come to be softened down and to be mingled with the more efficacious salicyl treatment. Alkalies seem to be called for by the symptoms of rheumatic fever, but I should very much question whether they can have much influence upon that acidity which is said to be so potent in producing paralytic cardiac dilatation. For we must remember, at least I think I am right in saying, that the blood is never acid even in acute rheumatism; it may be less alkaline than is normal. As regards the sweat I have never observed the sweat of a patient to be rendered alkaline by the alkaline treatment even in cases where the urine is strongly alkaline. The urine is readily rendered alkaline, but I doubt whether it is of any advantage to make the urine, which is normally acid, alkaline in the course of the treatment of rheumatic fever. I should regard the usefulness of alkalies rather as increasing the oxidation of the tissues and promoting the elimination of morbid materials, whatever they may be, from the blood and should be inclined to give them in moderate doses.

With two exceptions, Dr. Donald Hood and Dr. Burney Yeo, opium has not been touched upon. It was at one time an important remedy in acute rheumatism. We do not now require to give opium to any great extent—it is useful for the first 24 hours for the relief of pain—but in myocarditis, in grave forms of endocarditis, and especially in pericarditis, the opium treatment is of immense value, its object being to cause organic rest, so far as organic rest can be given to an automatically moving organ, by diminishing the rapidity of the pulse and quieting the restlessness and agitation of the patient.

With regard to blisters very much has been said and I should attach much importance to Dr. Caton's views after 19 consecutive years' observation. The idea of treating the surface nerves which have reference to the inner organs, the area of distribution of which has been so ably pointed out by Dr. H. Head, is an attractive one. The possibility of producing a reflex vaso-motory control of the affected valves is a very attractive hypothesis, but I still think it is rather straining physiological therapeutics to the extreme point. An ounce of fact, however, is worth a pound of theory and Dr. Caton has found the application of small blisters useful in acute rheumatism, and one can only suggest its further trial. We all agree on the little value of digitalis in the acute cardiac affections of rheumatism. The treatment of the more chronic affections of the heart in rheumatism referred to by Dr. Sansom by regulated exercises and by saline baths seems scarcely to come within the range of the discussion. I believe he would agree with me that these therapeutical measures are unsuitable in the treatment of acute or sub-acute rheumatism with any active trouble in the valves.

I fear my remarks have been discursive, but I would say that for my own part I have derived the greatest possible interest and advantage in carefully watching this debate through and I think it is a discussion which will be of extreme practical help and value. It is a most important function of clinical societies, in my belief, occasionally to bring forward questions of this kind, to be discussed from a large point of view, collating the experience of many observers in order to formulate some efficient and valuable treatment of such diseases which are the more important because they are very common.

ON THE TREATMENT OF THE RHEUMATIC DISEASES OF THE HEART IN THE EARLY PERIODS OF THEIR MANIFESTATION.

A RETROSPECT AND AN ESTIMATE.

BY A. ERNEST SANSOM, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE LONDON HOSPITAL, ETC.

IT is of a distinct value that we should at certain periods—the intervals being not too short—take stock of our therapeutic resources. When we do so we ought to be careful to steer a middle course between the whirlpool of extreme enthusiasm and the rock of stolid obstruction. It is easy to be carried away by therapeutic optimism. It is not difficult to be too much unconvinced and to carry out too inflexibly the maxim, "*Et surtout point de zèle.*" It seems to me that it would be very difficult at the present time to find a subject of greater practical importance than that of the treatment of rheumatism. It has been determined with much wisdom that the best plan for obtaining good practical therapeutic data is to obtain the opinions of many observers. This way has the advantage of excluding many fallacies and of presenting the therapeutic problems from many points of view. My own contribution to the investigation will be confined to a consideration of the manifestations of rheumatism upon the heart and surrounding structures and a very brief estimate of the best practical methods of treatment which we now possess according to my own deductions—deductions which I, of course, consider as fallible and only to be adopted if confirmed by the experience of others. I do not think that this survey of the great question, the pathology and treatment of rheumatism—a survey which in point of time has occupied me more than 40 years and has ranged over the fields of practice in a children's hospital and in general hospitals, in general practice and in the private practice of a hospital physician—can be wholly valueless. At any rate, I am thankful for the opportunity of giving my confession of the faith that is in me.

PRELIMINARY CONSIDERATIONS: MEANING OF THE TERM "RHEUMATISM."

I do not intend to offer any observations on academic questions. The meaning of the word "rheumatism" as it affects the heart will be manifested with more or less perspicuity in the course of this inquiry. I cannot help saying, however, that a clear mental picture of the disease must of necessity be in the mind of the medical practitioner before there can be any satisfactory solution of the problems of treatment. The differentiation of rheumatic diseases and the exclusion of the non-rheumatic have notably cleared the blurred picture that was presented to me in the earlier days of my medical life. Scarcely more than 20 years ago suppurating joints were described as rheumatic. Now we know—and knowledge is advancing—that there are many forms of arthritis besides the rheumatic forms. I need scarcely say that it is only within recent years that infective (septic or ulcerative) endocarditis has been accurately differentiated from the rheumatic form of the disease, in which, however, it not infrequently occurs as an epiphenomenon.

THE FIRST CAUSE OF RHEUMATISM.

Though we have no precise demonstration of the micro-organism or micro-organisms that effect the first morbid changes there is a general disposition to conclude that the disease is due to an infective agency which is correlated with the pathogenetic micro-organisms of the infectious diseases. From evidence which I have observed it has seemed to me that in rheumatism the early influence of tonsillitis (often a trivial unnoticed superficial lesion of the mucous surface of the tonsil) has been underrated. At any rate it is well that further investigation should be made upon this point, for the denuded surfaces of the upper air-passages offer a very favourable ground for the cultivation of micro-organisms, and the occurrence of scarlatinal or post-scarlatinal arthritis presents an argument from analogy.

SLOW EVOLUTION OF THE MORBID PROCESS.

Whatever the nature of the primary agency the resulting toxic effects must be very subtle in their early manifestations and very protracted in their course. A considerable array of evidence shows that the forms of heart disease, essentially rheumatic, may be induced in the fœtus in utero whilst the mother shows no notable signs of any rheumatic disease.[1] In the earlier years of life diseases which without doubt are of rheumatic form occur unnoticed and unrecorded. I am quite sure that endocarditis with resulting valvulitis causing persistent and increasing lesions of the heart-structures may thus occur. To explain the course of events on the hypothesis of an infective agency (a pathogenetic micro-organism) we must, I think, take one of two paths of thought: either the toxins are very slowly evolved and so for months and years after the first importation of the microbes produce morbid changes, sometimes in the heart-tissues, sometimes in the pleuræ, in the alveoli of the lung (broncho-pneumonia), in the fibrous tissues in various situations, in the skin, the blood, and the central nervous system; or else the toxins first evolved so affect the nervous mechanism as to induce a perversion of metabolism whereby an autogenetic morbid product is produced in the blood, the period of manifestation of such perversion of metamorphosis lasting during the period of childhood and maturity, for the tendency to the advent of true rheumatism ceases at the age of 35 or 40 years. Whatever hypothesis we adopt we must agree that successive waves of recurrence of the disease—storms followed by calms—are manifested during the months and years of life of the individual affected.[2] If it be, as I have said, that the diseases of the heart met with in the course of rheumatism are so subtle in their first manifestations, so symptomless, so protracted in their course, it should cause little surprise that the statistical method has not hitherto demonstrated in an absolutely convincing manner that modern therapeutic methods have succeeded in controlling or preventing the disease of the heart due to rheumatism

Though statistical evidence, however, fails to show that the prevalence of heart diseases resulting from rheumatism has been unmistakably reduced I am convinced that such diseases have been powerfully influenced for good by modern methods in a way that statistics do not and cannot demonstrate.

---

[1] Purvis Oration, THE LANCET, Dec. 10th, 1892, p. 1536.

[2] The Nature of True Rheumatism, Clinical Journal, Dec. 7th, 1892, p. 81.

The distinct advances in therapeutics which I consider to be established by satisfactory evidence are: (1) the employment of salicin and the salicin compounds; (2) the use of the icebag and cold applications; (3) the employment of physical means for directly influencing the nerve mechanism; and (4) the judicious employment of bathing, hygienic methods, massage, and mechanical exercises.

THE SALICIN TREATMENT.

If this treatment fails to prevent the manifestation of rheumatic disease of the pericardium and the heart it is at any rate proved by a mass of convincing testimony that it promptly takes from acute rheumatism its painful terrors, ministers to comfort, and thus brings about that systemic calm which is of the first importance in obtaining a good result in cases of heart disease. The routine plan which I adopt in the case of an adult is to administer the pure salicylate of sodium in 20 grain doses, with five-grain doses of ammonium carbonate, or 20-minim doses of aromatic spirit of ammonia in an ounce of camphor water every two hours until six doses have been taken or until temperature has fallen and pain has ceased; subsequently the administrations are reduced to every six hours or every eight hours. It has been said[3] that sodium salicylate is incompatible with free ammonia, ammonium carbonate, or aromatic spirit of ammonia, but I have investigated this point and find that the mixtures of these substances show no decompositions and are perfectly well taken by the patients throughout the whole period of treatment. I have combined the alkaline carbonates, especially sodium carbonate in 20 grain doses, with the mixture in some cases, but I have not observed that this is in the early stages of treatment of any distinct advantage. Any recurring wave or storm of the disease is treated as the early symptoms and treatment is kept up for three to six weeks. I have very rarely observed signs of intolerance of the drug, but in a small minority of cases I have employed the dithiosalicylate of sodium in three grain doses every eight hours in a cachet or in chloroform water with extract of liquorice. It is very rarely, however, that the sodium salicylate acts in any way other than beneficially and the toxic symptoms are sometimes wrongly ascribed to the drug as they are really due to the disease for which the drug is administered.[4] In all cases of acute rheumatism in which the features are a rise of temperature and painful affections of the joints I am convinced that the treatment by the salicylates is the best that can be adopted. With this there must be combined the policy of perfect rest in bed.

RHEUMATIC PERICARDITIS AND ITS TREATMENT.

The cases of rheumatic pericarditis which I have observed convince me that there is an important preliminary consideration before any estimate can be made of the value of a given line of treatment I mean that there is an extraordinary variation in different cases in the nature, the extent, and the intensity of the symptoms of the disease. In some cases these symptoms are so grave that the patient seems, and is, in the extremest peril hour by hour; in other cases the signs and symptoms are so trivial as to be unnoticed and the affection is only found out on physical examination. The perilous, or even fatal, symptoms may be manifested at any stage of the disease. For instance, I have been called to a patient in acute delirium whose ravings have disturbed a whole ward. The delirium has been followed by prolonged epileptiform convulsions. In the course of a few days rheumatic pericarditis has been evidenced and has continued until recovery. In another case a patient was admitted in a typhoid state with diarrhœa and passage of some blood. I found the physical signs of pericarditis. After 18 days the adverse signs as well as the pericarditis had disappeared. Seven days afterwards there was a typical attack of polyarticular acute rheumatism. In many cases there are signs of great pain and distress, intense uneasiness at the præcordium and epigastrium, an extreme hyperæsthesia of the skin over the thorax, paroxysmal attacks of suffering of the nature of angina pectoris, difficulty of swallowing, vomiting, extreme breathlessness, terror depicted upon the countenance, lividity and cyanosis, with disturbances of breathing. I find these to be wholly disproportionate to the extent of the disease. There is in many cases a morbid acceleration of the breathing-rate (tachypnœa), and in many cases also orthopnœa with great distress and paroxysmal dyspnœa. I must conclude with Dr. D. B. Lees that in these cases the difficulties are caused by an involvement of the nerve-mechanism, an irritation of the sub-pericardial nerves whereby the respiratory centre is influenced by a morbid reflex. In other cases there is an extraordinary absence of symptoms of discomfort. I have observed a boy who has manifested the physical signs of a long-continued pericarditis and yet has complained of no subjective symptoms whatever. The boy could be kept comparatively quiet, but could not be induced to remain in bed. In a large number of cases I have traced the early signs and a full development of a typical pericarditis in the course of rheumatic fever without there being any noteworthy symptom to indicate the involvement of the pericardium in the disease. I cannot doubt that the true explanation of the immunity from grave symptoms in these cases is to be ascribed to the fact that the sub-pericardial nerves were not involved in the disease. In the other cases not only the difficulties of breathing, but the dyspnœa, the hiccough, the hyperæsthesia, the symptoms of angina pectoris and the heart failure are to be ascribed to an involvement of the structures of the nervous mechanism.

In the treatment of cases under my own observation I have very rarely found it to be of benefit to suspend the administration of the salicylates if these drugs have been in use for the painful and febrile stages of rheumatism. As an adjunct to such treatment (or in the absence of articular symptoms and of fever in substitution for it) my evidence points strongly to the value of the use of the icebag as advocated by Dr. D. B. Lees. In the case of pericarditis with typhoid symptoms already mentioned (that of a girl 17 years of age) when the signs were very great dyspnœa with irregular rhythm of respiration and compression of the lower lobe of the left lung by the distended pericardium, the icebag treatment was pursued for 16 days; then the signs of pericarditis disappeared. In another case (that of a girl aged 18 years), there was a great protraction of symptoms, the pericardium continuing greatly distended, and there was a friction sound for so long a period that I feared that there must be tuberculous pericarditis. The treatment was chiefly the prolonged use of the icebag suspended over the præcordium, but on three occasions six leeches were applied in addition. Recovery was almost complete when the patient was discharged after eight weeks of treatment. I have subsequently examined the patient and have found the heart to be perfectly healthy. Leaving out all statistical data I have no doubt in my own mind that in rheumatic pericarditis the use of the icebag over the præcordium has coöperated with the internal administration of the salicylates to be a treatment of high value—the best I know—for rheumatic pericarditis. It is now a routine practice with me. Usually the cold application is grateful to the patient; it is evidently anæsthetic and tends to subdue the pain and distress. In some cases it is not well tolerated. The patient irritably gets rid of the application and then I am sorry, but I do not push the treatment For many years I adopted the plan of blistering the præcordium, but I think that this procedure is practically without influence both in regard to the comfort of the patient and the prevention of lasting disease.

THE SWOLLEN HEART OF RHEUMATISM.

From observations which I have made during a series of years I have come to the conclusion that the text-book descriptions of pericarditis and endocarditis do not convey to the mind a complete picture of the phenomena of rheumatism affecting the heart. Even in the absence of any signs of pericarditis, though sometimes concurrently with these, the whole heart may become enlarged. These enlargements are often followed by recessions, so there may be the physical signs indicating a great dilatation of the heart, both right and left chambers, at a given time, and 24 hours afterwards the heart may have receded to its normal limits. I have described such cases in International Clinics, 1894, p. 12. I need scarcely say that these views have been corroborated, with many precise observations and much addition to our knowledge, by Dr. D. B. Lees and Dr. F. J. Poynton[5] It has seemed to me that these enlargements and recessions of the heart, recurring as they do, are closely analogous to the phenomena that occur in the rheumatic joint. There is not of necessity pericarditis as ordinarily understood, nor is there endocarditis, but the whole heart is swollen, for a time hyper-vascular, infiltrated with exudations, and its muscle enfeebled, and after a limited period, which may be even as short as 24 hours, there is rapid absorption of exudation and a restoration to the normal. There are successive storms of rheumatism in the heart as in the joints.

---

[3] Martindale and Westcott, Extra Pharmacopœia, p 31.

[4] The Treatment of Rheumatism, International Clinics, 1894, vol. i, p 9

[5] Transactions of the Royal Medical and Chirurgical Society, vol lxxxi, 1898, pp. 401 and 419.

From collateral evidence I think it probable that disturbances of the nervous mechanism of the heart are causally associated with these phenomena. I have observed an acute dilatation of the heart with rapid subsidence occur with signs that indicated neuritis of the vagus. In this case the cause was not rheumatism. I do not suggest that rheumatism ever induces neuritis of the vagus or any morbid affection of its central parts. I have no experience that the disease, uncomplicated, influences these structures, yet I think it highly probable that just as in some cases of pericarditis the sensory disturbances and the perversions of the cerebral mechanism are reflex and due to a morbid irritation of the sub-pericardial nerves, so in the swollen heart the acute dilatation is due to a temporary irritation of all the local nerve structures of the heart and pericardium. For many reasons I believe that the hypothesis of any direct weakening of the cardiac muscle, any form of myocarditis, is inadmissible.

TREATMENT OF THE SWOLLEN AND DILATED HEART OF RHEUMATISM.

In the first place I consider that the treatment by the salicylates should be continued and even the frequency of administration of the doses should be increased or be as in the early stages of the treatment of acute rheumatism. The icebag to the præcordium may also be applied or re applied. In fact, in these points the treatment should be as for rheumatic pericarditis. It must, however, be remembered that on many occasions the case may put on a very grave aspect, and the patient may be in immediate peril. In such case I am emboldened to say that I have never seen any good results from the administration of digitalis (or digitalin) and I think I may say from experience of the past that I have sometimes seen much to regret from its employment. Sir T. Lauder Brunton and Dr. Cash have shown that digitalis does not manifest its usual good effects upon the heart muscle when there are conditions of pyrexia.[6] My experience from a clinical point of view confirms this statement. So also, according to my own observations, the drug fails to exercise its tonic power on the heart muscle (although it may induce vomiting and other toxic symptoms) when the structures are infiltrated with morbid exudations.

Failing cardiac power is best treated by the frequent administration of ammonia and similar diffusible stimulants in small doses with camphor water or by musk in from three to five grain doses, or tincture of sumbul in 20-minim doses in camphor water, or by hypodermic injection of one-fiftieth or one-thirtieth of a grain of strychnine (sulphate, hydrochloride, or nitrate).

EMPLOYMENT OF THE CONTINUOUS GALVANIC CURRENT IN THE AREAS OF THE VAGI.

I have had considerable evidence to show that this may be a valuable agency in the treatment of the rheumatic heart in its more severe manifestations. For instance, in a case of extreme severity in which I observed recurring enlargements of heart and extremely critical symptoms I adopted in addition to the salicylate treatment the administration of the constant galvanic current from eight cells to the course of each vagus nerve for six minutes three times daily. The anode—a flat metallic plate covered with soft tissue and moistened with hot water—was applied over the nape of the neck, and the cathode—a metallic tissue-covered button similarly moistened—was pressed over the skin of the neck outside the larynx and trachea, or moved slowly up and down from the mastoid process to the clavicle on the right and the left sides alternately. The patient made a most satisfactory recovery. The dilatations of the heart subsided to the normal, the subjective symptoms passed away, and the patient returned to the active duties of life, although there was a murmur of aortic regurgitation. I have seen him, more than 12 months after his illness, hale and strong and oblivious of any imperfection in his heart-valves, and indeed such imperfection is but very slight. I have observed good results in several other cases thus treated, but I cannot, of course, claim for this mode of treatment the efficacy that I have considered to be established in regard to the other therapeutic measures I have mentioned. It is yet *sub judice*.

RHEUMATIC DISEASE OF THE VALVES OF THE HEART.

I have written down my experience which tends to show that the morbid changes in the pericardium and in and about the muscular structures of the heart often occur insidiously and are not betrayed by characteristic symptoms. I assert this still more strongly of rheumatic affections of the valves. In the pronounced rheumatic storms affecting the heart, when there is pericarditis or the swollen heart of rheumatism, it is common, though not invariable, for the endocardium and the valves to be involved. In such case the area of lining membrane of the heart being so extensively diseased, the morbid changes occur chiefly in the mitral valve, the chordæ tendineæ, the musculi papillares, and all the structures in the neighbourhood of the valve, and the result is usually mitral incompetence.

The patient departs from our observation with the systolic murmur of mitral regurgitation and resulting changes which may be compensatory in the left auricle and the two ventricles. But even in a case like this there may be a fallacy. I have known cases in which an apical systolic murmur was manifested during and after pericarditis so that exceedingly good observers had no doubt that there was mitral valvulitis with incompetence and yet the necropsy showed pericarditis only with no involvement of the mitral valve in disease. In such cases I believe the murmur to have been due to an enfeeblement of the heart muscle and especially of the papillary muscles. If there had been a recovery from the pericarditis the murmur and all physical signs of mitral regurgitation would have passed away. In many cases, however, the patient who has suffered from acute rheumatism goes away from our observation apparently recovered. Perhaps the last notes taken state that the physical signs in regard to the heart are normal—the sounds well-pronounced and no murmurs. Yet when the patient comes under observation again after the lapse of some months—no rheumatic symptoms having been manifested in the interval—there is unmistakeable evidence of mitral regurgitation. The disease processes in the valve and *surrounding structures have been* long drawn out, slow, insidious, and unmarked by symptoms. By no means infrequently the very period of commencement of the disease has not been betrayed by any symptom whatever.

When there are any signs, physical or rational, which lead to the diagnosis of endocarditis during acute or sub-acute rheumatism I find no *reason to modify the treatment* by salicylates, by icebag, &c., which I have already described. After the patient has entered into convalescence, however, much may occur to induce or to increase disease in the *valvular structures* of the heart without the patient being aware that any disease is in process. It follows, first, that a very guarded opinion should be given as to the presence of valvular disease in rheumatic subjects; secondly, that a patient who is the subject of rheumatism should be induced to submit himself to physical examination at fairly frequent intervals, notwithstanding the absence of symptoms. Then come the questions of hygiene and general management in these cases, for medicinal treatment is probably of far less importance than these.

Harley-street, W.

ON THE ABORTIVE TREATMENT OF SUPPURATION OF THE EYEBALL.

By SIMEON SNELL, F.R.C.S. EDIN.,
OPHTHALMIC SURGEON TO THE SHEFFIELD ROYAL INFIRMARY; PROFESSOR OF OPHTHALMOLOGY, UNIVERSITY COLLEGE, SHEFFIELD.

I WISH in this short note to direct attention to a mode of treating suppuration of the eyeball which is not as widely known, judging by the text-books, as in my opinion it merits.

In a large ophthalmic clinic suppuration of the globe is by no means infrequently met with. It is due to sepsis, but the immediate cause may be very varied. Amongst the causes may be mentioned penetrating wounds of the globe with or without the lodgment of a foreign body, abrasions and wounds of the cornea, either accidental or the result of operation, burns of the cornea, &c. Pan ophthalmitis may also be due to metastasis from a variety of conditions. The clinical picture of suppuration of the eyeball is characteristic. There are considerable swelling of the lids, enlargement and protrusion of the globe, and swelling of the conjunctiva. In cases arising from metastasis the cornea would be clear and a yellowish appearance denoting the deposit of lymph in the vitreous cavity would have been visible at an earlier period than that just depicted. The pain is most acute and long continued and the condition may be regarded as lasting for at least from four to six weeks.

---

[6] Address on the Connexion between Chemical Constitution and Physiological Action. Brit. Med. Jour., Aug. 14th, 1885, p. 323.

To relieve pain and to cut short the disease are the ends to which treatment should be directed. In the opinion of many enucleation of the globe is not admissible and it is almost entirely in such cases that the fatal instances associated with excision of the eye have occurred. It was laid down long ago by Von Graefe that the excision of suppurating eyes should be avoided owing to the likelihood of meningitis ensuing. The report of the committee of the Ophthalmological Society (1898) which was appointed to consider the relative values of simple excision of the eyeball and of the operations which have been substituted for it, showed the danger of excision in this condition, but in the large numbers dealt with it would nevertheless appear to be, comparatively speaking, of very infrequent occurrence. It has been held by some that the careful use of antiseptics at the time of operation and afterwards would obviate the danger alluded to. I am hardly, however, of this opinion. For many years antiseptics have been carefully used, as a matter of routine, in my practice in all cases of enucleation, but I have not felt that their employment has given me such a sense of security that I should, if other means are available, excise a suppurating globe, especially when the weight of opinion is strongly against such a course.

A better and safer plan, in my opinion, is to deal with the eye on general surgical principles. An abscess elsewhere would be opened and drained and a similar condition affecting the globe should be treated in like manner. I hardly think that this principle has been, up to now, sufficiently appreciated. Text-books—at least some of them—it is true, make mention of incising the cornea or sclerotic and refer, often vaguely, to evisceration in the treatment of suppuration of the eyeball. The plan here advocated is, however, definite both in procedure and in the results which it affords. It is not an evisceration in the sense that Mules's operation is, for no glass globe is inserted into the scleral cavity. It is more like the procedure advocated by Noyes, Von Graefe, and Bunge, and called by some "exenteration," but it will be observed that no stitches are inserted into the sclerotic and it may be that their non-use has been a reason for the absence of the excessive reaction and the prolonged stay in hospital which have been mentioned by some operators.

I have notes before me of suppuration of the eyeball occurring in the following conditions in which the operation has been done: (1) after ulceration of the cornea; (2) wound of the cornea (in a young girl); (3) after cataract extraction, with lacrymal obstruction; (4) wound of the cornea by a piece of coal; (5) suppuration of the cornea, after injury from blasting; (6) foreign body in the eye; and (7) wound of the sclerotic by a hat-pin. I have, however, done this operation for many years and therefore the total number of instances would be a large one. In all these cases the plan adopted was as follows. Ether having been administered, the cornea, unless it is already destroyed, is divided across by a cataract or Beer's knife. The next step is to remove the remains of the cornea up to the sclerotic, and this can be well done with scissors. Some of the contents of the globe may have escaped by this time, and the remainder, consisting of thickened half-gelatinous-looking masses, can be drawn out with forceps. After removal of these portions, which are readily taken hold of by forceps, Mules's scoop may be used to aid further in the cleaning of the interior of the globe or cotton-wool and forceps can be employed to wipe out the contents. Lastly, sublimate solution is freely syringed into the eye cavity until all the contents have been removed or washed away and only the bared sclerotic remains. Gauze is lightly packed into the eyeball and a bandage is applied. Almost immediate relief from pain follows the operation, with no return, and the swelling of the orbital tissues gradually subsides. The dressings are changed on the night of the operation, and during the next few days the eye is syringed twice a day and the gauze is re-applied. For about the first three days there is some discharge, after that practically none. The patient is even then better than he would have been at the end of some weeks if the disease had been otherwise treated. He will, as a rule, be fit to leave the wards in about 14 days. Ultimately a small button is left in the orbit, which is a better foundation for the adaptation of an artificial eye than if enucleation had been performed. I have seen no ill results follow the operation nor should I apprehend them. It is notorious that sympathetic ophthalmitis does not follow suppuration of the globe, and the procedure here advocated forestalls the completion of this condition. In one case some sloughing of the sclerotic occurred but it did not do more than somewhat delay recovery.

Sheffield.

A CASE OF LYMPHATIC LEUKÆMIA.

By M. H. SPENCER, M.D. CANTAB.

THE following case seems to be worthy of record on account of the comparative rarity of the affection.

The patient was a tall, well-made man, aged 38 years, who had led a healthy life and had been accustomed to athletic exercises. There was no previous history of malaria or of any other serious illness. In August, 1899, he complained of pain and tenderness in the right heel which interfered with walking. At this time he appeared otherwise to be in perfect health. The pain about the heel soon passed off, but returned again in the autumn, and a physician who saw him, regarding the symptom as a gouty one, placed him upon a somewhat restricted diet. Towards the end of November he began to feel a little poorly, but was able to play golf and follow his usual pursuits. On Dec. 11th I was called in to see him and found him complaining of pain in the left side of the chest and in the left supra-scapular and infra-costal regions. On the previous day he had been driving in a dogcart and as he felt cold he got out and tried to run for some distance, but was unable to do so on account of shortness of breath and a feeling of exhaustion.

Examination revealed no abnormal signs over the heart o lungs. The spleen was considerably enlarged, reaching nearly to the umbilicus, and was rather tender. The liver was als enlarged and was palpable for the breadth of two finger below the ribs. No enlargement of the lymphatic gland was detected. The urine was loaded with urates but wa free from albumin. There was well-marked anæmia. A rough examination of the blood showed an excess of lymphocytes. The pain in the left side which had been first complained of soon disappeared, but the patient developed a troublesome dry cough which kept him awake at night and caused pain in the splenic region. The anæmia increased in intensity, he became very breathless on slight exertion and rapidly lost strength.

On Dec. 30th an ophthalmoscopic examination revealed numerous blotchy hæmorrhages in both retinæ with som fluffy white patches. There were no marked broadening o the vessels or orange tint of the fundus and no optic neuritis The temperature soon began to rise at night falling to norma or subnormal in the morning. This type of temperature wa maintained until the end. By Jan. 14th, 1900, the weaknes had greatly increased and the pallor was intense. Ther was no dyspnœa whilst the patient was at rest, but h was extremely breathless on the slightest exertion. Ther was now some enlargement of lymphatic glands in both groins and a few, of about the size of a filbert, could be felt in the axillæ and in the posterio triangles of the neck. Subconjunctival hæmorrhages had occurred in both eyes, but there was no bleeding from the gums or from the stomach or bowels. The gums wer pale and slightly spongy and were retracted from the teeth but the marked gingivitis described in some cases of lymphatic leukæmia was not present. There was tenderness on pressure along the anterior surfaces of the tibiæ and ove the manubrium sterni. At night the patient suffered from profuse perspirations and the cough continued, causing a times troublesome retching. In the absence of any physica signs over the lungs it was thought that this dry cough might be due to pressure from enlarged bronchial glands On Jan. 18th Dr. Louis Jenner, who kindly examined th blood, made the following report: "Without counting it i obvious that the white cells are greatly in excess of normal

A differential count shows that the fine granulated oxyphils (polymorpho-nuclear-neutrophiles) are present in a ratio of 34 per cent. (normal, from 70 to 72 per cent.). The lymphocytes number 63 per cent. (normal, from 22 to 24 per cent.); these are of various sizes. The eosinophiles number 2 5 per cent. (normal, from 2 to 4 per cent.); the mast cells number 0 25 per cent. (normal, anything to 0·5 per cent.). There were, however, many destroyed leucocytes which I could not classify, but which for the most part were probably lymphocytes. There were a great number of nucleated red cells." The main features, then, of the blood were (1) a diminution in the number of the ordinary leucocytes (fine granulated oxyphils); (2) a great increase in the lymphocytes; and (3) the presence of a number of nucleated red cells.

The progress of the case was now steadily towards a fatal termination. On Jan. 25th there was some free fluid in the abdominal cavity. The size of the liver had increased, and the lower edge reached as far as the umbilicus. The spleen remained about stationary in size. There were considerable loss of flesh and profound exhaustion. There were several syncopic attacks. The mind remained clear till within 24 hours of his death which occurred on Feb. 2nd, and which was preceded by several hours of unconsciousness. The patient was treated with arsenic from the first, but the drug seemed to have no effect whatever upon the course of the disease. There was no post-mortem examination.

The reported cases of this form of leukæmia vary considerably in the clinical picture they present. In some the enlargement of lymphatic glands is a prominent feature; in others, the gums have been much affected and an acute stomatitis has been the first symptom complained of. They, for the most part, however, seem to run an acute course to a fatal termination, and the case I have recorded is no exception to the rule, for my patient died within two months of seeking medical advice. The enlargement of the spleen is generally only moderate in extent. It seems probable that the pain in the heel and pains in the left side of the chest which the patient complained of may have been dependent upon defective elimination and excess of uric acid. The point of interest in connexion with the blood is the presence of a large number of nucleated red cells. In the spleno-medullary form of leukæmia their presence is the rule, but in the lymphatic form they are most generally absent. The excessive enlargement of the liver accompanied by moderate ascites is also a feature of interest in the case.

North Kensington.

NOTE ON THE SUPERFICIAL AND DEEP REFLEXES.

BY JOHN M. MACCORMAC, M.D. DUBL.,
HONORARY PHYSICIAN TO THE VICTORIA HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, BELFAST.

SUPERFICIAL and deep reflexes as an additional means in the diagnosis of the principal forms of mental disease comprise a subject which, so far as I am aware, has not received attention in the United Kingdom. The conclusions I have arrived at after careful observations for many years are much in harmony with those of Agostini.

1. Let me first say a word on the subject of crossed knee-jerks. If the patellar tendon on one side be struck the opposite leg will be adducted mainly by the action of the crureus and vastus internus, which muscles are seen to contract even when the movement is slight. This patellar jerk is a true reflex, and I have observed that in certain forms of sclerosis of the spinal cord a slight percussion will cause the knees to knock together and at the same time the arms are adducted. These actions soon lessen and pass into a state of tremor which gradually disappears. 2. My observations on the superficial and deep reflexes in their relation with the modification of painful sensibility in mental disorders have shown me that the formulæ of Agostini correspond in a general way to the state of the reflexes in each of the principal forms of mental disorder and in consequence are valuable in the diagnosis of these affections.

In general paralysis of the insane the condition of the reflexes varies in the different stages of the disease. In the initial stage of this disease there is generally a weakening of painful sensibility and of the cutaneous reflexes with the exception of the plantar reflex. On the other hand the deep reflexes are exaggerated. In the second stage of the disease the plantar reflex is very markedly exaggerated and the other reflexes both deep and superficial are increased, the tendon reflexes being still more marked than in the first stage. In the third stage of the disease all the reflexes become weaker until they finally disappear. During an epileptiform attack the superficial reflexes are decreased or abolished, but the tendon reflex is exaggerated, and is often accompanied by fibrillary contractions which may be transmitted from a limb to the trunk and then may pass to the limbs of the opposite side.

In epileptic insanity sensibility to pain as well as the reflexes produced by stimulation of the skin and mucous membranes are generally lessened, but the tendon reflexes are normal. After some convulsive attacks the tendon reflexes are increased, whilst the cutaneous reflexes are considerably weakened, with the exception of the plantar reflex, which is augmented and may be associated with trembling or even with epileptoid movements of the foot. Hypochondriacs and neurasthenics generally present an increase of all reflexes both superficial and deep. In hysteria there is a decrease of painful sensibility and of the cutaneous reflexes. In alcoholic paralysis painful sensibility and tendon reflexes are exaggerated, whilst the cutaneous reflexes (except the plantar reflex) are weakened. In acute mania the reflexes are normal. In secondary dementia all reflexes are exaggerated. In melancholia painful sensibility and cutaneous reflexes are normal, whilst the tendon reflexes are exaggerated. In the stage of melancholic stupor painful sensations, which on superficial examination may appear feeble, are in reality normal, the cutaneous reflexes are feeble, and the tendon reflexes are exaggerated.

From the above statements we see how very differently tendon reflexes and cutaneous reflexes act, and this we can understand when we consider that the two acts of reflexes are represented in the spinal cord by separate systems, one of which may be affected while the other remains normal.

Belfast.

Clinical Notes:
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

EXTRAORDINARY CASE OF THE LOSS OF BOTH EYES, ONE AFTER THE OTHER, FROM SIMILAR ACCIDENTS.

BY ALBERT BENTHALL, F.R.C.P. EDIN.,
HEAD OFFICE MEDICAL OFFICER OF THE OCEAN ACCIDENT AND GUARANTEE CORPORATION.

IN the year 1896 and also this year, claims having been made, I was asked to examine the injured person and to report. For this purpose I held various consultations with the surgeons connected with the case and the following history is compiled from my notes.

On Jan. 3rd, 1896, a grocer's assistant, aged 41 years, when in the act of washing his face about 9 A.M., accidentally "put his finger in his right eye." On the 4th Mr. Llewellyn of Whitechapel was called in and he found "laceration of the cornea with effusion of blood under the conjunctiva." Suppurative inflammation of the eyeball resulted and on the 13th the eye was enucleated by Mr. Waren Tay at the London Hospital, the house surgeon in charge of the case being Dr. F. B. Hutter.

On Feb. 24th, 1900, at 7 P.M., the same man in washing his face struck his left and only remaining eye with a finger nail, this time not only lacerating the cornea but injuring the deeper structures, for on Dr. Sullivan of Holloway-road being called in he found "a penetrating wound of the cornea with the iris prolapsed and entangled in the wound." The patient was sent again to the London Hospital and iridectomy was performed by Mr. Waren Tay, Dr. Russell Howard being the house surgeon in charge. On March 19th, the day of my examination in consultation with Dr. Howard, there was a sloughing wound of the cornea, nearly in the centre of the pupil, rather over a sixth of an inch in diameter, est of the cornea being opaque and the conjunctiva ested. Mr. Waren Tay had not, on the date of my ination, decided to enucleate, desiring to give the at every chance of retaining some kind of vision if, by any possibility, such could be obtained by operation a year or more hence. I reported the whole facts to the Ocean Accident and Guarantee Corporation and the directors at once decided to admit and pay the claim, made under the general accident policy held by the patient, without keeping him in suspense until the sight of the eye was absolutely proved to be lost for ever.

This particular accident as occurring to one eye is not uncommon, but in all my experience I have never examined or heard of a case in which a man has lost the sight of both eyes from two separate similar accidents such as are here recorded.

Cockspur-street, S.W.

DEATH FROM CARBON DIOXIDE POISONING IN A BREWERY.

BY W. SCOTT THOMSON, M.R.C.S. ENG.,

ASSISTANT SURGEON, RHYMNEY WORKS.

ON March 2nd an inquest was held at Rhymney, Mon., *concerning the death of a well-built, sober*, industrious man, 25 years of age, employed in the Rhymney Brewery. It appeared that his duty on the day when he met his death (Monday, Feb. 26th) was to clean out a vat, or "piece" in brewing parlance, as he had been accustomed to do once or twice a week for the past six months. The vat in question was eight feet in depth and six feet in diameter, having a manhole 18 inches square, an almost obsolete pattern, the modern one being large and shallow. The vat was used for storing beer prior to "racking." The beer was drawn off on the previous Saturday morning, leaving a sediment or "slummage" of a few inches in depth at the bottom. The vat was then flushed with water and the cover put on the manhole some time in the afternoon—it is said by the deceased man himself—and it remained closed till 6.15 A.M. on the Monday. The object of covering up the vat was to facilitate the subsequent cleaning, as otherwise the sides became dry. After removing the cover and allowing the hose to run into the vat for 10 minutes the man was seen to enter the vat with a lighted candle in his hand. About 20 minutes or 25 minutes later a cellarman, wishing to borrow the mop, called out to him and, receiving no answer, went up to look for him when he saw him lying on the bottom of the vat face downwards with the ladder, which had fallen on its side, resting up against his body. The candle was subsequently found on the bottom. This is an important fact, as it indicates that the man was overcome before or shortly after he had reached the bottom—the custom being to stick the candlestick into the side of the vat, a spike being attached to it for that purpose. Having called for help and procured another ladder from an adjacent office the cellarman descended the ladder, followed by another man. They hitched a rope round the deceased's arm and with the aid of some other men got him out of the vat in about three minutes when I was immediately called and arrived on the spot within a quarter of an hour. The condition of the body was as follows. The heart had ceased to pulsate, there were no visible respiratory movements, and there was some frothy fluid about the mouth and the nostrils. The skin was pale, the lips and eyelids were slightly cyanosed, the eyes were half open, the pupils being widely dilated, and the expression of the face was calm and placid. The anterior surface was cold, whilst the back was fairly warm and there were no marks of injury. After having the man suspended head downwards, when a small quantity of fluid, not of a frothy character, escaped from the mouth, I performed artificial respiration by the Silvester method for 40 minutes but without success. During the manipulation froth exuded from time to time from the nostrils.

An examination of the vat showed, besides the candlestick on the bottom already mentioned, a certain quantity of water which, owing to a warp, was in some places three or four inches in depth and in others entirely absent, and it was in a pool that the deceased's body was found with the face downwards. In my evidence I stated that all the sigr pointed to death from suffocation, but whether the man ha been rendered insensible only by the carbon dioxide an then drowned or had been poisoned by the carbon dioxid only I could not positively say. The latter, however, wa quite compatible with the signs. The coroner (Mr. J. I Walford) in a very able summing-up dismissed the ide of death being due to syncope or a fall from th ladder, there being no evidence whatever that the ma had suffered from heart disease, and there were no mark of injury on the body or signs on the bottom of th vat of the ladder having slipped. He therefore considere it to be a case of poisoning by carbonic acid ga *This, however, does not seem so simple, as two me* went down within half an hour at the most and stated tha they felt no inconvenience from the fumes; but probably th fall of the man and his pulling the ladder down disturbe the dense layer of carbon dioxide, which, being heavy, i always most concentred in the lowest part of a mixe atmosphere. It was also stated by the widow of the decease that he had frequently complained to her of the effects o the fumes, so much so that he said it was not safe to go int the vat without a man being outside to watch. The tw witnesses who pulled the body out had on many occasion cleaned the vat and they stated that it did not affec them. It seems hardly likely that the deceased had an idiosyncrasy, as the effect of carbon dioxide is chemica rather than physiological. Would a post-mortem examinatio and a spectroscopic examination have been of any scientifi value? Hardly; and, moreover, as the coroner said, a medica man has a fixed legal fee of a guinea, while an analys can charge what he pleases. The most important poin about this inquest, so far as the public is concerned, is th prevention of such accidents in the future. It is the rule i most breweries—and in this brewery at Rhymney it is th rule with regard to the larger vats—to have a man place outside as a watch and to lower a lighted candle befor entering the vat. But is that rule always put into practice And surely the fact that a candle will burn in an atmo sphere containing 10 per cent. or 12 per cent. of carbo dioxide, whereas death will occur in one containing onl 4 per cent. or 5 per cent., makes the candle test no sufficien guarantee of the fitness of an atmosphere for respiratio The jury brought in a verdict of "Death by misadventure, and added a rider that more stringent precautions ought t be taken to test the purity of the air and that a watch shoul always be placed outside the vat.

Rhymney, Mon.

SUPRAPUBIC CYSTOTOMY PAINLESSLY PERFORME AFTER THE HYPODERMIC INJECTION OF EUCAINE.

BY T. VINCENT JACKSON.

ON Feb. 20th, 1900, I had to perform suprapubi cystotomy in the case of a man, aged 50 years. Th reasons for this operation need not be stated. As th general condition of the patient seemed unfavourable to th employment of a systemic anæsthetic I determined to tes the efficacy of local anæsthesia. The man's face was covere by a towel and in two or three points over the line of th incision which would have to be made above the pubo 40 minims in all of a 7½ per cent. solution of hydrochlorid of eucaine (equal to two and two-third grains of the drug were hypodermically injected into the tissues. A shor period was allowed to elapse and then the operation wa commenced and was finished by the insertion of three dee and two superficial catgut sutures, which when tied brough the soft parts together above a drainage-tube placed withi the bladder, and the dressings were then applied. Durin the operation the forefinger of an assistant was passed int the rectum to raise up the floor of the bladder. When al was completed I removed the towel from the man's fac and asked him if he had felt anything, to which he replied "I felt a finger in the fundament."

I publish this case as evidence of the great value whic the employment hypodermically of a solution of eucain may be in the performance of a major operation which ca be rapidly executed.

Wolverhampton.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. GEORGE'S HOSPITAL.

TWO INTERESTING CASES OF HERNIA.

(Under the care of Mr. G. R. TURNER.)

CASE 1. *Femoral hernia in a boy, aged six years.*—The patient was admitted into St. George's Hospital with a swelling of the size of a pigeon's egg in the left groin, seemingly reducible into the abdominal cavity and apparently with some slight impulse on coughing. There was enlargement of the inguinal glands above and below Poupart's ligament and the child had obviously been circumcised not long ago. Both testicles were in the scrotum; the hernial swelling was said to be increasing in size. The hernia on operation proved to be of the femoral variety containing omentum. A radical cure was performed, a flap from the pectineus muscle being utilised in the way that Mr. Watson Cheyne has suggested. The boy made an uninterrupted recovery.

CASE 2. *Double femoral hernia in a man.*—The patient, a labourer, aged 46 years, was admitted into St. George's Hospital on May 31st, 1893. He stated that he had had a reducible lump in the fold of the left groin for 12 months. This had increased in size somewhat suddenly of late. He was subject to bronchitis in the winter months, but otherwise he had enjoyed good health. He had neither lost nor gained flesh recently. He had never worn a truss. There was a smaller swelling in the right groin. On admission the patient was found to have a femoral hernia of about the size of a Tangerine orange which was readily reducible on the left side. He had a smaller right femoral hernia and both inguinal rings although unoccupied by hernia were very capacious. On June 3rd Mr. Turner operated on the left side, doing a radical cure of the femoral hernia and suturing the inguinal ring with kangaroo tendon at the same time. Three weeks later he did the same on the right side. The femoral herniæ on both sides were omental; no gut was down on the left side at the time of operation, although previously this had probably been the case. The patient was discharged wearing a double truss large enough to support both inguinal and femoral rings.

Remarks by Mr. TURNER.—Femoral hernia in a boy, aged six years is sufficiently rare to be worthy of record. Double femoral hernia in an adult man is not often seen. It was associated in the case recorded above with dilatation of the inguinal rings, although no hernia was present in these situations. It is curious that on both sides the hernia should have selected the crural canals when an easy inguinal route was open to them. As a general rule after the operation for radical cure of a hernia I do not advocate the wearing of a truss, but in this case the rings were alone dealt with and the truss is worn as a matter of prevention of possible hernia in the future.

GREAT YARMOUTH GENERAL HOSPITAL.

A CASE OF SUPPURATIVE OTITIS; MASTOID DISEASE; CEREBRAL ABSCESS; NECROPSY.

(Under the care of Dr. HENRY BLAKE.)

FOR the notes of the case we are indebted to Dr. Alexander Goodall, house surgeon.

A youth, aged 17 years, was admitted into Great Yarmouth General Hospital on Sept. 22nd, 1899, under the care of Dr. Blake. The patient complained of pain and discharge from the left ear of about three weeks' duration. His family history was good, his home surroundings were comfortable, and he had not suffered from any previous illness of importance. His intelligence was not of a high order and it was difficult to get an account of the onset of his illness. On admission the temperature was 100·4° F. There was a good deal of purulent discharge from the left ear and a small polypus could be seen growing from the posterior wall of the meatus. There was no tenderness over the mastoid. The pulse was 72 per minute and in other respects the patient seemed to be in good health.

The ear was douched with boric lotion and insufflated with iodoform. Chromic acid was applied to the polypus. On Sept. 25th the temperature rose to 104·5°, but after cold sponging it fell to 100°. For the next three weeks the temperature was very irregular, ranging from 98·4° to 103°, but the general condition seemed to improve and operation was deferred. On Oct. 2nd the patient vomited and he began to suffer from severe paroxysmal headaches. On the 16th the mastoid was trephined and a few drops of pus escaped. A communication was made between the mastoid antrum and the meatus. The temperature, however, remained irregular, ranging from 100° in the morning to 103° in the evening, and on the 24th the patient had a rigor. On the 28th the mastoid opening was enlarged and some bony detritus was cleared out. On the 30th the temperature rose to 102°. There were swelling and tenderness along the line of the internal jugular. On the next day the swelling and tenderness had extended along the line of the subclavian vein. Carbolic fomentations were applied and in two days these symptoms had subsided. On Nov. 1st, and again on the 3rd and the 5th, the patient vomited. On Nov. 1st the temperature fell to 97°, but on the 2nd it rose to 102°. The patient was now rather drowsy and his cerebral processes became very slow. On the morning of the 6th the temperature was normal and the pulse rate was 60. At 10 A.M. the temperature fell to 96° and the pulse rate to 48. There were slight paresis of the right facial nerve and a slight tendency to ptosis of the left eyelid and the left pupil was dilated. The fundus oculi looked healthy. In the evening Dr. Blake trephined over the temporo-sphenoidal lobe, entering the trephine at a point about one and a quarter inches behind and above the centre of the external auditory meatus. An incision was made in the dura mater and an exploring needle was inserted into the temporo-sphenoidal lobe. Pus was at once found and about one ounce escaped. The opening was enlarged with sinus forceps and a rubber tube was inserted and stitched to the scalp. On the next morning the temperature was 97° and the pulse was 64. To ensure better drainage the rubber tube was replaced by a silver cannula. In the evening the temperature had risen to 102° and the pulse-rate to 84. The following morning the temperature was 101° but it gradually rose to 105·2° and the patient died in the afternoon.

Necropsy.—A post-mortem examination was made on the following day. There was a small ragged opening about the middle of the inferior temporo-sphenoidal convolution where the tube had been inserted and around the opening there was an area of about a square inch where the brain substance was very thin and friable. On cutting into the brain an abscess containing a quantity of pus was found in the temporo-sphenoidal lobe. The cavity had a diameter of one and three-quarter inches and projected into the descending horn of the left lateral ventricle. The abscess cavity was lined by a pyogenic membrane one sixteenth of an inch in thickness, which was very easily detachable from the brain substance. There was no thrombosis of either the internal jugular vein or the lateral sinus and there was no indication of meningitis.

Remarks by Dr GOODALL.—The diagnosis when the patient first came under observation was septic absorption from purulent otitis and it was only the continuation of the symptoms after douching, &c., that indicated mastoid disease. After the second operation there was reason to believe that there was venous thrombosis, and it was only the rapid extension of the condition that prevented operation. Subsequent events proved the decision to defer operation to have been fortunate. The most interesting feature of the case was the fact that the abscess, which had a thick pyogenic membrane, must have existed for weeks before it gave rise to any symptoms. The patient's mental processes were certainly slow, but it so happened that his sister, who was in hospital at the same time suffering from chlorosis, showed much the same peculiarity. It was, therefore, impossible to determine when the slow cerebration became pathological. Definite symptoms of brain abscess only showed themselves two days before the boy died. I am indebted to Dr. Blake for his kindness in allowing me to publish the case.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Rupture of the Œsophagus caused by Vomiting.—Sarcoma of the Gastro-hepatic Omentum.

A MEETING of this society was held on March 27th, Dr. F. W. PAVY, the President, being in the chair.

Dr. R. L. BOWLES and Mr. G. R. TURNER communicated a paper on a case of Rupture of the Œsophagus caused by Vomiting, together with a table of 16 other cases hitherto recorded. The patient was a woman, aged 62 years, who, after taking over-night a pill of aloes and rhubarb, which freely purged her, was sick on taking some milk. She vomited four or five times and still feeling ill took a tumblerful of salt-and-water "to clear the stomach." The vomiting caused by this was followed by collapse of an alarming nature and epigastric pain, and she complained of agonising pain on swallowing. All vomiting ceased after the sudden onset of the pain and collapse. Under the influence of hypodermic injection of morphia her condition somewhat improved. Ausoultation was difficult, but as far as could be ascertained the cardiac sounds were absent and the chest was hyper-resonant. Emphysema of the neck, soon extending to the face, appeared some hours before her death, which occurred 22½ hours from the commencement of the attack. The post-mortem examination showed emphysema of the chest and neck, chiefly on the left side, and left pneumothorax, and one and a half inches above the diaphragm there was a longitudinal rupture of the œsophagus which was otherwise healthy. Some remarks were made on the diagnosis of this form of accident from perforation of the stomach, the duodenum, rupture of an aneurysm, angina pectoris, severe colic, and irritant poisoning. With reference to the surgical treatment allusion was made to the possibility of exposing the œsophagus in the posterior mediastinum without injury to any important viscus. Drainage of the posterior mediastinum and suture of the rupture were regarded as feasible and an attempt at such treatment was fully justified in what was otherwise a necessarily fatal injury. The literature on the subject was analysed and 16 other cases were tabulated. This class of injury, though rare, was not so rare as was usually supposed. It was an accident that might be overlooked and sometimes confused with post-mortem softening. —Dr. CYRIL OGLE had made the necropsy on the case and regretted that the specimen had been lost. There was no doubt that the rent had occurred before death. The emphysema and pneumothorax were beyond doubt. As to the œsophageal rent, there were no signs of any disease in the gullet; it was softened a little in the lower part, but that was due to post-mortem softening.—Dr. H. D. ROLLESTON referred to the very exceptional character of the accident. In the forty-fifth volume of Transactions, under the heading Peri-œsophageal Abscess, he had published an example of rupture. The patient was a coachman, aged 56 years. The rupture had occurred when he was bending to clean a carriage and he died 48 hours afterwards. The posterior mediastinum contained the cavity of an abscess. He referred to the definite situation in which the rupture was always found. It was always in the lower third. This was strange because the weakest part was found where the pharynx joined the œsophagus. Possibly this situation was explained by the lower third being composed of smooth muscular tissue only, and here it was firmly fixed to the diaphragm. He believed that rupture was probably preceded by a small ulceration and this was most frequently found in the lower third. The rupture might destroy the evidence of ulceration.—Mr. STANLEY BOYD mentioned a case recorded by Tündler[1] of a lad, aged 17 years, suffering from a contused wound of the arm with septic complications. On the fourth day vomiting set in and a transverse tear of the œsophagus took place, the contents of the stomach being extravasated into the pleura. He also referred to two cases which he (Mr. Boyd) had recorded in the Transactions of the Pathological Society of London, in which, although a committee were of the opinion that the lesion was due to post-mortem softening, he still believed the apertures were due to rupture. There were clinical grounds in support of this view.—Mr. THOMAS BRYANT referred to the rarity of such cases. He had met with three or four cases due to external injury, but this was, of course, a different condition. He mentioned a case which had given rise to difficulty at the time, but which in the light of the cases mentioned by Dr. Bowles [illegible] Turner was probably one of rupture of the gullet. The patient was an imbecile who while in good health was suddenly seized with severe vomiting and collapse. She was thought to have swallowed a piece of wood, but no impediment could be detected on passing a bougie. After death nothing was found excepting a vertical rupture in the lower one-third of the gullet. The question was raised whether it had been done by the instrument, but he had no doubt it was a case of the kind under discussion.—Dr. R. L. BOWLES, in replying, mentioned that the pulse of the patient was only 50 and the arterial tension, in spite of the collapse, was high. This was probably explained by irritation of the vagus nerves. The position of the rupture in the lower one-third was, he believed, partially explained by this being the narrowest portion of the tube. In some experiments which he and Mr. Turner had performed, rupture of the gullet always occurred vertically; he believed that leaden pipes when bursting always split longitudinally. He thought the gullet was not examined as often as it should be post mortem. —Mr. G. R. TURNER was inclined to agree with Dr. Rolleston in his explanation of how the rupture occurred, but could not believe that previous ulceration was necessary. He had been surprised how easily the healthy gullet ruptured in his experiments. He agreed that Mr. Stanley Boyd's cases were probably rupture rather than post-mortem softening. He was inclined to think that the accident was a little more common as a cause of sudden death than was generally believed. In regard to possible surgical treatment, since there was already pneumothorax it was not necessary to avoid the pleura.

Mr. A. PEARCE GOULD read a paper on a case of Sarcomatous Tumour of the Gastro-hepatic Omentum removed by Operation, with remarks on the Diagnosis of such Tumours. The patient was a man, 38 years of age, who came under his care in October, 1895, for a large solid abdominal tumour which had been noticed for about 12 months. When operated upon it was found to occupy the gastro-hepatic omentum and the stomach was displaced into the pelvis. The tumour, which weighed 21 lb., was enucleated from the omentum. Microscopic examination showed it to be a spindle-celled sarcoma with extensive hæmorrhages into its tissue. The patient, who was brought before the society, made a good recovery and had remained well since without sign of recurrence, a period of four and a half years. Mr. Gould drew attention:—1. To the extreme rarity of primary tumours in the gastro-hepatic omentum. He had found a record of only one other case. 2. To the means of diagnosing a tumour in this situation. The chief clinical feature about tumours in the small omentum depended on the fact that the stomach was pushed downwards and therefore the usual epigastric resonance was wanting. 3. To the very great elongation and displacement of important structures which occurred without serious symptoms and was recovered from without ill effect. 4. To the long period of freedom from recurrence after removal of a sarcoma of apparently malignant character. The patient, the tumour, and a microscopic section of the latter were shown.—Mr. THOMAS BRYANT recalled a case in 1885 of a large abdominal tumour weighing 50 lb. occurring in a middle-aged man. It was non-lobulated and of slow growth. It was thought at first to be fluid. Considerable difficulty was experienced in making out its boundaries and origin; it turned out to be an enormous lipoma with very large veins. The needle used for puncturing it came out quite clean but covered with oil. This was one of the best evidences of a lipoma.—Mr. STANLEY BOYD referred to the difficulty in diagnosing the locality of such tumours. He mentioned the case of a youth, aged 20 years, who presented a tumour of the upper abdomen which pushed up the heart. It was very tense and rounded, like a hydatid of the left lobe of the liver. It moved on respiration, but not as a hydatid would. An exploratory operation was performed and it turned out to be a retro-peritoneal cyst. 70 ounces of red-brown fluid were drawn off, which digested starch and albumin, and which showed that it was a cyst of the pancreas. This tumour certainly obscured the stomach, yet it was not a tumour of the small omentum, so he could not agree with the statement that displacement of the stomach resonance was pathognomonic of tumours in the latter situation.—Mr. PEARCE GOULD, in reply, remarked that the case just referred to was somewhat unusual. All tumours of the small omentum must push down the stomach, and the resonance of that organ would not only be obscured but would re-appear below.

---

[1] Deutsche Zeitschrift für Praktische Medizin, No. 52, 1878.

MEDICAL SOCIETY OF LONDON.

The Chemistry of Gout.

A MEETING of this society was held on March 26th, Dr. F. T. ROBERTS, the President, being in the chair.

Dr. A. P. LUFF read a paper on the Gelatinous form of Sodium Biurate and its bearing on the Treatment of Gout. It was, he said, now a universally admitted fact that the deposition of sodium biurate was intimately related to the gouty paroxysm. He strongly shared the view of the late Sir William Roberts that uric acid when first introduced into the blood existed solely as sodium quadriurate. It was, however, a very unstable body and soon changed into sodium biurate, which at first assumed the gelatinous modification; and this if not eliminated in the urine was slowly or rapidly (according to circumstances) changed into the almost insoluble crystalline form, which by its deposition in the tissues caused the gouty paroxysm. If this change from gelatinous to crystalline form could, be delayed the gouty attack could be delayed or postponed. He had for some time been studying the effects exerted by various drugs on the conversion of the biurate into the crystalline form. He had shown on previous occasions that the conversion was accelerated when the alkalinity of the blood was increased by means of sodium bicarbonate, whereas the conversion was delayed and diminished when potassium bicarbonate was used. He had now carried out a similar series of experiments the results of which showed: (1) that sodium salts considerably accelerated the conversion of the gelatinous biurate into the crystalline variety and that their employment in the treatment of gout was apparently not desirable; (2) that potassium salts delayed the conversion of the gelatinous biurate into the crystalline form and also that when the conversion was once started it was slowed by the presence of these salts; (3) that lithium salts, although they did not delay the initial conversion of the gelatinous biurate, yet when the conversion was once started it was slowed by the presence of these salts and especially by the lithium carbonate; (4) that piperazine did not delay the initial conversion of the gelatinous biurate and but slightly slowed the conversion when once started; and (5) that lysidine, although it delayed the conversion of the gelatinous biurate into the crystalline form, yet when the conversion was once started it had practically no effect in slowing it. From the results of these experiments it appeared that for the special purpose referred to in the treatment of gout the potassium salts were the most useful, that the lithium salts ranked next, and that piperazine and lysidine were not nearly so useful. These results were entirely in accord with his clinical experience. He did not for one moment wish to contend that the beneficial action of the salts of the alkali metals in the treatment of gout was to be solely gauged either by their solvent action on deposits of sodium biurate or by their inhibitory action on the conversion of the gelatinous biurates into the crystalline form. Undoubtedly many of them were extremely useful in the gouty state by their stimulating effect upon metabolism, by their remedial action upon the gastric and hepatic functions, by their diuretic action, and by diminishing the acidity of the urine. He feared that the purport of a paper published by him in THE LANCET of June 11th, 1898, had been somewhat misunderstood in this respect. He did not, however, question—still less deny—the utility of many of those drugs in the therapeutics of gout, but he wished to point out that the oft-repeated statement that most of these drugs were useful for their great solvent action on gouty deposits was a loose and erroneous statement which it would be wiser in future to avoid. Another important point demonstrated by his recent experiments was that the higher the alkalinity of the blood from the presence of sodium bicarbonate the more rapid and the more complete was the conversion of the soluble gelatinous biurate into the comparatively insoluble and crystalline forms. This point was of great interest, since he believed that the alkalinity of the blood of gouty patients was always higher than the normal alkalinity of blood. This view was opposed to the prevailing one that gout was associated with an "acid dyscrasia." This latter opinion, however, *so far as he could* ascertain, was a pure assumption and had apparently never been based upon any actual determinations of the alkalinity of the blood of gouty individuals. It received its first shock five years ago when Klemperer showed by actual determinations of the blood of gouty subjects that the alkalinity was not below that of healthy blood. He had since made a number of determinations of the alkalinity of the blood of healthy and gouty individuals with the result that the alkalinity was higher than the average alkalinity of the blood of healthy individuals. The alkalinity of the blood of healthy adults varied from 0·161 to 0·185 per cent. of sodium carbonate, with an average of 0·167 per cent. The alkalinity of the blood of gouty patients varied from 0·193 to 0·251 per cent., with an average of 0·217 per cent., which was nearly one-third higher than that of normal blood. Since this increased alkalinity of the blood was due to a higher proportion of sodium carbonate or bicarbonate, and since these substances accelerated the conversion of the gelatinous biurate into the crystalline variety, and therefore the precipitation of the latter, it was intelligible why such blood was prone to hasten and to augment the formation of gouty deposits. The inference was, therefore, that this increased alkalinity determined the gouty paroxysm.

Dr. WILLIAM BAIN (Harrogate) read a paper on the Action of Various Drugs and Diets on the Excretion of Nitrogen in Gout. The object of his series of observations was to determine if possible the variations in nitrogenous elimination occurring in a case of gout under ordinary conditions and to note the effect of different diets and certain drugs on such variations. For this purpose urea, uric acid, the alloxur bases, and ammonia were estimated in the urea to serve as a measure of the total nitrogenous changes; the uric acid and alloxur bases to serve as a possible sign of modified production of these bodies; and the ammonia as an indication of the general amount of inorganic acid dealt with during the day's metabolism. With regard to the origin of uric acid there were two alleged sources: (1) it might be a derivative of the alloxur bases combined within the molecule of the nucleoproteid of cells or similar substances in the food; and (2) it might be produced by synthetic processes in the liver or elsewhere from simple nitrogenous compounds, such as ammonia. The patient, a well-built man, aged 65 years, was admitted into the Leeds General Infirmary in November, 1899, under the care of Dr. A. G. Barrs (to whom Dr. Bain was indebted for the opportunity of investigating the case). The family and previous histories were unimportant. The patient had been suffering from severe and constantly-recurring attacks of gout for five years and there were very obvious gouty changes in the hands, feet, and other joints. He had no pain in them excepting during the inflammatory attacks. The large amount of deposit in a short time was specially remarkable. The abstemious habits of the patient and the absence of gout in the family history were also noteworthy. After describing the methods employed in estimating the various substances Dr. Bain exhibited his results in the form of a table. After sodium salicylate there was only a slight increase in the uric acid. Under guaiacum uric acid was markedly increased. It was thought that this drug probably acted on the uric acid stored in the body rather than by increased production. Iodide of potassium caused an increase in the urea and uric acid. Vegetable diet increased the uric acid. Dr. Bain also made reference to the experiments of Minkowski which added much interest to his estimation of the alloxur bases. This observer had administered adenin to four dogs in doses varying from a quarter to two grains several times a day. After two grains vomiting ensued and the other symptoms noted were violent action of the heart, a heaving pulse, with an increase in blood-pressure. The urine contained leucocytes, albumin, casts, and epithelial cells. Three of the animals were killed about the fourth day and the other one died. Post mortem crystals of biurate were found deposited in the renal tubules. It was an interesting fact that this train of symptoms with deposition of biurate could be experimentally induced by one of the alloxur bases, and it suggested that one or more of them might be a factor in the evolution of gout. Uric acid, on the other hand, had not been shown by experiment to produce any such symptoms. With advancing knowledge it was possible that uric acid gated to a secondary [illegible] the causation of gout. It was to be regretted that this line of research had not been extended and it was unfortunate that pure adenin was almost impossible to obtain. Apart from xanthin the amount of alloxur bases appearing in the urine was so exceedingly small that their separate estimation was a matter of great difficulty. Dr. Bain suggested the possibility that the retention of adenin within the system might determine the deposition of biurate in the tissues.

Dr. A. E. SANSOM confessed that he was still in a maze of doubt as to the pathology of gout, though experiments seemed to be elucidating some of the problems. There was no doubt that the deposit of urates was the cause of a gouty attack; but why should it, he asked, be afterwards got rid of in some cases but not in others? The absence of pain, too, in some cases was inexplicable. It seemed to him doubtful whether those violent and destructive paroxysms of acute gout sometimes observed could be explained wholly and solely by sodium biurate. Surely there must be something that was associated with it which prevented metabolism. The subject of treatment also was beset with difficulty. If sodium salts promoted and potash salts delayed deposition why was it that they got such good results from the two together? Piperazin in his experience did seem to do good in some cases. Laboratory experiments were very useful, but they were still a long way off the truth.

The PRESIDENT congratulated Dr. Luff on his welcome and interesting researches. He had never thought very much of piperazin or lysidin in the treatment of gout and he had mostly come back to the potash salts or a combination of potash and soda. Dr. Bain's case was an interesting one and he remembered to have met with a case resembling this in the extreme gouty development without anything to account for it, for the patient was both a teetotaler and a vegetarian.

Dr. A. P. LUFF, in reply, thought that the disappearance of the deposit in some cases and not in others depended upon the alkalinity of the blood. If this was high then the blood could not remove the deposits. The presence or absence of pain in different cases depended, he believed, upon the rapidity of deposition. It was the suddenness of the deposition which caused the pain. Referring to the necrosis of certain tissues he doubted whether such a process occurred in cases of true gout. He had never seen necrosis of cartilages in true gout, and he thought it possible that the alleged cases were rheumatoid arthritis on which acute gout had supervened. Dr. Bain's case had been very carefully investigated. He would like to know what were the relative lengths of time for the administration of the different substances. He thought that in so many experiments in one patient the gouty state must have been in different phases at different times. The fact that guaiacum eliminated uric acid was quite in keeping with his experience and that of Sir Alfred Garrod. Given in the form of resin it was certainly a prophylactic.

Dr. BAIN, in reply, mentioned the doses and duration of the administration of the different drugs. There was an interval of three days between each, but the patient began by being put on a fixed diet for nine days. He thought the question of pain would depend upon the structures that were involved. As to the necrotic changes he quite agreed with Dr. Luff. Dr. Chalmers Watson had found in chronic gout a myelocyte which was not to be found in normal blood, but Dr. Bain had not found this in one case which he had examined. He quite agreed with Dr. Sansom that there must be something besides the biurate to produce gout and he had suggested that it might be adenin. The marked effect which this had had upon the blood-pressure and the occurrence of uric acid in the kidneys of Minkowski's dogs were arguments in favour of this view.

CLINICAL SOCIETY OF LONDON.

A Case of Dermoid Cyst within the Spinal Canal.—Reduction of the Deformity of Spinal Caries by Manual Rectification.

A MEETING of this society was held on March 23rd, Sir R. DOUGLAS POWELL, Bart., President, being in the chair.

Dr. W. HALE WHITE and Mr. A. D. FRIPP communicated a paper on a case of Dermoid Tumour growing within the Spinal Canal in which an attempt was made to remove the growth. The patient was a man, aged 26 years, who had been suffering from a very chronic form of Hodgkin's disease. He was first seen by Dr. Hale White and Mr. Fripp with Mr. A. F. Wilson at the end of March, 1899. In the middle of January, 1899, the patient began to complain of loss of power in the legs. By the end of March there was complete paraplegia without muscular wasting. The breathing was almost entirely diaphragmatic, the right hand was much stronger than the left, and all forms of sensation were lost up to the level of the nipples; there was no hyperæsthetic zone; there was severe pain shooting down both intercosto-humeral nerves and round the chest along the second intercostal nerves, the lower limbs were rigid, the knee-jerks and plantar reflexes were exaggerated, and there was great superficial tenderness over the second, third, and fourth dorsal spine. There was incontinence of urine with cystitis and obstinate constipation and great distension of the abdomen. The pulse was 120 and the temperature generally was about 101° F. There were no signs pointing to caries and aneurysm. The diagnosis was that there was some collection of fluid or a new growth within the spinal canal irritating the second dorsal nerve and compressing the cord below it. There was no evidence that this was syphilitic or that it was malignant. An exploratory laminectomy was performed, the second, third, and fourth dorsal arches being removed. A grey tumour situated upon the outer surface of the dura mater was exposed, which reached out of sight both above and below. Pieces of the growth were snipped away. The patient quickly rallied from the operation and the wound healed by first intention. The tumour proved on microscopical examination to be a dermoid cyst. The patient was seen again by Dr. Hale White and Mr. Fripp eight weeks later. The pulse and the temperature were normal. There was slight and occasional voluntary movement in the legs. The exaggeration of the knee-jerks was less and the rigidity had disappeared. There was almost complete return of all forms of sensation down to the groins, but no improvement in the lower extremities. The radiating pains had disappeared. The chest moved better. The cystitis and incontinence had disappeared and the constipation and abdominal distension were less. There was a large bedsore on the sacrum and another on the buttock. Considerable as had been the improvement it appeared to Dr. Hale White and Mr. Fripp that as much of the tumour had been left behind, and as the pressure symptoms were far from completely relieved, the only chance of benefiting the patient lay in a further attempt at complete removal. A second operation was performed. A large mass of the tumour was found to have grown backwards through the gap in the spinal canal made at the first operation. The first, fifth, and sixth dorsal laminæ were removed, but still no limit could be seen to the growth. The patient rallied well but sank again eight hours after the operation.—The PRESIDENT remarked that the case was of interest as bearing on the question how far interference was justifiable in cases of this kind.—In reply to the President, Dr. HALE WHITE said that the case was unique as regarded the nature, though not as regarded the position, of the tumour. Cases of dermoid cysts had been recorded in the middle line between the skin and the spines, but not within the spinal canal.

Mr. ROBERT JONES (Liverpool) and Mr. A. H. TUBBY communicated a paper on the Reduction of the Deformity of Spinal Caries, based on 99 cases of angular deformity from Pott's disease treated by Manual Rectification, including results of the 25 cases which had been brought before Clinical Society of London in November, 1897. In this series of 25 cases the following results had been obtain five patients had died, four had discontinued treatment, were alive, well, and able to walk, and one was still cumbent and sickly. As to the causes of death, one di four days after the operation, but post mortem no abnormali was found beyond some enlarged mesenteric gland one died from tabes mesenterica 15 months after th operation; one died from pulmonary tuberculosis 16 month after the last stretching, one from intestinal obstructio twelve months after, and one from diphtheria. Billroth, Menzel, Jaffé, and Mohr estimated the death-rate from Pott's disease to be 25 per cent., the death-rate of the series observed by Mr. Jones and Mr. Tubby being only 12 per cent. Four of the cases developed abscesses, of which two healed and one patient became paraplegic eight months after the operation, but had since recovered. Five of the 25 patients recovered from paraplegia as the immediate result of the operation, recurrence taking place in one case. In five cases the curvature was practically obliterated and remained so with a spinal support, and the curve was much improved in ten of the cases. In a parallel series of n rectified cases three patients had died from tubercle, f had developed abscesses (two of them healing), four had become paraplegic with two recoveries, and in seven the deformity was very marked. Mr. Jones and Mr. Tubby then brought forward a series of 74 cases subsequently operated on. Of these seven patients had died, 29 were walking, 28 were recumbent, and 10 had discontinued treatment. As to the causes of death, one patient died from empyema four weeks after operation; one died from general tuberculosis thirteen days after operation, and another two years after; one died from pulmonary phthisis eighteen months later and one from pneumonia two years after; one died from exhaustion; and one died six months after reduction for paraplegia, without relief, from diarrhœa. Three patients were operated upon while abscess was present and 13 developed abscesses subsequently, of which nine had healed. Seven patients had recovered from paraplegia, or the condition had been relieved and had remained so. In 16 the curvature had either not improved or had become worse, but not necessarily as the result of the operation. Mr. Jones and Mr. Tubby deprecated the employment of much force, their plan having been to proceed by stages with an interval of a month between each attempt. They laid it down that the after-treatment should not be less than three years. Their conclusions were as follows: (1) that danger to life was not great; (2) that far from inducing paraplegia the operation was actually a curative measure; (3) that abscess formation was, if anything, less frequent; (4) that the risk of disseminating tubercle was a negligible quantity; and (5) that there was no risk of a flail-like spine The contra-indications were: (1) cervical and high dorsal curves, unless associated with paralysis; (2) ankylosed spines; (3) large and angular deformities; (4) evidences of tubercle elsewhere; (5) in children under two years of age and in adults over 22 years; and (6) the presence of abscess unless there were paraplegia. They advised the operation only when the spine was yielding and in comparatively strong children free from abscess and tubercle. They pointed out that the operation was not to obliterate all the prominence, but to give as erect a position as possible. Lastly, they urged that cases for operation must be selected with great care, that personal attention to the patients must be unremitting, and that fresh air was an all-important factor in the after-treatment. They exhibited a selection of the first series of 25 cases showing the actual results.—The PRESIDENT observed that whatever they might think of the ultimate results of the treatment the facts brought before them must materially alter many of their present views. He asked whether albuminuria due to myeloid disease had disappeared when the surgical deformity was remedied —Mr. J. JACKSON CLARKE said that he had followed the revival of forcible correction of deformity in spinal disease with great interest. He believed that he was the first surgeon to perform the operation in London. In order to understand the results obtained in the cases before the society it was necessary to consider the methods previously employed. Mr. Tubby had put it on record that up to 1896 he had chiefly used corsets of plaster or of felt. Mr. Clarke had found the results of such appliances to be very disappointing. Mr. Jones had chiefly employed Thomas's cuirass which was also used in the after-treatment of many of the cases before the meeting. This cuirass, which exerted a leverage action on the spine, had certain defects, though it was, in Mr. Clarke's opinion, better than any other corset It did not lend itself to periodical re-adjustment and thus was no help to gradual correction of deformity; it did not provide for alterations required by the growth of the patient, and again it did not readily lend itself to the addition of a head-piece needed in high dorsal and cervical cases. By the use of an antero-superior support which did not possess these disadvantages Mr. Clarke had obtained results which he believed compared very favourably with those seen in the cases now shown by the authors of the paper. Thus in some cases of lumbar disease the deformity had been obliterated; in other cases it had been considerably diminished. These results had been obtained sometimes after a period of rest in bed or on the couch, but more often with ambulance treatment throughout. The educational aspects of spinal cases had to be considered and a method of treatment that allowed a patient to be taught at home or to go to school was, other things being equal, to be preferred to one that demanded two or three years of fixation upon an apparatus in the dorsal recumbent position. The death-rate of 25 per cent. quoted from Billroth as being observed in cases treated without forcible extension was far too high. Even that of 12 per cent. observed by Mr. Jones and Mr. Tubby in the cases which they had operated on was distinctly high, being above that observed by Mr. Clarke in cases treated in London. It was to be noted that in more than one of the cases in the paper no real diminution of deformity had been obtained, and as regarded the future of the patients there was no proof that as soon as the apparatus was left off deformity would not return as the patient grew up owing to damage to the epiphyseal discs. The many contra-indications pointed out which would have to be observed in deciding to perform forcible rectification approximated closely to Mr. Clarke's own views, which were to the effect that this operation was only called for in exceptional cases. The chief indication was a paraplegia that had resisted a patient trial of gentler means.—Mr. RICHARD BARWELL questioned whether the good done was as great as they were asked to believe, and he doubted whether there had been actual straightening in many of the cases of the angular curve. On the whole he did not think that the results were better than would be obtained in three years by other methods of treatment. He observed that in the case of a child, who was said to have had paraplegia, the child was under two years of age at the time and possibly was unable to walk; moreover the mother said that the child had been able to move his legs. He pointed out that by lifting the patient by the arms and watching the angle it was easy to see whether the ulcer of the bones had healed. On the whole he thought the results were somewhat disappointing.—Mr. BERNARD ROTH said that since seeing these cases he thought there was more in the treatment than he had imagined, but he would like to see the cases a year after all instruments had been left off.—Dr. E. PERCY PATON asked how long the patients had remained in hospital under treatment and he pointed out that prolonged recumbency in the homes of the poor could not be desirable.—Mr. HOWARD MARSH commended the authors of the paper for the vast amount of patience and labour which they had devoted to the subject. They must, however, all feel that the subject had not been thoroughly threshed out though many interesting points had been raised, and he thought the question was one that might advantageously be referred to a committee for investigation and report. He was tempted to raise the question whether the conclusions arrived at by Mr. Jones and Mr. Tubby were justified by the facts which they had brought forward. He challenged the estimate of 25 per cent. as the probable death-rate from Pott's disease. He himself would put it at 5 or 6 per cent. He pointed out that paraplegia was equally recovered from under other methods of treatment, and he concurred in the view that the correction of the deformity was often more apparent than real —Mr. BERNARD ROTH seconded the reference to a committee, and some discussion ensued as to the scope of the reference and the way in which the inquiry could be carried out. Ultimately the proposal to nominate a committee was agreed to, the precise terms of the reference to be submitted to the council —Mr TUBBY, in reply, said that he thought it would be conceded that they had done their best to fulfil their pledge of two years ago to follow up those cases. He pointed out that they did not insist so much upon the value of the operation in remedying the curve. With reference to albuminuria he said that it disappeared when the abscess ceased discharging and no patient had died from lardaceous disease. He did not believe that equally good results could be obtained with instruments. In reply to Mr. BARWELL he said that the child stated to have had paraplegia had the lower limbs rigid with exaggerated reflexes and could not walk. He added that the labour, difficulty, and anxiety entailed by the endeavour to afford the society such a demonstration of results as that before them were very great, and he did not think that they could in any way manage to approve of a committee being sent about the country to inspect their cases, but the committee would, of course, be welcome to examine the records.

CHELSEA CLINICAL SOCIETY.

The Treatment of Rheumatism.

THE adjourned meeting of this society from March 13th was held in the Parish Hall, Pavilion road, Chelsea, on March 20th, Mr. FOSTER PALMER being in the chair.

The CHAIRMAN said that at the last meeting the Treatment of Rheumatism which they principally heard about, and ised by those present, was treatment. The causation which found most favour, although not yet actually proved, was the bacterial theory of origin. Until they knew for certain whether rheumatism was a bacterial disease or not their treatment must be more or less empirical and unscientific. He then called upon Dr. Pye-Smith to continue the discussion.

Dr. **PYE-SMITH** said the first thing they had to be sure about was that they were talking about the same thing. He began by saying what he understood when he spoke of rheumatism. He meant rheumatic fever and nothing else. He held that there was no such thing as chronic rheumatism. Acute and sub-acute rheumatism were one and the same thing. No doubt there were different forms that it assumed; in a child rheumatism took a different form to that seen in the adult, but it was all the same affection. He did not admit chronic rheumatism as having anything to do with rheumatic fever, nor had osteo-arthritis as it was called, or rheumatic gout, or arthritis deformans, or gonorrhœal synovitis, or gout, or pyæmia anything to do with rheumatism. That he onsidered was what they meant when they talked of the reatment and prevention of rheumatism. At present they ust define rheumatism by its clinical features which were ear and distinct; the multiple affection of the joints, the ansient synovitis, the fever, the comparatively short course, e tendency to recurrence, and, above all, the liability the heart to be affected, formed the clinical picture ich had been recognised since Sydenham. He thought y ought to keep strictly to that for their definition. ether rheumatism was due to a chemical poison or not not been discovered. It was certainly not due to lactic l or to uric acid; he ventured to say dogmatically that e was no evidence to support these hypotheses. Their rman had spoken of the view of the day that rheumatism d turn out to be due to a bacterium, but till it did turn, o be so surely the less they said about it the better. e was no benefit in anticipating in this manner. Passing e treatment of the disease he said they might be well led with the great progress made in the last 30 years. of them remembered what rheumatism was like in the before the salicylic treatment. It had been robbed of features of pain and distress—the very appearance patient was totally different. Formerly the very s on the patient's face showed at once what he was g from. Those who had seen rheumatic fever treated eding in Paris *coup sur coup* till the patient was d knew what mischief could be done in that way, and e treatments for rheumatic fever that he had seen was decidedly the worst. Rheumatic fever treated non juice in large doses was ill-treated and with it was inefficiently treated. The treatment with vas more intelligent and he remembered asking a f patients in regard to the discomfort caused and e equally divided as to the pain. The revolution ne into their practice when salicylic treatment was d had made rheumatism a different disease. What points they were still unsatisfied about? First, it iminished the mortality. He collected 400 cases ame hospital before the salicin treatment with 15 he number was larger than was really the case, d from an epileptic fit, one from an excessive dose , another was a case of strangulated hernia, and hs due to rheumatism they were from rheumatic ns, hyperpyrexia, pneumonia with pleurisy, heart previous rheumatism, so that the actual deaths c fever were very small. The apothecary at the pital was in the habit of saying to them, "Since you young gentlemen have begun to treat rheumatism the patients have begun to die." Dr. Donald Hood believed there was something in that, but no one could doubt the efficacy of the salicylate treatment in relieving pain. Some of them must have seen cases in which the salicylate treatment did not act favourably; the first patient he treated suffered from vomiting, diarrhœa, and hæmorrhage and that had been noted not infrequently. 12 cases had been collected in which hæmorrhage occurred not only from the kidneys but in the retina and he thought pretty clearly from the use of salicylic acid. They were familiar with the unpleasant consequences of the drug, the buzzing in the ears, the headache, and so on, but perhaps the most important thing in many ways was its effect on the heart. In cases where the pulse was good, with salicylates the pulse may become irregular and slow. Though the treatment was not an unmixed benefit still those effects might be prevented by giving ammonia or brandy, and if they bore in mind the the depressing effect on the heart—he referred to the undiseased heart—they could prevent it. Did the salicylate treatment diminish the liability to relapses? One of the most painful experiences was to see a patient have a after passing through the first attack without the heart being affected and have the heart suffer in the second attack. They would be glad if some means could be found to prevent that happening. He did not think tendency to relapse had been much altered by the salicylic treatment nor could they say that recurrences had been prevented, for rheumatism was one of the diseases that could occur again. From the general impression of the cases they saw they could say that on the whole the more severe a case was the more often the heart was affected. In children a slight attack with scarcely any synovitis might very seriously affect the heart; in adults the mild attacks were less often accompanied with cardiac disease; and in severe cases they expected to find a murmur and they were seldom disappointed. The fact that salicylates shortened the period and the severity of the disease did something to prevent cardiac complication. In shortening or diminishing the possibility of relapse salicylate kept on in small doses had a certain effect, but a more important thing was to keep the patient in bed as long as they could, if possible for six weeks. The old treatment was patience and six weeks in bed, and now, though the patient was not in misery and suffered no discomfort, it would be well to compel the virgin heart cases to lie in bed for six weeks. Another point was not to allow them to take solid food; the longer they could be kept on milk and mild unstimulating food the better. He would say if he were a young man 25 years of age with his first attack of rheumatism and no murmur that he should like to be put to bed, with milk for diet, water to quench his thirst, and large doses of salicylate of soda at frequent intervals till the fever had gone and the pain had disappeared, the dose then to be diminished but the drug not to be discontinued; and if there was an irregular or failing pulse he would have brandy as the most appropriate remedy. If doubtful sign about the heart occurred he thought it was very questionable whether they had any immediate means of acting upon it or preventing it, but if Dr. Oaton was in his neighbourhood he would certainly invite him to try multiple blisters. The only possible harm would be to perhaps prevent ease of mind and temper, but he was prepared on Dr. Oaton's authority to believe that there would be some considerable advantage from it.

Dr. R. **OATON** (Liverpool) said he would like to confine his remarks to the second part of the special subjects for debate—namely, the special prophylaxis against rheumatic valvulitis. He wanted to mention two or three experiments which he had been trying for the last 19 years with regard to this particular subject which was one of the most important points in regard to rheumatism. If they could get rid of the heart complications they would have comparatively little anxiety about their patients. His ordinary habit of treating patients was to keep them in bed and wrap them in flannel from the neck to the feet in every case to prevent the possibility of chill. He ordered a light diet, absolutely excluding all nitrogenous foods except milk. He gave salicylates, which he called the most glorious boon to the rheumatic, and he also prescribed a certain amount of cholagogue. The patient lost his pain and fever within 12 or 24 hours and if the pain lingered in any joint he personally always if the pain was obstinate applied a few blisters to the joint which invariably relieved the pain, swelling, and stiffness at small discomfort to the patient. He had tried it on himself and on hundreds of patients and provided the blisters were made small enough the pain and discomfort were almost unnoted. He could say that from his own personal experience and from that of hundreds of people. There was a feeling in the profession that blisters necessarily caused pain, and of course the acreage of blisters used by our forefathers was such as to cause pain and discomfort. When he had treated a patient in the way he considered the next question was, Would his heart remain free from trouble or would they have the most dreaded complications to deal with? He had been watching cases of rheumatic fever daily for 25 years and had seen them occasionally in private practice. When he began medicine, believing in what he had been taught, he treated the rheumatism and trusted that the cardiac complication would not occur, and if it came he hoped that it would disappear. He was much interested in these cases and took the trouble to watch the patients who had recovered from their illness and traced them out, but he was sorry to say that the result was a painful and disappointing one. He found that the bruit which had developed itself in hospital and which they had recovered from before leaving terminated in a life-long cardiac disablement. He felt this so keenly that 19 years ago he set to work to read up the subject to see if any hints could be found to help in trying to get a method to prevent this involvement of the heart. Some recommended huge blisters, icebags, leeches, poultices, large doses of mercury, and in his despair he tried a variety of these for four years with unsatisfactory results. At length he hit upon the following method: first of all to keep the patient who had developed a bruit, not a hæmic or temporary or dilatation bruit, but a true valvulitis bruit, in the recumbent position for a great length of time, preventing him raising his head even, guarding him from all possible excitement, with the object, of course, of slowing as far as practicable the action of the heart and keeping down the blood-pressure and preventing the strong blood waves of high tension from injuring the swollen and softened valve cusps. He tried to do that, though it was difficult to get the patient to submit to it because he thought he was cured of his rheumatism and considered himself well. He only began to learn after some years of practising this method how enormously important the prolonged rest was. Then there was a second point: he was anxious to discover some method of influencing the heart itself. They knew there were certain nerves, certain cutaneous nerves, in special relation to the heart, the first, second, third, and fourth dorsal intercostal nerves. Those who had watched angina or cardiac inflammations knew how frequently these nerves were the exponents of the mischief that was going on. The heart was related to these nerves and he hoped it might be possible to send a stimulus through these afferent nerves. Experiments showed it was possible to influence the blood-vessels and it seemed likely that they might also use a stimulus applied to these nerves to increase and augment the reparative function of the vaso-motor and trophic nerves in the heart. He tried the experiment of using small blisters along these nerves, not over the præcordium—that had no relation to the heart, they might as well try blistering the leg as there—but it was along these four nerves which were specially related to the heart that for 15 years he had tried these blisters, of the size of a florin or less, one at a time, following each by a small poultice to keep up a gentle stimulation of these nerves. He had not had any complaint from women or children and he had never heard any expression of suffering. The third method he tried, beyond the rest and blistering, was the administration of sodium iodide or potassium iodide about from eight to ten grains three times daily. It was given in the hope that it might aid in the absorption of inflammatory products in the endocardium which filter their way into the cusps of the valve. It was hoped that while these inflammatory effusions were still unorganised that it might be possible to aid their removal. Once organisation had taken place the removal was in all probability hopeless. When once alteration and puckering had taken place all chance of the renovation of the valve was hopeless. At the very first if the affection could be attacked in the early stage while the inflammatory condition was not organised its absorption and removal might be secured. They would see that these were all mere theoretical ideas and they would ask what proof was there. He admitted they were theoretical, but they had a certain amount of reasonableness; certainly the first had, and perhaps the other two had. The evidence he could give was the evidence of results. He had had over 500 cases of acute rheumatism in the last 15 years and in a great many they had no cardiac complication—considerably under 20 per cent. The great difficulty in experimenting upon endocarditis was that the great majority of the cases in the hospital had the disease established on admission, and it was hard to say whether the case was *sufficiently recent to be benefited or not. Out of the* cases he mentioned 54 had the various phenomena of cardiac mischief on admission, but there seemed a chance that the disease was recent though he was not sure in all. Out of the 54 cases 34 went out with quite normal hearts without dyspnœa of any description. They were all urged to rest and avoid exertion for several months. He had watched these cases as far as he could. Some were sailors, some were servants, some therefore went far away, but many he had followed for months and for years, and in the great majority the heart had remained perfectly sound. The second class, however, were those who came in with perfectly normal hearts and in whom the evidences of valvulitis began in the hospital. He had treated 30 cases and 27 went out without a trace of heart affection. A great many of these he had watched and continued to watch. The longest period for which he had watched a cured case was 15 years, and the heart was as sound 15 months ago as could be. He could not expect them to accept all his views, but they were recognised by his own students and a few practitioners who had also had the same results. He did not want to hold it up as the best and only method, but they should try to find out some method of diminishing the frequency of cardiac complication because it was such a serious and terrible thing to have for a whole life a crippled heart, and unfortunately it was very common. There was hardly a week that he did not have to admit some poor soul with a history of rheumatic fever three years ago and inability to breathe properly since. They should do everything they could by experiment or otherwise to find some method to diminish this great scourge which furnished one of the greatest opprobriums to the medicine of the present day.

Dr. BURNEY YEO said that all he had to offer were a few deductions from his own observations and experience. He was entirely in agreement with those speakers who regarded acute rheumatism as an infective fever probably of bacterial origin, and he did not quite share Dr. Pye-Smith's objection to a working hypothesis or to what Professor Tyndall called the scientific uses of the imagination. Great truths in science were often reached by hypothetical speculation. Reasoning from analogy they might be justified in thinking that acute rheumatism was due to bacterial influence. He was also entirely in accord with those who had advocated the treatment of acute rheumatism by the use of the salicyl compounds. *No one, he thought, could watch acute rheumatism* in hospitals without being convinced that there was a profound change for the better through the use of the salicyl compounds He was able to remember to have carried out a consistent treatment of rheumatism before the introduction of the salicyl compounds, and he did not share either Dr. Sansom's or Dr. Pye-Smith's view that that treatment was altogether useless and inefficient. That treatment as he carried it out was something of this kind: painful joints were enveloped in a weak alkaline and opiate lotion. If one saw the case at the very beginning one gave some full doses of opium over night for a few nights, 15 grains of Dover's powder till the joint pains had been relieved, followed next morning by a small saline draught to help elimination of the opium. During the day bicarbonate was given every four hours. If the temperature reached more than 102° or 103° F. two grains of quinine were added to each dose of the bicarbonate of potassium. If the joint pains and swellings lingered it was very common to apply a blister about two inches above the joint, and he quite failed to share either Dr Sansom's or Dr. Pye-Smith's objection in regard to the discomfort. He quite agreed with what Dr. Caton had said as to the slight inconvenience experienced by patients, supposing the blistering to have been skilfully and carefully done. He knew it was stated in books, and he had heard it said, that blistering would often produce irritation of the kidneys, but after years of experience he had never seen a single instance. He could quite believe that in the days gone by, when blistering was done on a large scale and with not much attention to the dressing, discomfort and irritation of the kidney arose, but he had never seen such a thing. The application of small blisters from place to place was important and the dressing was not unimportant. The patient's discomfort often arose from the looseness with which the dressing was applied. The blister should be slit, the dressing ought not to be allowed to get loose, but ought to be fixed firmly by sticking-plaster, and if that was done the patient would not suffer any discomfort from blistering. Although one was accustomed to notice and to be struck with the beneficial influence of the treatment by salicyl compounds in acute rheumatism he could not say that he was fond of salicylates, for he had seen so much of that cardiac depression to which Dr. Pye-Smith had called attention that he was always glad to reduce the dose and he was still more pleased when he could do without the salicylates altogether. He was surprised to hear that

Dr. Lees said that he thought the depression was due rather to the disease than to the remedy. He was amazed to think that anyone could doubt that these salicyl compounds were not depressing to the heart. He had pointed out often at the bedside that a patient after taking salicylate of soda for 24 hours would have the pulse depressed to 60 while the temperature would only be reduced to 101°. There were numerous cases of chronic disease in which patients were put under the influence of salicylate and suffered considerable depression. It was common to give this drug in cases of long duration and he had seen a woman who had been thus treated for three months at Wiesbaden for gouty affection of the eyelids with neuralgia. She had salicylate of sodium which had relieved her pain but had produced a most remarkable condition of depression. On the administration of other drugs for the relief of the neuralgia her depression cleared off and she said that she felt a different woman, no longer suffering from a depression which made her life a burden. In the influenza of the rheumatic type salicyl preparations relieved the pain, but the cardiac depression was a very serious matter. He was accustomed to give salicylate of soda or, perhaps better, salicin, which Dr. Maclagan preferred, for a few days; and when the patient was in a happier condition he was glad to leave off the salicin and take to quinine or some other drug which gave him no anxiety as to cardiac depression. At their last meeting Dr. Donald Hood, who rather advocated other treatment than by salicylates, called to his aid the testimony of Dr. Osler. Dr. Hood mentioned to them Dr. Osler's premisses, but he did not tell them Dr. Osler's conclusions. He would read them Dr. Osler's premisses and then his conclusions:—

> Medicines have little or no control over the duration or course of the disease which, like other self-limited affections, practically takes its own time to disappear. Salicyl compounds, which we regarded so long as specific in the disease, *are now known to act chiefly by relieving pain.* R. P. Howard's elaborate analysis shows that they do not influence the duration of the disease *Nor do they prevent the occurrence of cardiac complications,* while under their use relapses are considerably more frequent than in any other method of treatment.

Dr. Osler's conclusions were :—

> In acute cases with severe pain the salicyl compounds give prompt relief and *rarely disappoint us in their action. Sodium salicylate in* 15 grain doses for eight or ten days may be given. The bicarbonate of potassium in 20 grain doses may be used with it I have for the past five or six years used the oil of wintergreen recommended by Kinnicutt and have found it quite as efficacious. *20 minims may be given every* two hours in milk.

Dr. Osler further says: "Opinion is almost unanimous that under the alkaline treatment cardiac complications are less common. The combination of the salicylates with the alkali is probably the most satisfactory." Those, then, were Dr. Osler's conclusions and if they were compared with the premisses one was almost tempted to say that the voice was Jacob's voice but the hands were the hands of Esau. For his own part, he agreed with Dr. Osler that a combination of the salicyl treatment with the alkali treatment was probably the best. There was a certain amount of opinion in favour of the alkaline treatment diminishing the risk of cardiac complications and it was difficult to discover whether this was the case or not, but so long as there was a large body of opinion in favour of that view, and while they knew that the administration of alkalies altered the morbid condition of the urine, he thought it rational to combine a mild alkaline treatment with the salicyl treatment. There was another point, and that was to give patients the subjects of acute rheumatism large quantities of water to drink. In no disease was there such a loss of water as in rheumatism. It was important to supply that loss, as also in all fevers, especially as they were treated in hospitals, for he had been surprised to find how little attention to the supply of water there was in those institutions; he had often given a glass of cold water to fever patients. Knowing that in cases of rheumatic fever they had profuse sweating and high-coloured scanty urine it was an important thing to dilute the concentrated blood which had become so from great loss of water. With regard to the incidence of endocarditis in acute rheumatism the remarkable fact that the right side of the heart was almost immune from these attacks of endocarditis ought to be dwelt upon. The usual explanation that was put forward, that the left side was functionally more active than the right, was wholly inadequate. It was more probable that the endocardium on the right side of the heart was protected in some way by the condition of the blood; whether the carbonic acid in the blood interfered with the action of the toxin or whether it rendered the endocardium less susceptible he did not know. Perhaps Dr. Ewart in some of his therapeutic observations might try whether the inhalation of carbonic acid would diminish the tendency to endocarditis.

Dr. ISAMBARD OWEN said that his own observations of acute rheumatism and of its treatment had always led him to believe in the truth of the hypothesis that Dr. Maclagan had put forward for a score of years, that rheumatic fever was a specific disease produced by a specific germ and that the action of the salicyl compounds was specific. The materies morbi was actually destroyed by this substance. It had been objected to this view of the action of the salicyl compounds that they did not succeed in stopping the disease in all cases. That he confessed. His own impression was that salicyl compounds would stop rheumatic fever in every case if the patient could stand sufficient of the drug to saturate the fluids of the body up to the necessary point, and that point might differ according to the case and according to the patient, and the patient's susceptibility in regard to the nervous system with regard to salicyl differed remarkably. A certain proportion of cases arose in which the toxic effects on the nervous system were reached before the necessary saturation of the fluids was obtained, and one had to stop short before one had succeeded in efficiently treating the rheumatic fever. He was surprised to read in Dr. Osler's work his statement with regard to the effect of remedies in acute rheumatism, but as Dr. Osler put the dose of salicylate of sodium at 15 grains and did not specify the periods at which the doses were to be repeated—he supposed he meant every six hours—his surprise vanished. For in most cases of rheumatic fever it was certainly necessary to give the drug in larger doses or at more frequent intervals. He himself had never found reason to apprehend the depressing effects of the drug. He did not propose to enter into detail into the action of the drug with respect to the rate of the pulse or into any details of its action, but he would merely, taking the broad ground, state that personally he had administered salicylate of sodium in many hundreds of cases, and very freely indeed, and very seldom had he had to suspend the administration of the drug owing to any depressant effects upon the patient, and where depressing effects had resulted they had presented themselves to him as effects rather upon the central nervous system than upon the heart, and, speaking broadly, he had very seldom seen any reason to fear salicylate of sodium in the necessary doses. It had further been objected to these views of the action of the salicyl compounds that they did not prevent or tend to the cure of what used to be called complications, the effects upon the endo- and peri-cardium. He would say personally that they had prevented a great deal of pericarditis by cutting the attacks of rheumatic fever short before pericarditis had developed. He did not think their use materially prevented the development of endocarditis; his experience tended to show that the effects of the disease upon the endocardium were among the earliest effects produced in all given cases; he was almost disposed to believe that the endocardium was one of the earliest parts affected in rheumatic fever. It was true that the murmur characteristic of it might not be heard at the outset, but then the affection of the heart valves required a little time to develop to that point at which it was capable of producing a change in the heart sounds, and rheumatic endocarditis produced at the outset no symptoms by which its presence might be recognised. In his own hospital experience the proportion observed of murmurs which developed after the patient's admission was exceedingly small; he thought about one in 30. That was the result of the statistics which he had gathered at St. George's Hospital many years ago. It was objected that over endocarditis and pericarditis the salicylate compounds exercised no curative effect. The answer was given practically by Dr. Garrod that day last week when he pointed out that it was quite the habit of diseases produced by specific germs that the germs should give rise to several toxins which enter into the circulation, and that although a remedy might destroy the parent germ and might destroy or counteract the effect of some of the toxins other toxins might remain over which the remedy had no power. That was seen in the treatment of diphtheria by anti-diphtheritic toxin. This was corroborated by rheumatic fever in a consideration which was often overlooked, and that was that endo- and peri-cardial lesions differed from the articular lesions not only in situation but in kind.

That difference was masked under the common name of inflammation which was generally applied, but to his mind the name inflammation was quite inaccurately applied to the articular lesions of acute rheumatism. Redness, heat, and swelling were considered inflammation, but they understood it as a process in which the leucocytes—he believed the all-essential part—proliferated in the inter-vascular spaces and finally caused thickening or destruction of the tissues. But there was nothing of that kind in rheumatic fever; the exudation which caused the swelling of the joint was mainly synovial, and if not altogether synovial was more or less serous in addition. The fluid effused about and inside the joint in rheumatic fever contained scarcely any fibrinous exudation, and the exudation of the leucocytes was no more than would be expected in an effusion produced by any other kind of hyperæmia. Although the affection might have lasted in a joint in an acute form for a week, for a fortnight, or for three weeks, yet when the pain had gone the patient moved his joints freely, or when it was cut short altogether by the action of salicyl compounds, in 48 hours from the disappearance of pain in the joint the patient could move his joint freely and recovered without permanent trouble in the joint. It was a hyperæmia but not a true inflammation, as was pointed out by Todd somewhere about 50 years ago. There were exceptional cases in which the hyperæmia set up a process of inflammation, a small proportion of cases in which a certain amount of inflammation was set up in the joint and the joint was found becoming œdematous externally. In these cases some time elapsed before the joint could be moved freely. There was a still rarer class of case in which tuberculous inflammation had existed in the joint before and which ultimately merged into a tuberculous joint. But in the majority of cases in acute rheumatism the joint recovered without thickening or destruction of the tissue. The scope of the discussion as laid down included the prophylaxis of acute rheumatism and into that subject he endeavoured to make some investigation some years ago by making inquiries into the status and habits of a large number of patients. This was at the time when he was medical registrar at St. George's Hospital. In spite of his labour he was sorry to say he gained very little information. Rheumatic fever patients he found on the whole were less alcoholic than on the average, but that was probably accounted for by the comparatively youthful age of the patients. The common belief that beer was obnoxious to rheumatism obtained a certain amount of support; the proportion of beer- to spirit-drinkers was considerably in excess of the ordinary ratio. There was a belief at that time that suppression of perspiration had much to do with the genesis of acute rheumatism and that led him into inquiring as to the habitual perspiration of these patients, whether it was in excess or in defect, or about the same. He did, however, find that in the proportion of 58 to 43 per cent. patients with rheumatic fever appeared to show one or other peculiarity; further than that his inquiries led to no result. The question of climate and situation was no doubt one of some importance and there was a general belief that rheumatic fever was a malady especially attached to low-lying damp districts. That did not seem to be borne out by statistical evidence. Some 15 years ago he made a preliminary inquiry on the part of the International Investigation Committee into the general prevalence of rheumatic fever in this country. It appeared that there was no part of this country which could be said to be free from rheumatic fever—he meant the whole of the United Kingdom—and there were very few places in which it was not said to be a common malady. The British Medical Association Investigation Committee had made inquiries and one point was the character of the locality in which the patient was living at the time he was attacked, and the results were quite contradictory to the ordinarily received opinions on the subject, for the great majority of patients affected were said to have been attacked while living either in high, or dry, or exposed, or high and dry, or high, dry, and exposed, localities. The largest group was the group from the high, dry, and exposed localities. That agreed with a certain amount of personal experience that they had had at St. George's Hospital. They had a large convalescent hospital at Wimbledon which was on the top or a little down the slope of a hill on a gravel soil, protected from the north and east, and facing south and south-west, but the liability to rheumatic fever in this hospital was so great that for many years they had never sent a convalescent rheumatic patient there. Out of the rheumatic fever patients sent when he was there he did not think 10 per cent. escaped from a return of the malady. This bore out the results of the Collective Investigation Committee. He would not follow the previous speakers into the treatment of the onset of cardiac complications, but he would point out one thing in regard to the commencement of pericarditis. He was surprised to hear in the various treatments employed at the onset no mention of the very old-fashioned remedy which he was accustomed to employ and with considerable benefit: he meant the application of eight or a dozen leeches to the region of the heart, and this old-fashioned remedy, now almost dropped into disuse, had appeared to him in some cases if not absolutely to check the pericarditis at any rate to relieve the patient of the most serious symptoms and considerably to modify the intensity of the process.

The CHAIRMAN asked Dr. Caton what particular nerves they were to which he applied the blisters. With regard to Dr. Pye-Smith's views as to the bacterial origin of rheumatism, unless some working hypothesis was brought forward they would never arrive at any result. He ventured to say that the Listerian treatment would not have been discovered had not Lord Lister formulated in his own mind the possibility of the treatment which he afterwards carried out so successfully.

Dr. C. C. GIBBES said that there were certain cases of rheumatism in which the salicylate treatment failed on account of the toxic effects produced before the patient was saturated with one of the salicyl compounds. He thought sufficient importance had not been given to the nature of the salicylate compound prescribed. Looking at the British Pharmacopœia as it at present stood if they prescribed salicylate of soda the chemist simply mixed up the cheapest drug on the market. There were four different kinds of salicylate—the natural, the artificial, the pure, and the purest form. The artificial or the British Pharmacopœia form was infinitely the cheapest of the whole lot, and he believed it was used in a large number of hospitals. He had given the salicylates in various forms and at various periods, and he thought it was of the greatest importance that the quality of the drug should be determined and also the way in which it was given. Taking the quality of the drug, Mr. Williams had investigated this matter about the time Professor Latham wrote about the natural salicylate of soda, and he found that the impurities which, according to Dr. Charteris, produced most of the toxic effects were chiefly the ortho- and meta-cresotic acids. Later experiments by Duncan and Flockhart proved that the impurities in the present artificial salicylate were para-cresotic acids. Clinically most were agreed that the toxic effects produced by the salicylates 20 years ago and now were different. About the way in which it was given, he had tried it in 20 grains every three hours and more quickly, and he found there was no comparison in the methods. If one wanted the full and the best effects of any salicylate compound he must give it with big doses to start with and repeat them for two or three days, according to the patient's idiosyncrasy. Personally he found that taking it himself there was no comparison between the artificial drug of the British Pharmacopœia and the natural drug. The toxic effects, he believed, were due to the para-cresotic acid. In the British Pharmacopœia form they could not get the patient in a large number of cases sufficiently under the influence of the salicylate because of the para-cresotic acid. In the natural form the patients could take larger doses; the shortness of breathing and delirium did not occur. That was his experience in rheumatism and he had taken the salicylate of soda himself. Why the Pharmacopœia Committee of the General Medical Council should have adopted and made official the cheapest form of the drug in the market and the most impure was really a puzzle, and it would be greatly to the benefit of rheumatic patients if it was laid down that the salicylate given must be either the purest form or else the natural one. Otherwise he did not believe that the salicylate in any form, such as the artificial, could be sufficiently pushed for the full benefit to be given to the patient. As to the time when it should be given if they gave it early they got infinitely better effects. Experience in the hospital and in private was different. In private practice they had a chance of giving the drug quickly and in the hospital they did not get the patient until the disease had got a certain hold. If statistics were to be drawn between alkali and salicylate treatment they must know the drug given and they must know the time when the treatment was started.

Dr. CATON said he was asked where he applied the blisters to the first, second, third, and fourth dorsal nerves which Gaskell and Sherrington thought were closely associated with the heart. He applied the blisters to the region between the clavicle and the nipple; they would be effective behind but they would interfere with the patient's rest. Either to the right or to the left the blisters were applied, for the heart was as much associated with those nerves to the right as to the left.

Dr. WILLIAM KEEN asked if the urine were kept alkaline whether there was less chance of heart complications.

The discussion was closed by Sir RICHARD DOUGLAS POWELL, whose remarks are printed in full on page 920 of this issue of THE LANCET.

Dr. EWART said that the debate had not brought forward any real suggestion as to prophylaxis. They found a great diversity of opinion not only as to the nature of rheumatism but as to the mode of the action of the salicylates and as to their scope of action. They had still before them the whole inquiry as to the treatment of rheumatism and underlying that inquiry was the nature of rheumatism and its mode of manifestation. It had been said that rheumatism was an affection of the heart. How was it that 50 per cent. of the cases were to be found going about several years afterwards with perfectly normal hearts? It required the most perfect mechanism in its study and for that reason it seemed to him that that was an occasion on which they might bring the matter before the profession so as to promote a combined action for the purpose of the study of rheumatism, and these views had found expression in the motion which he had placed before them:—

> That in the opinion of this society much useful knowledge might be obtained for the prevention of heart disease and other affections of rheumatic origin were fuller data as to the prevalence and distribution of acute rheumatism available for study.

Dr. Ewart suggested that this motion should be sent to the Local Government Board, but after some further discussion, in which Dr. GIBBES, Dr. VINRACE, and Dr. MACLAGAN joined, this was withdrawn.

Dr. A. B BLACKER seconded Dr. Ewart's motion, which was carried.

EDINBURGH OBSTETRICAL SOCIETY.

The Chronology of Ante-natal Life.—Double Ovariotomy.—Chylous Ascites —The Treatment of Eclampsia by Saline Infusion —Pathological Amenorrhœa from other than Constitutional Causes —Microscopical Demonstration of the Embryo of the Deer.

A MEETING of this society was held on March 14th, Dr. MILNE MURRAY, the President, being in the chair.

Dr. J W BALLANTYNE read a short communication on the Chronology of Ante-natal Life. He demonstrated a schedule of the divisions of ante-natal life which he had constructed on the "space-for-time" method which Mr. Jonathan Hutchinson had introduced into medical case-taking. In the scheme each space represented a week and the whole of the intra-uterine period of ante-natal life was extended, therefore, to 40 spaces. The leading subdivisions were marked off by thick and thin lines; in this way germinal life was divided off from embryonic, and embryonic from fœtal, and fœtal from neo-natal. At one side were numbers indicating the age of the pregnancy in weeks and at the other side were some of the great events, such as impregnation, organogenesis, growth, birth, adaptation, &c By means of the schedule he claimed that a more clear conception could be formed of the phenomena of ante-natal life and of their relation to each other and to the progress of gestation. It might also be used as a case-taking scheme in obstetric practice in which any unusual occurrences in pregnancy might be noted down in their appropriate place and their possible bearing on the condition of the fœtus, as discovered at birth, made evident. Dr. Ballantyne also demonstrated a second scheme in which an attempt had been made to represent the projection of the various periods of ante natal life into one another, for it could not, of course, be affirmed that the whole of the organogenesis of the body was completed in the embryonic period of ante-natal life, some of it was postponed till the fœtal period. This projection or overlapping was brought out graphically in the second schedule.

Dr. HALLIDAY CROOM read a note on an interesting case of Double Ovariotomy. The patient, aged 18 years, was first admitted to Dr. Croom's ward in the Royal Infirmary in July, 1897. She complained of a swelling of the abdomen which had been observed for 16 months. Before admission the tumour had been tapped three times. On examination extensive hydrothorax was discovered and the abdomen was enormously distended with fluid. The right pleural cavity was tapped and 144 ounces of serous fluid were removed and a few days later 280 ounces of similar fluid were removed from the abdomen. A large tumour was then detected in the abdominal cavity; it was irregular in shape, very hard, and it presented all the features of a malignant ovarian tumour; it was considered hopeless to attempt any radical operation. From July, 1897, to April, 1898, the patient remained in the ward and during that time the abdomen was aspirated every fortnight and the right pleural cavity was tapped on four occasions. In April, 1898, the conclusion was forced upon Dr. Croom that since the patient's general condition was no worse than on admission and the tumour had not changed in any way the condition might not after all be malignant and operation was accordingly undertaken on April 5th. Dr. Croom then removed the largest ovarian dermoid he had ever seen, but the operation was comparatively simple and the patient made an uninterrupted recovery. The right ovary was left intact as it seemed healthy. The patient went home to Shetland perfectly well on June 7th. She was readmitted to Ward 28 on Sept. 30th, 1899, when she complained of swelling of the abdomen which she had noticed for six weeks. Examination revealed a large, hard, semi-solid tumour growing upwards in the abdominal cavity, and this was diagnosed as an ovarian cystoma growing from the other ovary. Operation proved this tumour to be cystic, but owing to the numerous adhesions and to the fact that the tumour was intra-ligamentous the operation was very tedious and the patient became extremely collapsed. However, she speedily recovered and left the ward a month later perfectly well. The tumour was examined at the Laboratory of the Royal College of Physicians of Edinburgh, whence a report was sent that it was a cystic papilloma of the ovary. Dr. Croom referred to the difficulty of diagnosis of abdominal tumours and the importance of opening the abdomen in doubtful cases.

Dr. HALLIDAY CROOM also read a paper on Chylous Ascites with an illustrative case. He said that obstruction of the thoracic duct, especially if gradual, might give rise to no symptoms whatever, since anastomotic channels were established through which the lymph and chyle entered the circulation. However, in other cases congestion of the lymphatic system did give rise to definite signs and this was especially so when the lacteals of the abdominal cavity were within the area affected. A few cases had been recorded in which chylous fluid was found secondarily in the pleural cavity and only 63 cases of chylous ascites had been recorded. The notes of Dr. Croom's case showed that the patient, a female, aged 39 years, was admitted to Ward 28 in the Royal Infirmary on Sept. 29th, 1899, complaining of swelling of the abdomen and gradually advancing weakness and emaciation These symptoms she had observed for three months, previously to which time she had been perfectly well. Examination of the abdomen revealed the presence of free fluid and an irregularly shaped and evidently malignant tumour The abdominal cavity was aspirated and 380 ounces of fluid were removed. The fluid at first sight presented all the appearance of pus but on examination it was found that it was more mobile and had a sweetish milky odour and that after standing for 24 hours a slight creamy layer formed on the surface. Dr. T. H. Milroy reported that the fluid consisted partly of finely emulsified fat but more largely of a granular débris consisting mainly of fat The patient did not improve but became more and more emaciated and a fortnight later 350 ounces of similar fluid were removed. She died five days later. A post-mortem examination was made by Dr. D. A. Welsh. A cancerous tumour was found at the pyloric end of the stomach and the mesentery and the glands were secondarily infiltrated. The small intestine showed an immense number of small cancer nodules surrounding the lacteals close to the mesenteric attachment The thoracic duct and receptaculum chyli were carefully dissected out and were found healthy, but there was a mass of glands pressing on the receptaculum. Dr Croom then referred to the literature on the subject and pointed out the differences which some authorities held to exist between chylous ascites and adipose ascites.

Dr. R JARDINE (Glasgow) made a further contribution on the Treatment of Eclampsia by Saline Infusion. In the last session he had submitted to the society the results in 12 cases treated in this way; he had published five more and he now gave details of another series of five cases In every case the diuretic effect of the saline injection had been prompt and marked The solution used consisted of one drachm each of chloride and acetate of sodium to the pint of sterilised water From two to three pints were injected underneath the breasts between them and the chest wall or, if required, into the loose abdominal subcutaneous tissue These injections could be repeated This treatment was accompanied by a saline purge, sometimes with bromide and chloral and 10 minims by hypodermic injection of tincture of veratrum viride Of the 22 cases six of the patients had died, one died from perforating duodenal ulcer One of the patients was treated with ordinary saline solution This result compared favourably with other lines of treatment in eclampsia, especially after taking into consideration that many of the patients had been seized with fits for several hours before admission to the Glasgow Maternity Hospital Some had been prognosed as hopeless There was no risk in giving these large infusions, out of at least 200 injections he had never found any abscess formation Of course, strict aseptic precautions had to be followed In one fatal case conjugate deviation of the eyes to the left was present, with the face slightly drawn to the right, and the left arm seemed paralysed, but post mortem no brain lesion was found though its substance was somewhat anæmic —THE PRESIDENT Dr S McVil Dr HALLIDAY CROOM, Dr JAS RITCHIE Dr J LOUIS Dr F W N HAULTAIN and Dr J W BALLANTYNE discussed the paper

Dr F W N HAULTAIN read a paper on Pathological Amenorrhœa from other than Constitutional Causes Details of cases of atresia hymenalis, atresia vaginalis atresia cervicis and the necessary operative treatment were given There were also cases of amenorrhœa due to functional inactivity of the uterus or the ovaries or to their insufficient development In other cases the uterus and ovaries were apparently normal, and yet menstruation did not appear These were evidently due to some affection of the central nervous system Acquired amenorrhœa might be due to shock fear of pregnancy or other nervous cause Prolonged rest from work was very helpful in the treatment of this class The intra uterine application of electricity, negative pole (Apostoli) was very helpful in some cases of cessation of the flow after it had been in regular function In acquired amenorrhœa due primarily to want of ovarian activity alone ovarian extract was beneficial, the dose usually given was 15 grains daily but 40 grains daily might be given without any untoward effect

Dr J FOULIS gave a microscopical demonstration of the Embryo of the Deer showing that the umbilical cord had no amniotic covering

ROYAL ACADEMY OF MEDICINE IN IRELAND

SECTION OF PATHOLOGY

Growth of the Typhoid Bacillus —Histology of Tuberculosis of the Intestines and the Liver —Corneal Dermoid Tumour —X Rays in Dental Pathology —Exhibition of Specimens

A MEETING of this section was held on Feb 23rd Dr A C O'SULLIVAN the President being in the chair

Professor E J MCWEENEY read a note on the Effect of Certain Varieties of the Nutrient Medium on the Growth of the Typhoid Bacillus in which he stated that experimental cultures made by him showed that (1) the growth improved with increasing addition of decinormal sodium hydrate to the unneutralised gelatin up to the beginning of alkalinity (indicator phenolphthalein) (2) the addition of salt in quantities varying from 0 1 to 1 per cent, to the fully neutralised gelatin (same indicator) made no difference in the amount of growth, (3) the omission of both salt and peptone exercised no appreciably unfavourable influence on the growth in gelatin made with meat decoction, (4) addition of quantities of phenol to gelatin in the proportion of 0 05 to 0 5 per cent exercised an inhibitory influence on all growths when the addition exceeded 0 07 per cent, between 0 05 and 0 07 the effect was to check the anaerobic growth, and (5) Parietti's solution added to ordinary bouillon suppressed the growth of the typhoid bacillus when the bacillus coli was also present The addition of nine drops (0 3 cubic centimetre) to 10 cubic centimetres of bouillon to which was subsequently added a few drops of a mixture containing both the typhoid bacillus and the bacillus coli (e g, bile from a patient dead from typhoid fever) caused such retardation of the growths produced by plating out the tube on gelatin as to make them closely resemble true typhoid bacillus colonies Tests however, proved that nothing but bacillus coli grew in the Parietti's tube, although ordinary agar plates from the same material yielded an abundance of typhoid bacillus colonies It was on the suppression of the typhoid bacillus by the Parietti test that the speaker desired to lay special stress —The PRESIDENT said that in the first experiment on the typhoid bacillus it was really decrease of acidity that was being estimated It would be interesting to know if a further condition of alkalinity would make the growth go off or possibly make a stronger growth The observation that phenol acted first on the anaerobic growths *might be explained by the fact that typhoid bacilli were what* were called facultative anaerobes—that is, their natural mode of growth was aerobic and their anaerobic growth was, therefore strained and the inhibitory drug acted first on the restrained kind of growth The method of Parietti was very useful for the analysis of water, but it was entirely useless for analysing milk for the typhoid bacillus, because there were so many organisms in milk which resisted a mixture of hydrochloric acid and carbolic acid better than the typhoid bacillus —Professor MCWEENEY in reply, said he agreed with the statement that Parietti's solution was of no use for the analysis of milk He acknowledged the justice of the correction with regard to the reaction—he should have said decrease of acidity

Professor MCWEENEY showed preparations illustrating the Histology of Tuberculosis of the Intestines and Liver They were taken from a patient who had died from diarrhœa due to tuberculous enteritis The floor of the very extensive ulcers was composed of granulation tissue consisting of cells with simple and polymorphous nuclei but seemingly devoid of giant cells Enormous multitudes of tubercle bacilli were lying between these cells and were often actually in contact with, but not within them, yet the tissue showed practically no sign of caseation—a remarkable fact in view of the extensive areas of caseation met with so commonly in tuberculous lymphatic glands where even the most careful examination failed to reveal a single bacillus The toxin that produced caseation might conceivably be contained within the bacillary bodies and only become free by their break down This at any rate would be an explanation of the frequent want of association between demonstrable bacilli and extensive caseation The liver sections constituted a classic object for the study of the histogenesis of tubercle showing as they did tubercles in the very earliest stage of development when they consisted of only a few epithelioid and lymphoid nuclei Professor McWeeney had arrived at the conclusion that many of the tubercles began by proliferation of the nuclei of intra lobular capillary endothelium

Mr ARTHUR H BENSON and Dr H C EARL described and showed sections of a Dermoid Tumour removed from the eye of a child aged four years The growth straddled the cornea scleral junction but extended more on the cornea than on the sclerotic and occupied the whole thickness of the cornea It was only slightly raised above the surrounding tissues and was of a creamy white colour and slightly rough or rather unpolished, on the surface It grew contrary to the usual custom, at the inferior nasal side and extended almost to the corneal apex

Mr GEORGE J GOLDIE demonstrated the usefulness of the x rays in dental cases where other methods of diagnosis had failed The conditions in which he found the new agent most valuable were (1) Fracture and dislocation of teeth in the jaw, (2) fracture of the jaw itself, (3) the diagnosis of inflammation round the roots of teeth (alveolar abscess), (4) the diagnosis of inflammation round the roots of teeth giving rise to symptoms remote from the seat of lesion (neuralgia trismus &c), (5) the treatment of impacted and in coming wisdom teeth (6) the normal eruption of the permanent teeth following the temporary or milk teeth (7) the abnormal eruption of the same, (8) the absence or presence of any missing tooth in the jaw when its eruption has been abnormally delayed, (9) the regulation of teeth malposed in the jaw, (10) many purely clinical dental conditions which could only be mentioned without being described, (11) exostosis of roots of teeth, and (12) foreign bodies in the antrum of Highmore —Dr WILLIAM S HAUGHTON then described [illegible] various difficulties encountered had been overcome "cut celluloid" photographic films, enclosed in orange and black paper bags, which were again enclosed in an india-rubber bag specially manufactured, as most samples of rubber contained so much sulphur as to render them very opaque to x rays. These films had to be cut small enough to go inside the patient's mouth, and the best position in which to place the film for each individual tooth required a careful study of the anatomical relations of each tooth to its surrounding alveolus. For a clamp to hold the film in position he preferred the finger of a skilled assistant in the mouth, while the other hand made counter-pressure on the head outside. This, combined with the head-rest of a dental chair, had proved very satisfactory. The best working distance of the tube from the film was from eight to 10 inches and the usual exposure was from 90 seconds to two minutes.

Professor McWeeney exhibited a specimen of Spontaneous Rupture of the Œsophagus. The patient, an alcoholic male, aged 40 years, had retched violently before going to his work. His face and neck became swollen and his breathing difficult, so that he was forced to go to the Mater Misericordiæ Hospital, where he died a few hours after admission. At the necropsy enormous swelling of the face and neck, due to subcutaneous emphysema, was found. The primary lesion was in the posterior mediastinum, the contents of which were coated with grey pultaceous matter, which could be seen escaping through a longitudinal rent half an inch long in the anterior surface of the œsophagus just above the diaphragm. The immediate cause of death was intense œdema of both lungs, associated with failure of a fatty right heart.

Dr. H. O. Earl exhibited a specimen of Cyclopian Fœtus, with Supernumerary Fingers and Diaphragmatic Hernia.

Liverpool Medical Institution.—A meeting of this society was held on March 22nd, Mr. Edgar Browne, the President, being in the chair.—Dr. K. Grossmann showed a case of Double Congenital Anophthalmos in a child 11 weeks old. The eyelids turned inwards and opened through a small rima into a conical space lined with conjunctiva. The eyelashes were well formed, with an absence of puncta lacrymalia. The conjunctiva at the fornix formed a straight cone whose apex in the left eye was a whitish, and in the right eye a bluish, point. The well-developed state of the adjacent structures indicated that the arrest of development of the eyeballs and their probable subsequent disappearance had taken place at an advanced stage of fœtal life.—Mr. W. B. Bennett showed a woman suffering from Motor Aphasia, Right Hemianæsthesia, and Paralysis of the Right Side of the Tongue, but no hemiplegia; he considered the lesion to be a softening in the sub-cortical area of the brain.—Mr. G. Reinhardt Anderson read notes of a case of Strangulated Obturator Hernia in a woman, aged 75 years. The patient was seized with pain in the left thigh and vomiting; when first seen, 24 hours later, the vomiting had ceased and the pain was not so marked; next day all the symptoms pointed to complete obstruction, there being fæcal vomiting and abdominal distension. There was some fulness in the left femoral region and the diagnosis was that of partial enterocele in the left femoral canal. Operation by incision over the femoral region revealed nothing, the lump felt being an enlarged gland. The patient was unrelieved and too ill apparently for laparotomy. Five hours later the femoral wound was reopened and a deep dissection revealed a hernia through the obturator foramen. This was reduced and the patient made a rapid recovery and was now well.—Mr. Rushton Parker congratulated Mr. Anderson on the promptitude with which he had acted and thus saved the patient's life; the condition was one of great rarity and in an operative experience of 510 herniotomies he had never met with obturator hernia.—Dr. Lloyd Roberts described the sequence of the symptoms and physical signs in the course of a typical case of Mediastino-pericarditis and read notes of a case he had met with in a boy aged five years.—Dr. William Alexander read a paper on the Prevalence of Ophthalmia in Liverpool: its Prevention and Treatment. In three years nearly 1000 cases of ophthalmia in various forms had been admitted into the Liverpool Workhouse Infirmary. These all came from the lowest parts of the city and many of the children were admitted direct from their attendance at school. In one-tenth of the cases there was impairment of vision; some were temporarily blind, and in many the eyes were hopelessly lost. To prevent the disease it would be necessary to have ophthalmia notified as a contagious disease and arrangements made for the effectual treatment of each case notified before its return to school. The patients' homes should be visited and all the family inspected, for often other children had acquired the disease in a latent form. All schools should be periodically visited and latent cases eliminated. The treatment of granular lids was described as hygienic and local and the methods for the former adopted by the Select Vestry were discussed. He thought that the best results in the treatment of trachoma were obtained from the use of the solid sulphate of copper in cases where the discharge was slight and the granules distinct; when the discharge was greater he used nitrate of silver solution. The relations between follicular conjunctivitis and granular lids were discussed and it was shown how difficult it was to diagnose one from the other. Follicular conjunctivitis was comparatively rare in Liverpool and many surgeons were doubtful of its existence as a distinct disease. The paper was illustrated by cases, photographs, drawings, and lantern slides.—Dr. K. Grossmann urged the importance of classification and considered the follicular and granular forms as distinct diseases and not as stages in the same disease. Granular conjunctivitis he considered a rare disease in Liverpool after a long hospital experience in one of the poorest parts of the city. The clinical facts were the guides as to prophylaxis and treatment.—Dr. A. S. Griffith stated that in every case of muco-purulent catarrh he had found the Koch-Week's bacillus; in the scanty discharge of chronic granular conjunctivitis there was no organism found to which the condition could be ascribed, but when trachoma developed the Koch-Week's bacillus was found in large numbers. He assumed that bacilli entered the tissues and, acting as an irritant, resulted in the formation of granules, and that the particular bacillus was probably Koch-Week's bacillus acting with a small amount of virulence.—Mr. Richard Williams, Mr. T. H. Bickerton, Dr. S. H. House, Dr. C. J. Macalister, Professor R. W. Boyce, and Mr. C. G. Lee also took part in the discussion, and Dr. Alexander replied.

Sheffield Medico-Chirurgical Society.—A meeting of this society was held on March 15th, the President, Dr. D. Burgess, being in the chair.—Dr. A. J. Hall showed cases of (1) Congenital Syphilis, (2) Lichen Syphiliticus, (3) Tuberculous Syphilide simulating Lupus, and read notes of a case of Iodide of Potassium Eruption.—Mr. W. Dale James showed: 1. A case of Pityriasis Rubra Pilaris in a man, aged 30 years. It began when he was eight years old upon his right shin, which was the only patch he had. The case had been reported frequently, the patient having four years ago been under Dr. J. F. Payne at St. Thomas's Hospital. The mortar-like accumulation and the presence of plugs in the follicular openings were very diagnostic. 2. A beautifully developed Tertiary Macular Syphilide.—Mr. Simeon Snell showed the following patients: (1) A youth, aged about 20 years, with a large solitary Tubercle of the Iris (left eye). The lungs were free from disease, but there was thickening of the left epididymis; (2) a boy with Ectropion treated with Thiersch Graft; (3) two cases of Symblepharon treated with Thiersch Graft; (4) a man with a Piece of Steel embedded in the Retina; (5) a child with Palsy of both External Recti after Diphtheria; and (6) a woman with very marked Periarteritis of the Central Retinal Artery.—Mr. Snell also exhibited: (a) A water-colour drawing of a Congenital Papilloma of the Conjunctiva which was sufficiently long to protrude through the palpebral fissure and to rest on the lower eyelid; (b) a series of microscopic photographs, including amongst them three instances of Rodent Ulcer, microscopical sections of which were also shown; (c) Embolism of a Branch of the Central Artery of the Retina (perimeter charts of four cases).—Mr. Snell also showed a beautiful work which was illustrated by photographs from large water-colour drawings of forest and other rural scenery executed by a patient who had several years since undergone cataract extraction at his hands. The same gentleman had since the operation been a successful exhibitor at the Royal Academy.—Mr. R. J. Pye-Smith showed two cases in which he had performed Laparo-pylephleb-anastomosis (the operation introduced by Dr. D. Drummond and Mr. Rutherford Morison in 1896). 1. A girl, aged 18 years, had been under the care of Dr. Burgess at the Sheffield Royal Hospital with enlarged liver and spleen and ascites for three years. She had been tapped frequently, and as the abdomen refilled in a month.

Dr. Burgess requested Mr. Pye-Smith to operate. At the operation (on Nov. 10th, 1899) the capsule of the liver was found to be thick and the spleen to be greatly enlarged. The liver, spleen, and omentum were attached to the anterior abdominal parietes. During the four months that had elapsed since the operation a considerable quantity of fluid had gradually accumulated, but the improvement in this and in other respects had been very great. 2. A man, aged 31 years, was admitted to the Sheffield Royal Hospital, under the care of Dr. Burgess, in September, 1899, for hæmatemesis. Whilst in the hospital slight ascites developed, but subsided under medicinal treatment. There was an alcoholic history and Dr. Burgess diagnosed cirrhosis and asked Mr. Pye-Smith to operate. At the operation (on Jan. 16th, 1900) a hob-nailed condition of liver was found with an enlarged spleen, but no ascites. The left lobe of the liver was attached to the anterior parietes and the omentum was fixed along the edge of the wound. The patient was now, two months after the operation, in a comfortable condition. It was, of course, too early to judge of ultimate results in either of these cases. —Dr. Sinclair White showed: 1. Unusual Gall-stones. 2. A boy on whom Estlander's Operation had been performed five years previously. The lung on the affected side had regained almost its normal size, and there was no lateral curvature of the spine and very little deformity. 3. A rapidly growing Sarcoma of the Scapula in a case which was subsequently dealt with by the total excision of the scapula. 4. A woman with *Early Cancer of the Left Breast, the right* mamma having been removed for cancer six months previously. There was no evidence of cancer elsewhere.—Dr. Stanley Riseley showed a man, aged 44 years, who seven years ago was struck on the Inner Side of the Cornea by a piece of coal. The patient said that three years afterwards a growth appeared in the same situation and that 18 months subsequently part of the growth was removed. He came under Dr. Riseley's care four months ago with a growth firmly attached to the cornea and conjunctiva which on microscopical examination proved to be an epithelioma. There were apparently no glands involved. The growth had rapidly increased in size. The patient would not consent to *operation.*

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 20th, the President, Mr. W. H. Horrocks, being in the chair.—Dr. A. Bronner showed specimens illustrating Growths of the Nose.—Dr. R. H. Crowley showed the following specimens:—(1) Cancer of the Uterus with Secondary Deposit in the Lungs; (2) a Thrombosis of the Pulmonary Artery firmly adherent and evidently of old standing; (3) Perforating Tuberculous Ulcer of the Small Intestine; and (4) the Brain of a Microcephalic Idiot three years old, the child weighing 14½ lb. and the brain weighing 11 oz.—Dr. C. F. M. Althorp showed a specimen of a very extensive Tumour of the Thyroid Gland occurring in a child seven years old. The patient, who had been apparently in good health till about three months before admission to hospital, was said to have developed whooping-cough and soon afterwards the mother noticed an enlargement of the neck. The child was found after admission to suffer from attacks of severe inspiratory dyspnœa, which were at first relieved by medicine (belladonna). But this drug soon lost its effect and failed to control the paroxysms. The thyroid body was seen to be greatly enlarged laterally and the isthmus was much thickened. The isthmus of the thyroid was exposed and divided between two ligatures. This gave great relief and for a fortnight the child had no attack of dyspnœa; at the end of that time, however, the patient had another paroxysm which proved fatal. On post-mortem examination there was found to be a large tumour of the thyroid body which spread downwards into the mediastinum completely surrounding the trachea and invading the wall of the right auricle. The growth was a lympho-sarcoma.—Dr. R. C. F. Rabagliati showed a Portion of the Ramus of the Lower Jaw which had been removed by operation. The patient had a cystic swelling of the jaw which had been repeatedly tapped without relief and which was supposed to be sarcomatous. The implicated portion of the jaw was consequently removed.—The President showed a Right Tubal Pregnancy of about six weeks' duration which had ruptured into the broad ligament and was removed by abdominal section.—Dr. J. Metcalfe showed two Sarcomatous Tumours which had been removed from the popliteal region at the site of an old bullet-wound received in battle 18 years before.—Dr. T. Jason Wood related a case of Ovarian Tumour of an unusual character. The *patient was a married* woman, aged 48 years, who was admitted to hospital on July 29th, 1899, with a history of abdominal pain and swelling of six months' duration. The abdomen was uniformly distended by a tense cyst which reached two inches above the umbilicus. There was much tenderness on pressure. The flanks were resonant to percussion. On vaginal examination the uterus was found to be high up and fixed. On August 4th, under the influence of ether, the abdomen was opened below the umbilicus. The peritoneum was greatly thickened and the cyst was universally adherent. It was multilocular in character and some of the loculi contained fœtid green pus. During separation *of the cyst the* wall gave way *in places* and *allowed some* of the pus to escape into the peritoneal cavity. When all the adhesions had been separated it was found to be possible to remove the cyst, there being no trace of a pedicle. The small intestines were confined to the upper part of the abdomen by adhesions so that the cavity occupied by the tumour remained. It was washed out with hot water and loosely packed with alembroth gauze; the end of the gauze was brought out of the wound, which was closed, and a cotton-wool dressing was applied. The ovaries could not be recognised owing to the great inflammatory thickening of the peritoneum. The gauze was removed after 48 hours and a tube was substituted. The patient made a *good recovery* and *was discharged on Sept. 16th.* Dr. Wood suggested that the absence of a pedicle was to be accounted for by the ovary becoming detached from its usual connexions and then undergoing cystic change.—Dr. J. Basil Hall read a paper on Gastrostomy with an account of two cases. He strongly advocated the performance of gastrostomy in cases of malignant disease of the œsophagus and urged that the operation should not be delayed after the power of swallowing solid food was gone.—The President, Dr. Althorp, Dr. Wood, and Dr. Lodge took part in the discussion.

EPIDEMIOLOGICAL SOCIETY.—A meeting of this society was held on March 16th, Dr. Franklin Parsons, the President, being in the chair.—Mr. T. Robinson, county medical officer of Leicestershire, read a paper on Measles, its Distribution and Control, being the experience of an epidemic of over 2000 cases. He said that the borough of Burton-on-Trent in 1898, when he held the post of medical officer of health, was visited by an extensive epidemic of *measles.* The *estimated population* was 61,664, composed chiefly of artisans and brewery employés, and the houses occupied were mostly four-roomed and six-roomed. The Notification Act had been applied to measles since Dec. 1st, 1893. There had been three biennial epidemics of measles during the last six years. In the epidemic of 1898 there were 2048 known cases and 31 deaths, giving a case fatality of only 1·5 per cent. and a death-rate of 0·60 per 1000. It was probable that 95 per cent. of all the cases were notified or came to the knowledge of the sanitary authority. The ratio of children under school age (called babies) to infant school children (called infants) attacked was from 80 to 100. The epidemic first started through a tea-meeting and *entertainment,* and two infants in arms were the first cases in houses where the mothers but not the babies had been to this meeting. Later two Sunday-schools were clearly responsible for the distribution of the disease to two other districts. Amongst babies who were the first cases in houses, 26 per cent. of the cases occurred in houses where there was a case next door, 11½ per cent. where a case was two doors off, and 5½ and 8 per cent. where cases were three and four doors off; and amongst infants the respective percentages were 13, 10, 6, and 6½. The conclusions deduced were (*a*) that measles first introduced into a district through an infant Sunday school or day school at once spread rapidly in that school and district, and that the degree of rapidity and the extent of the spread were inversely proportionate to the frequency of epidemics unless *early* closure were carried out; (*b*) that the disease first introduced into a district by means of isolated cases did not spread to any extent until the infant school became infected; (*c*) that Sunday schools were an important factor in the distribution of the disease; (*d*) that the babies might be infected to a slight degree and under certain circumstances before the infant school was infected; but the greater proportion were infected a short time after the school; and (*e*) that the danger of house-to-house infection was a serious one amongst the baby class, and that in proportion to the proximity of an infected house (where houses were in close contact) so was the danger of infection. In all cases a school was closed within three days of its being known to be "a source of infection," as were the Sunday schools in the same districts. The incidence in the boys' and girls' schools in districts where there had been biennial epidemics was practically *nil;* but where there had been no real epidemic for at least six years the incidence amounted to as much as 20 per cent, in one case, of those in average attendance. The conclusions come to on school closure were (1) that in nearly every instance this measure was carried out too late; (2) that good results could be obtained, not only amongst infants but babies also, when schools were closed at once without waiting for the infant department to become "a source of infection"; (3) that when an epidemic occurred every two years the infant schools only need be closed, but with longer intervals it became necessary to close the boys' and girls' schools also; (4) that sanitary authorities should have the same power of compulsory closure over Sunday schools as over day schools; and (5) that the power to close schools for a short period—one or two days—on account of a threatened epidemic, especially of measles, would be a most useful measure. For "information of the presence of measles," compulsory notification under the Notification Act was the chief source, but should be supplemented by other methods.—Dr. R. Dudfield, Mr. Shirley Murphy, Dr. W. A. Bond, and the President took part in the discussion.

HARVEIAN SOCIETY OF LONDON.—A clinical evening of this society was held on March 15th, Dr. W. H. Lamb, the President, being in the chair.—Dr. Cautley showed a female infant who had recovered from an attack of Basal Meningitis of three months' duration. The child was the third in the family, the others being healthy. She came under treatment on Nov. 23rd, aged 10 months, with a history of a measles rash on Nov. 4th and a fall on the head on Nov. 16th. Drowsiness, restlessness, and irritability were noted on the day after the fall, and on the next day stiffness of the muscles of the neck, retraction of the neck with pain on movement, frequent pulse, fever, and constipation. The course of the illness was characterised by the above symptoms, frequent vomiting, tache cérébrale, retracted abdomen, screaming attacks, and a hectic type of temperature ranging between 98° and 104° F. For two months no improvement took place, but in the course of another month the fever and symptoms subsided, with temporary relapses, and after Feb. 11th the temperature remained normal. During the illness the weight diminished from 14 lb. 8 oz. to 11 lb. 5 oz. It was rapidly regained during convalescence, a gain of 4 lb. taking place in 17 days. The child now weighed 15 lb. 10 oz. and was apparently quite well.—Dr. Cautley also showed a case of Congenital Infantile Paraplegia occurring in a boy, aged 21 months, the eighth child of a very healthy family, all the other children being alive and healthy. He was born at full time, labour being easy and not instrumental. He was entirely breast-fed for a year and partially so for another six months. Teething began at the eleventh month and now eight teeth were cut. He was quite healthy until he had an attack of diarrhœa and vomiting, followed by a fit, last October. At present he was a large and well-nourished boy with the exception of the lower limbs. These latter were small and ill-developed. The patellar and plantar reflexes were much exaggerated. He had never crawled, could not stand, and raised himself with much difficulty into the sitting posture which he maintained with ease. He appeared to be mentally deficient. The weakness of the limbs was only noted in October, but had almost certainly been in existence since birth.—Dr. Macevoy showed a boy, three and a half years of age, suffering from Little's Disease (cerebral diplegia). He was born prematurely (at the seventh month), delivery being instrumental, and for some minutes he was in an asphyxiated condition. The presentation was placental (placenta prævia). He had severe rachitis between eight months and 14 months; he could not sit up before the age of 18 months; and only stood on his legs when two and a half years of age. His gait since then had always been typically spastic and ataxic. He frequently fell. Rigidity, though worse in the legs, was present in the arms and neck. He had athetosis and incoordination of the arms, with athetotic movements of the feet and head. The plantar reflex gave an extensor reaction; the knee-jerks were brisk, but occasionally were not obtained on account of the rigidity. There was no clonus. The boy's general development was good and he was fairly intelligent, but could only say a few syllables.—Dr. Leonard Guthrie showed a lad, aged 18 years, whose symptoms were regarded as due to tumours either in the neighbourhood of the left optic thalamus or in the right cerebellum.—Dr. Alfred Eddowes showed the following cases: (1) A girl presenting a single Patch of Lupus on the left side of the face and a Patch of Impetigo on the opposite side; (2) a case of Lupus Erythematosus of the Scalp of 12 years' duration in the form of two perfectly symmetrical patches about three inches long and nearly two inches wide running vertically down the sides of the scalp about an inch behind the ears; and (3) a girl recovering from Leucodermia whose back three years ago was of a dull yellow colour with numerous white patches on it, but the pigmentation of the whole back was now practically normal.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held at Owens College on March 14th, Mr. W. Thorburn, the President, being in the chair.—Dr. Powell White showed specimens of Bacilli Diphtheriæ showing Branching. They were obtained from a culture on agar-agar 48 hours old. The culture was remarkable for the large size of the club-shaped forms, some of which measured as much as 40 μ in length. These large forms, as well as those of more normal size, showed well-marked true branching, the branches being clubbed at the extremities. Sub-cultures showed ordinary forms of the bacillus only.—Dr. J. R. Carver showed several specimens of Non-typical Diphtheria Bacilli which he had met with in the examination of specimens sent up by various sanitary authorities. He showed bacilli of great length interlacing with each other and showing doubtful branchings, which seemed to merit the term "streptothricial" bacilli. The long forms disappeared on sub-culture. Other specimens showed bacilli with enormous pear-shaped heads; and in another the sheath of the bacillus was very faintly stained, while the protoplasm was collected into a chain of fine granules giving the appearance of an encapsuled streptococcus. He thought that the greatest difficulty in the identification of the bacillus was in doubtful forms of the short bacilli, especially when these somewhat approached the bacillus coli type. He had found that pneumococci in process of division might resemble a double club-shaped bacillus and show a certain amount of meta-chromatism.—Dr. M. Cowen and Dr. David Orr made a preliminary communication on the Morbid Anatomy of General Paralysis of the Insane and illustrated their remarks with microscopical specimens. They described the changes in the nerve cells of the cortex, pons, medulla, and cord, in the medullated fibre of the cortex and cord, and the neuroglia and vessel changes in the cortex. They pointed out that the cell changes—i.e., the chromatolysis—was of a slow chronic nature, invading more especially the perinuclear region, and was associated with marked increase of the cell pigment, so bearing a striking similarity to the senile involution changes described by Marinesco. In the cord they found the damaged fibres almost entirely confined to the crossed pyramidal tracts with a few scattered morbid fibres in the posterior, lateral, and anterior pyramidal tracts. Neuroglia proliferation and hypertrophy were demonstrated especially in the white matter, sub-pial, and innermost layers of grey matter. Peri-arteritis of more or less degree was shown to affect the arterioles in every case. They were of opinion, from their investigations in early general paralysis, that the nerve cell was the first to degenerate and later the tangential and other medullated fibres.—Dr. E. S. Yonge showed specimens illustrating Acute Phagedæna of the Nose and Face. The patient, a man, aged 26 years, gave a history of alcoholism and syphilis and was suffering from phthisis. Phagedænic ulceration began in the roof of the mouth, immediately behind the incisor teeth; it spread into the nose and in a few days completely destroyed the soft parts of that organ. The right side of the face and the right eye then rapidly became gangrenous and the air-sinuses were invaded. Finally, the process involved the left side of the face and the left eye. Death occurred one month after the onset.—Dr. R. B. Wild showed preparations from a case of Cancer of the Body of the Stomach, in which the orifices were unaffected, but a large part of the anterior wall, lesser curvature, and posterior wall was occupied by a firm scirrhous growth. One nodule of the growth within the stomach was prominent and presented a horny degeneration of the epithelial cells. The liver presented several secondary nodules showing similar horny changes—Other preparations were shown as card specimens.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on March 9th, Dr. A. Newsholme, the President, being in the chair.—Dr. J. Priestley, medical officer of health of Lambeth, read a paper on Area Condemnation under the Housing Acts, Part I., which, though simple enough in theory, was in practice tedious and costly, while during the long delay the sanitary condition of the area went from bad to worse. He held that in a condemned area the majority of the houses were as a rule capable of repair, a minority only being wholly unfit for human habitation, and he thought that a system of vigilant house-to house inspection with abatement of nuisances and enforcement of repairs, the few houses only whose conditions were irremediable being demolished one at a time, with no wholesale displacement of the population, was in every way to be preferred. He had constantly carried it out in his district, which he thought would compare favourably with an adjacent one where areas had been ruthlessly condemned. Such displacement of the population served but to create overcrowding with all its concomitant evils in other districts which soon became converted into slums. It was not possible to provide for an equal number of persons on the same area under improved sanitary conditions, and the better houses springing up at higher rents than the labourer could afford were promptly appropriated by the thriving artisans. He believed that more good could be effected by Part II., by enforcing the provisions of the Public Health Act, by constant house-to-house inspection, and by substituting when these means failed house condemnation and house demolition for the condemnation and clearance of areas.—Dr. F. J. Allan (Strand) said that whatever might be the case in Dr. Priestley's districts the conditions prevailing elsewhere were such that the application of Part II. of the Housing Act, or the clauses of the Public Health Act bearing on the structural and sanitary conditions of houses, might be most unsatisfactory, if not futile. He could not understand what Dr. Priestley meant by his statement that in "unhealthy areas" the majority of the houses were capable of being made habitable.—Dr. A. M. Chalmers (Glasgow) gave an account of the practice of the authorities in his city, a combination of action under Parts I. and II. He admitted that there were circumstances under which Part I. alone could be of use, but it should not be adopted without necessity, for the mere clearing of the area cost on an average £50 per head of the displaced population.—Mr. Shirley Murphy maintained that Dr. Priestley had totally misconceived the purposes of Part I. Wholesale clearances were unavoidable with slum property, courts, alleys, and back-to-back houses.—Dr. J. F. J. Sykes and the President also took part in the discussion.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—*A meeting of this society was held on* March 8th at 20, Hanover-square, the President, Dr. Ivor Murray (Scarborough), being in the chair.—The discussion on the Treatment of Nervous Diseases and Affections by Baths and Climate which was introduced by Dr. Harry Campbell on Jan. 26th was resumed.—The President read a synopsis of the previous discussion.—Dr. Leonard Williams in reopening the discussion said that inasmuch as the graver forms of nervous disease, such as tabes, general paralysis of the insane, and the like, were essentially diseases of city life it was reasonable to suppose that better results were to be obtained by removing patients from such surroundings than by drug treatment alone. He instanced cases to illustrate the good effects of climatic treatment in these affections and related a case of epilepsy which had apparently been very favourably influenced by a soothing climate.—Dr. Alexander Morison stated that the cure of organic nerve lesions by climatic and balneological treatment might be excluded from discussion. In this respect the scope of treatment in general applied to these agencies in the same measure as to other means rationally used.—Dr. W. S. Hedley considered that the health resort plays very much the same part in diseases of the nervous system that it does in other classes of disease.—Dr. Knowsley Sibley said that for some years he had been accustomed to treat various forms of nervous diseases by the local application of dry hot air and generally with undoubted success. The cases which did well were insomnia, epilepsy, many forms of neuralgia and neuritis, together with various paralyses *of hysterical* origin, so also chorea was especially *amenable*, the movement frequently quite ceasing, while the limb was under treatment. Ménière's disease appeared also to be benefited. Old-*standing*, cases *of*, *paralysis*, especially those caused by lead palsy and those of traumatic origin, often improved. He had *been disappointed* with the result of this treatment in marked cases of tabes, *paralysis agitans*, and writer's cramp, but he had never seen any harm arise from it.—Dr. Harry Campbell remarked that this was the first time that a discussion of this kind had *taken place* in this country. We had relied too much upon drugs in the treatment of nervous diseases, being in this respect much behind continental physicians.—Dr. R. W. Felkin, Mr. G. H. Thompson (Buxton), and Mr. Shirley Jones (*Droitwich*) also took part in the discussion.—Dr. William Bain (Harrogate) read a paper entitled "The Effects of Luminous and Heat-rays on the Local and General Temperatures."

BIRKENHEAD MEDICAL SOCIETY.—A meeting of this society was held on March 6th, Mr. H. Nazeby Harrington, the President, being in the chair.—Dr. W. R. Dalzell read a paper on General Paralysis of the Insane. After briefly reviewing the history of the affection and describing the symptoms of various types met with in asylums and in general practice he passed on to the consideration of its etiology and pathology, giving as the chief factors in its etiology (1) over-exertion, (2) syphilis, (3) alcoholism, and (4) excessive venery. As to distribution it was found all over the civilised world, though it occurred chiefly in the great industrial centres and seldom in the rural districts. It occurred much more frequently in males than in females and it was essentially a poor man's disease, though it was also found in the higher ranks of life. Passing to diagnosis Dr. Dalzell enumerated the following affections amongst others which might be confounded with it, giving the differential diagnosis in each case: (1) acute recent mania, (2) alcoholic paralysis, (3) pseudo-general paralysis, (4) syphilitic brain disease, (5) lead paralysis, (6) senile dementia, (7) epileptic paralysis, (8) primary dementia, and (9) locomotor ataxia. As to prognosis his experience was that nearly all cases ended fatally, usually through some intercurrent disease—the chief of which was phthisis—within three years. With regard to treatment there was nothing known which would arrest the disease and one had to be content with general hygienic measures, the removal of all nerve excitants, and the assistance of hypnotic and nervous tonics.—A discussion on Medical Politics took place and the following resolutions were unanimously passed:—

1. *Medical Acts.*—That in the opinion of this society the Medical Acts require amendment especially in regard to illicit practice, death certification, and the Inebriate and Lunacy Acts.

2. *Contract practice.*—That in the opinion of this society in contract practice there should be a minimum rate of 6s per member per annum, and this society condemns the practice of canvassing in connexion with medical clubs.

3. *Medical charities.*—(*a*) That in the opinion of this society there is considerable abuse in connexion with medical charities, and it is *desirable that the medical profession should be directly represented on* the committees by which they are managed. (*b*) That the staffs of the various hospitals be requested to combine in getting a visitor appointed to inquire into the circumstances of patients applying for relief in order to prevent such abuse.

4. *Midwives question.*—That in the opinion of this society it is not desirable that midwives should be registered according to the provisions of the Bill at present before the House of Commons.

5. *Direct representation.*—That in the opinion of this society it is desirable that general practitioners should have a *larger representation* on the General Medical Council.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 7th, Dr. H. Michie, the President, being in the chair.—Dr. H. Handford showed two cases of Nervous Disease following Typhoid Fever. Both were cases of young men, in one of whom symptoms of lateral sclerosis with increased reflexes and the typical spastic gait, &c., were observed; in the other case the signs and symptoms were those of a patient with tabes dorsalis, knee-jerks being abolished and ataxia existing. Both cases were on the high road to recovery when shown, but there still existed indications of the above-named diseases. The interest of the cases lay in their extreme rarity and in their close simulation of the above-named diseases, from which they differed, however, in that they were recovering.—Dr. J. Mackenzie read a paper on Notes of Cases of Diphtheria occurring in Private Practice treated by Antitoxin. Dr. Mackenzie first classified the cases into groups in accordance with the anatomical situation of the disease; in all there were seven such groups. The number of the cases treated with the serum was 31, and they were the severest cases occurring in Dr. Mackenzie's practice, it not being his habit to inject serum in mild cases. In most, or at least in many, of the cases the disease had existed for nearly a week without being seen. In the whole 31 cases so treated there occurred but two deaths, giving a mortality of just above 6 per cent. Respecting one group of three cases, however, Dr. Mackenzie admitted that there was a possibility that the disease was not true diphtheria, but perhaps a simple acute laryngitis. The patients all recovered, but they were all given the serum. Excluding those three cases there were 28 cases of true diphtheria, and many were of a very severe nature, with a death-roll of two, giving a mortality of 7·1 per cent. only.—The paper was discussed by the President, Mr. R. Woods, Mr. J. S. Bolton, Mr. J. Thompson, and Mr. W. M Willis.—Mr. R. C. Chicken read an account of a New Method of performing Hysterectomy which he had devised for Prolapse of the Uterus, which had for its object not merely the removal of the extruding organ but the formation of a support to the pelvic floor.

Hunterian Society.—A pathological meeting of this society was held on March 14th, the President, Dr. Dundas Grant, being in the chair.—Dr. Glover Lyon showed a Heart (lent by Dr. Casterton Smelt) the Aortic Valve of which was Incompetent apparently through Extensive Fenestration. This heart had beaten as a rule between 30 and 40 times a minute for 20 months before death, sometimes at a much slower rate.—Dr. Frederick J. Smith showed a specimen of Pachymeningitis Hæmorrhagica, a Large Malignant Growth of Kidney Occurring in a Child aged ten months, Extensive Basic Meningitis with a Small Patch of Old Tubercle of the Lung, Abscess in the Lung and Brain in which there was absence of fœtor, and Adherent Pericardium with old Endocarditis which had presented no signs usually said to indicate adherent pericardium.—Dr. Dundas Grant showed a Nasal Polypus which had occupied the whole naso-pharynx. This had been removed under a general anæsthetic, a course which Dr. Grant recommended in such cases.—Remarks were made upon the cases by Dr. A. Adams, Dr. T. R. Andrews, Dr. W. H. Kelson, Dr. Glover Lyon, Dr. D Ross, Mr. J. H. Targett, and the President.

Æsculapian Society of London.—A meeting of this society was held on March 23rd, Mr. A. W. Galloway, the President, being in the chair.—Dr. Thomas G. Stevens read a paper on the Early Diagnosis of Uterine Carcinoma in the course of which he described the different varieties of malignant growth found in the uterus and emphasised the value of a microscopical examination of growths. He thought among the out-patients of a hospital suffering from uterine malignant disease that not 15 per cent. when first seen were at a stage early enough to justify operation. The paper was illustrated by a series of microscopic sections which included one of deciduoma malignum.

Southport Medical Society.—A meeting of this society was held on March 14th, Dr. C. Pinkerton being in the chair.—Mr. Reinhardt Anderson mentioned a case of Perforated Gastric Ulcer on which he had operated with successful result.—Dr. Percy Ashworth read an interesting paper on the Treatment of Cardiac Failure, and a discussion followed.

Cornwall Nursing Association.—The annual meeting of the Cornwall County Nursing Association was held at Truro on March 16th under the presidency of the Earl of Mount Edgcumbe. The report stated that 14 nurses were now employed in various districts, exclusive of those districts which were supplied by the Queen's nurses. 1030 patients had been attended at their homes, 121 being midwifery cases, and 29,155 visits had been made by the nurses. The expenses for the year amounted to £432 (an increase of £185 over the amount expended in 1898). The expenditure exceeded the income by £100 and the committee had drawn £100 from their capital. The capital is now only £700, and the committee make an urgent appeal for more funds. Thanks were awarded to the medical men in the various districts whose assistance so largely contributed to the success of the association.

Reviews and Notices of Books.

Darwin and Darwinism, Pure and Mixed. By P. Y. Alexander, M.A., LL.D. London: John Bale and Sons. 1899. Pp 346. Price 7*s.* 6*d.*

The author of this volume devotes himself chiefly to a series of detached criticisms upon the views of Darwin, particularly directing attention to that naturalist's occasional changes of opinion as shown by contrasting the earlier utterances of "The Origin of Species" and some other works with expressions to be found in his later published biography. Well, no one doubts that in details there was much development of view in the mind of the illustrious author of the theory of natural selection. So far Dr. Alexander has re-discovered the perfectly well known. Dr. Alexander disconcerts us somewhat by his intense admiration of Artemus Ward. We fully share that admiration, but the dicta of that philosopher are not convincing when applied to the natural phenomena otherwise treated with gravity by the author. "You pays your money and you takes your choice" is a phrase which occurs at least twice in the volume and is nowhere explanatory. He begins by instancing the fact that there appear to be some well-established examples of change in structure due directly to the environment to which more weight was allowed by Darwin in later years than formerly when he was disposed to solve all problems with his newly invented key. At the same time, in the animal world at any rate, the examples of such change are not very abundant. The author of the volume before us reminds us of a few well-known instances, such as the brine-pool crustacean and the metamorphosis of the Axolotl into the purely terrestrial Amblystoma. But when all are told only the merest corner of the complex edifice of fact and argument erected by the genius of Darwin is injured. *Apropos* of this same effect of surroundings Dr. Alexander considers the butterfly and the moth. There is apparently no doubt that light does exercise some influence on the development of bright colour; and so, as the author justly points out, do heat and cold. But it is impossible to generalise widely and to arrive at the conclusion that "the brighter and more constant the light that falls on these forms the more splendid they become through complicated chemical processes set up by the light's action." Here, indeed, the author suffers from a too partial survey of insufficient fact. He is by no means alone in this, and many of his opponents conspicuously select some facts and ignore, or are unacquainted with, others. Anyone who has attempted to deal with large subjects, such as the influence of environment, knows well that the enormous amount of material which should be sifted before formulating conclusions is really too great to be grappled with by a single person. To write such books a specialist in every group is required.

It does not appear to us that Dr. Alexander has scored a point in his criticism of the origin of species from "fortuitous" or any kind of variations. He states that, it being admitted that variations occur without any natural selection, the origin of species is solved, for there we see the species ready made without the necessity of waiting for selective influence. That at any rate is how we understand a rather complicated argument on page 65. But this is really the whole gist of the matter, the whole quarrel between Dr. Alexander and those whom he attacks. No one would term, for example, an albino mole as a newly formed species of mole, unless the individuals so coloured bred true and produced in the main moles with this marked colour difference from their ally. On this or any other variation it is asserted a species may be formed by, as it were, fixing the variation. The author goes on to remark that variation "come into existence in an absolutely unexplained and even unrecognised manner"; and here we can cordially agree with him. That is indeed the crux of evolutionists, and until that problem is grappled with and solved there is but little hope of a consistent theory of the organic world. "Survival of the fittest" is a phrase which has to the full the disadvantages which always encumber such neat and epigrammatic sentences. In criticising it Dr. Alexander is following in the footsteps of many predecessors.

No one doubts for a moment that when a whale engulfs a shoal of herring the fate is indiscriminately dealt out to them, just as the fall of the Tower of Siloam crushed both the just and the unjust; indeed, it has been suggested with some acuteness that survival of the fittest comes to much the same thing as survival of the survivors. Dr. Alexander urges an interesting piece of observation in support of a contention that it is not always the apparently "fittest" that actually survive. "Certain flowers that have abundant nectar are chosen by certain birds for their honey. I have observed by watching them and then examining the heads or clusters after the visits of the birds that all the stronger cups had been mutilated and cut off, and that the young and weakly cups without nectar or a very little of it were left—systematically left." Now this observation, though undoubtedly interesting, is not sufficient. Dr. Alexander does not tell us either the locality of his observations or the kind of birds that perpetrated the damage. The omission is important, for the birds may have been sparrows and their attacks delivered in a country new to them as sparrows. And in that case we cannot lay any stress upon the observation since the most lukewarm adherent of the theory of natural selection would freely admit that time is required for an adjustment to new conditions. Natural selection in fact, to use the commonly used and necessarily crude personification, is not prepared for the victory which has been gained over natural processes by the coming of man into the world.

There is much argument and disputation in Dr. Alexander's book with a great deal of which we cannot agree; and there is also a certain amount of slaying of the slain and the toppling over of men of straw. There is also much that is readable and interesting. Dr. Alexander has not undermined our belief in a great deal of Darwinism and, indeed, he does not profess to do more than deal with "certain lines only of discussion." But we do not regret having spent some time with his book.

An Elementary Course of Practical Zoology. By the late T. JEFFERY PARKER, D Sc, F.R.S., Professor of Biology in the University of Otago, New Zealand, and W. N. PARKER, Ph D., Professor of Zoology at the University College of South Wales and Monmouthshire With 156 illustrations London Macmillan and Co Limited. 1900. Pp. 607. Price 10*s*. 6*d*.

THE manual before us is written by the sons of the talented and indefatigable worker Mr. William Kitchin Parker, whose admirable descriptions of his embryological researches, illustrated by his own pencil, on the morphology of the skull in the several classes of the vertebrata fill so many pages of the Transactions of the Royal Society and of the Linnean Society. The treatise was to be a conjoint one, but by the untimely death of the elder brother, Professor T. J. Parker, the labour of its production has fallen on the shoulders of Professor W. N. Parker, some of the illustrations being drawn by Mr. M. P. Parker, the rest being taken from the Elementary Biology of Professor T. J. Parker.

The plan adopted by the authors differs from that pursued in the similar text-books of Campbell, Nicholson, Gibson, Chalmers, Mitchell, Bidgood, Thomson, and Davis, who commence by familiarising the student with the simplest organisms, leading him by degrees to the more complicated, and on the other hand agrees with that followed by Wells and Davies, Lloyd Morgan, and others, who prefer to exercise the faculty of observation in the first instance on some conspicuous and familiar example of the higher orders, placing before the learner some specimen which is easily procurable and in which the steps of the dissection described in the text can be repeated without difficulty. Both methods have their advantages. Those who commence with the lower organisms can hardly do so without some preliminary education in the manipulation of the microscope and its accessories, section-cutting, staining, and mounting, yet they obtain correct notions of structure; whilst teachers who select a vertebrate for their first object-lesson furnish material the description of which can be easily followed by the members of the class, though these may be a little uncertain as to the nature of nerve and muscle and gland. In the present "Course of Practical Zoology" either plan may be adopted by the reader, for nearly the first half of the book is occupied with a carefully drawn up description of the Anatomy of the Frog, from the pen of Professor T. Jeffery Parker, whilst the remaining and rather larger portion commences with an account of the amœba, which is succeeded by descriptions of the hæmatococcus and euglena, paramœcium, opalina, and vorticella; the hydra and bougainvillia; the earthworm, crayfish, fresh-water mussel, amphioxus, and the dogfish, the series terminating with the rabbit. In each case a very good description of the animal is given, with excellent illustrations, which is followed by "practical directions" as to the mode of conducting the dissection. The work will be found serviceable to the upper classes of schools where natural history is taught and to classes for elementary biology in medical schools.

LIBRARY TABLE.

The Flowering Plant. By J. R. AINSWORTH DAVIS, M.A., F.C.P. Third edition. London: Charles Griffin and Co., Limited. Pp. 195 Price 3*s* 6*d*.—This is the third edition of a well-known little book designed to illustrate the first principles of botany. It has undergone careful revision and a number of new illustrations have been added together with a chapter on ferns and mosses This chapter is an important addition, and although in a sense it makes the title of the book somewhat of a misnomer it will materially add to a clear comprehension of the life history and classification of phanerogams. There is also an appendix on practical work dealing with the description of plants—their anatomy, physiology, and histology—and this, too, will be found of immense help to the student. The arrangement of the subject matter is excellent and most of the plants mentioned are easily accessible to the student Too many technical terms have perhaps been used and the method of explaining them in the text is not likely to attract the beginner in this department of biology. The plan of giving the Latin or Greek derivation in brackets would have been less likely to make the reading tedious. Otherwise the book, which is crammed with information, is a good one

The Excretion of Urea by the Skin in Health. By C. C. EASTERBROOK, M A, M B. Edin., Assistant Physician, Royal Asylum, Edinburgh Reprint from the *Scottish Medical and Surgical Journal*, February, 1900. Pp 20.—The author, struck by the amount of urea secreted by the skin in artificial perspirations in the treatment of uræmia, instituted experiments on himself on the amount of urea excreted during exercise while on a fixed mixed diet and concludes that the statements in the current text-books of physiology considerably underestimate the capacity of the skin for the elimination of urea in health and that the excretion of urea by the skin at once rises as soon as perspiration sets in and remains high as long as the skin acts freely, to an extent sufficient to lessen distinctly the output of urea in the urine.

Unwritten Laws and Ideals. Edited by E. H. PITCAIRN. London: Smith, Elder, and Co. 1899. Pp. 358. Price 7*s.* 6*d.* —The editor's idea in putting forth this book was, as he says in his preface, that if he could persuade representative men of various professions to set forth the unwritten laws by which those professions are governed and their ideals in regard to them, a useful and interesting book might be compiled. Mr. Pitcairn has succeeded both in persuading his representative men and in compiling the interesting book. The "professions" include the diplomatic service, the Houses of the legislature, the services, the divisions of the three faculties of divinity, law, and physic, vice-chancellors, schoolmasters and schoolboys, banking, music, art, and architecture. We naturally, as medical journalists, turned to the article dealing with our own profession which is written by Mr. Brudenell Carter. And a very excellent article it is both in matter and style, although on page 210 there is a curious slip in a date. The year in which the Royal College of Surgeons of England obtained its Charter sanctioning the creation of Fellows is given as 1884, whereas, of course, it should be 1843. But could there be any better summation of the ideals of the medical profession than these words on page 251? "The unwritten laws of the medical profession are to do as its members would be done by, to bring adequate skill and knowledge to the accomplishment of their work, to be true and just in all their dealings, and in the words of Sir James Paget, 'neither to neglect their duties for the sake of ease nor to abuse their opportunities for the sake of gain.' They ask in return that they themselves should be treated with justice and fairness." Of the other essays in the book it scarcely becomes us to speak critically, written as they are from a technical point of view by the several experts concerned, but we may make an exception as to the admirable essay upon the clergy written by the Rev. W. B. Trevelyan. The essay does not deal with theology, but mainly with the relations of the clergy to their own flocks and to those of other clergy. Now the medical profession and that of the clergy are alike in one way. The members of both are men to whom their fellows confide their most private sorrows. Both professions have to give advice upon the most intricate and delicate questions, both professions are bound by every moral law to keep the knowledge gained in the exercise of their calling as strictly confidential, and for the credit of humanity, be it said, such confidence is rarely if ever abused. But with all this both the clergy and the members of the medical profession are as a city set on a hill. Their actions are in the sight of all men and the sins of a black sheep in either flock are visited whether justly or unjustly upon all his fellows. The clergy may study with advantage Mr. Brudenell Carter's remarks upon the duty of one medical man to another, while section 5 of Mr. Trevelyan's essay will bring home to medical men, perhaps all the more as something written by one outside the medical profession and for members of another calling, their own duty to their brethren engaged in the arduous toil of everyday practice.

The Literary Year-book, 1900. Crown 8vo, 420 pages, cloth limp. Price 3*s.* 6*d.* London: George Allen.—The fourth issue of this useful little book, which is edited by Mr. Herbert Morrah, is divided into two distinct parts. The first deals historically and critically with the Literature of the Year 1899; the second provides a large amount of information arranged in a convenient form upon various matters of interest to all engaged in literature. Part I. includes a retrospective review of the literary events of the past year and a series of articles on the notable books of the year. These critical reviews are contributed by representative men of letters, and will all be found worth reading, though some of the writers, notably Mr. W. E. Henley, Mr. Joseph Jacobs, Mr. T. Herbert Warren (the President of Magdalen College, Oxford), Mr. A. T. Quiller-Couch, and Mr. G. W. E. Russell have been happier than the others. This division of the book also includes an article on the Book Sales of 1899, by Mr. Frank Rinder, which will be of great practical interest to systematic book-buyers, among whom many medical men may be found. Part II. contains, alphabetically arranged, a full list of authors with the names of their books published during 1899, the prices, and the publishers' names. It also contains alphabetical lists of illustrators of books with full particulars of books illustrated by them during the past year; lists of the books and plays published in 1899; and a great deal of trade and technical information upon printing, illustrating, royalties, &c. We recommend the book cordially to all our readers who require a compilation of this sort; it is careful, practical, and as far as possible complete.

New Inventions.

A TENT FOR THE OPEN-AIR TREATMENT OF TUBERCULOSIS.

MR. VICTOR H. NORMAN of Dene Side, Great Yarmouth, has submitted to us a small working model of a revolving tent for the open-air treatment of tuberculosis, originally constructed for the use of a patient under the care of a medical man in Norwich. A tent of the usual size for one patient has a rectangular wooden floor measuring five feet by six feet and supported on four small wheels, one near each corner; the floor is pivoted centrally on a circular wooden base of rather more than its own diameter, upon which it revolves freely by means of the wheels and can therefore be easily turned in any direction according to the position of the sun or the state of the weather. Dampness is completely avoided by the base being raised somewhat above the ground by wooden battens on the under side. The tent is covered on three sides and the top with light green canvas (best Willesden rot-proof) made all in one piece and drawn over a four-sided wooden frame fitted together in a simple manner with ordinary screws. The top is flat and slopes from a height of six feet in front to a height of five feet six inches at the back. The open front is provided with a moveable sun-blind. The price of a tent of the above dimensions is £7 10*s.* None of its parts are likely to get out of order and it is apparently well suited for its purpose. During windy weather it might require to be held by ropes and pegs in the usual way.

UNIVERSITY OF CAMBRIDGE.—The following degrees in medicine were conferred on March 15th:—*M.D.*: E. A. Peters, Caius. *M.B.*: H. N. Clarke, Trinity; J. A. Nixon, and W. Tyson, Caius. *M.B. and B.C.*: F. T. Talbot, King's. Dr. H. K. Anderson and Mr. W. B. Hardy have been appointed Demonstrators in Physiology.—The new arrangement establishing a formal connexion between the University and Addenbrooke's Hospital was ratified by the Senate on March 15th and by the Court of Governors on March 19th. It will come into force without further delay.

ROYAL HOSPITAL FOR WOMEN AND CHILDREN, BRISTOL.—The annual meeting of governors and others interested in this institution was held on March 17th under the presidency of the high sheriff (Mr. G. A. Wills). The medical report stated that the out-patients numbered 4978 and that 690 children and 45 women were admitted during the year. 443 dental cases had been attended to. The financial statement showed that the ordinary expenditure of the year amounted to £4422 and the ordinary income was £3657, leaving a deficiency of £765. The past year commenced with an adverse balance of £2811, towards which £889 had been received by special donations, and £1200 had been transferred from the legacies account, so that at present there is a total deficit of £1487.

THE LANCET.

LONDON: SATURDAY, MARCH 31, 1900

THE history of the surgery of the stomach resembles that of *the surgery of many other important organs of the body* it is a record of gradual progress from the slightest surgical interference to operations of the greatest magnitude and severity, even to *extensive resection* Time was when the most that a surgeon dared to do was to make an opening into a healthy stomach to remove a foreign body, or perhaps he might be induced to make a permanent aperture into the stomach in a case of malignant stricture of the œsophagus The results however, were hardly such as to encourage surgical treatment, for the mortality was *exceedingly heavy* This was *attributable in part to* sepsis, but in no small degree it was due in the case of the operation of gastrostomy to a very natural reluctance on the part of physicians to call in surgical aid until the patient was almost dead from exhaustion Naturally the results in such cases were nearly uniformly bad and the delay in operation tended thus to increase the hesitation to permit any operation to be performed Professor MAYO ROBSON has recently delivered three Hunterian Lectures at the Royal College of Surgeons of England on the most interesting subject of the surgery of the stomach and the concluding lecture of the series appeared in the *issue of* THE LANCET *of* March 24th From these lectures we learn the present state of the surgical treatment of the disorders of this organ Large portions of the stomach may be excised or even the whole may be removed with no very great mortality, and in successful cases with wonderfully little effect on the patient's digestion The stomach hardly occupies in our present opinion so important a place in digestion as it formerly held We know that it is rather a preparer for the exercise of the digestive powers of the pancreas than an active digestive agent itself and that one of its functions is to render innocuous many of the micro-organisms which enter with the food So that we can understand to some extent the small amount of interference with digestion produced by even considerable resections of the stomach There are, moreover, many morbid gastric conditions, not due to the presence of malignant growths in which drugs and dieting are of no avail and the patient, being unable to eat and unable to work, sinks into a condition of valetudinarianism We now know that many of these cases are due to a definite lesion, such as an adhesion of the stomach to a neighbouring organ, or to cicatricial narrowing of the pyloric orifice by which the egress of the food from the stomach is prevented or an "hour glass" condition may be present in which the organ is constricted in the middle, so that it consists of two distinct loculi connected by a narrow channel In all these conditions medicinal treatment is almost useless and though extreme care in the quantity and quality of the food taken may suffice to keep the patient alive yet his very existence is to him a perpetual burden In no operation, it may fairly be said is the beneficial effect of surgery more strikingly shown By the division of the restraining adhesions the stomach is enabled to carry on its muscular movements unhindered, by enlarging the narrowed pylorus by the Heineke Mikulicz operation of pyloroplasty, or by performing some one of the many varieties of gastro enterostomy the surgeon enables the dilated stomach to empty itself of its accumulated contents and the distressful vomiting ceases at once When the hour glass contraction is present the two cavities into which the stomach is divided are made to communicate freely and all the untoward symptoms disappear *But that is not all, in every one of these cases* wasting has occurred often to an alarming extent, the process may have been long and the emaciation gradual, but ultimately the patient has become reduced to a mere shadow of his former self After the operation, should it prove successful, all is changed a steady gain in weight follows, and cases have even been recorded in which the weight of the patient *has doubled Many of these cases to which we have* referred are caused by the healing of former ulcers but surgery is also of value in some cases in which the simple gastric ulcer is still present In such as these, it is hardly needful to say, medicine can do much but in many instances surgery can do more The milder cases of ulcer will heal readily under medicinal treatment with care in dieting They do not require any surgical interference, but if the ulcer should prove intractable should it extend in area and especially in depth, or, lastly, should perforation of the gastric wall occur, then the aid of the surgeon must be invoked For the chronic ulcer a *gastro-enterostomy may* be performed, and by the rest which the stomach gains the ulcer is enabled to heal In cases of perforation except when previously formed adhesions limit the effused gastric contents, recovery without an operation cannot occur Valuable time may be lost in the administration of opium and the application of fomentations, for the statistics in Professor MAYO ROBSON'S lectures clearly show that the mortality after operation for perforation of the stomach depends in great part on the interval that elapses between the occurrence of the perforation and the operation though the condition of the stomach as to fulness has also much to do with the result

For cases of hæmorrhage from the gastric wall surgery is only of distinct value in the less acute forms, but in these the results hitherto attained fully justify recourse to surgical treatment in some cases

There are certain cases also of non obstructive dilatation of the stomach which are amenable to operation Whether etiologically these are all truly non obstructive is a point which we need not now consider For the most part these cases respond more or less readily to systematic and regular lavage careful dieting and general medical treatment, but in some instances the dilatation refuses to subside, and in these it is quite admissible to attempt to remedy the condition by surgical means Various methods have been devised since BIRCHER in 1890 performed the first operation but they are all based on the same principle The ingenious expedient is employed of diminishing the capacity of the dilated stomach by making tucks of one kind or another in its wall. The operation is comparatively easy and attended with but little risk, for of the 28 cases in which according to Professor MAYO ROBSON'S statistics it has up to the present time been performed, in only two has a fatal result occurred, a mortality of a little over 7 per cent. It is hardly necessary to say that gastroplication, as the operation is named, is quite unsuited for any case in which the pylorus is constricted.

Surgical treatment is especially of value in those somewhat rare cases in which tetany and tetanoid spasms are associated with obstructive dilatation of the stomach. These spasms are probably the result of the absorption of a toxin from the dilated organ. In these cases the prognosis is very grave, three patients dying out of every four. The treatment which gives the best results is by a pyloroplasty or by a gastro-enterostomy to do away with the pyloric obstruction.

For injuries of the stomach a laparotomy is urgently required and it gives results as satisfactory as those following injuries of the intestine, though a certain number of recoveries have undoubtedly followed non-operative treatment, as in the case of ALEXIS ST. MARTIN, so highly appreciated by physiologists.

In malignant disease of the stomach the prognosis of surgical treatment is necessarily not so good as in the non-malignant affections, but in many of these cases, absolutely resistant as they are to medical treatment, much may be done. Pylorectomy and partial resection of the stomach are by no means dangerous operations in skilled hands. KOCHER has resected the pylorus in 57 cases and of these the immediate mortality was under 9 per cent.; in one case a woman was alive and well 10 years after the operation. In partial resection of the stomach the results are almost equally encouraging.

When the malignant growth is more extensive, so that practically the whole organ is involved, a complete or an almost complete gastrectomy is required. These are necessarily very severe operations and the mortality we might expect to be very great. In eight cases the whole stomach has been removed and of this number half the patients died. Of those who survived the operation two lived for many months in comparative comfort. In cases in which not quite the whole of the stomach but at least three-quarters have been removed the results are better, the mortality being under 30 per cent. With an earlier diagnosis and a greater readiness on the part of the patient to consent to operative measures we may look for better results, but operations of such magnitude will always have a relatively high death-rate. Professor MAYO ROBSON'S arguments as to the value of gastric surgery were supported by the recital of a number of cases which had occurred in his own practice; and the graphic descriptions of the improvement occurring in the general condition of many of the patients will go far to advocate the more extended practice of surgical treatment in obscure chronic cases of gastric disorder.

◆

THE House of Commons recently went into Committee of Supply on the Army Estimates[1] when an important debate took place in connexion with the vote of £555,000 for the medical establishments. Several Members took part in it and their speeches elicited some interesting and noteworthy observations on the part of Mr. WYNDHAM, the Under-Secretary of State for War. The medical profession has every reason to be satisfied with the tone and spirit manifested on the occasion and with the eulogistic terms in which the services rendered by the Royal Army Medical Corps and by the civil consulting element during the present campaign were recognised. Dr. FARQUHARSON was able to declare that the Army Medical Service had not been made the subject of a single complaint throughout the war operations in South Africa and that the more they heard of what was going on at the front the more they were filled with admiration for the pluck, devotion, and skill which had been displayed and the hard work which had been successfully carried out by its officers. Dr. FARQUHARSON also very pertinently alluded to the inadequate numerical increase of medical officers which the Government were providing for the large permanent augmentation that was to be made to the strength of the army, and he remarked that as too much reliance could not be placed on the system of having recourse to the employment of civilians in times of war it would be necessary, under the longer and more expensive system of medical education now in force, to further level up the inducements to enter the medical service to those obtainable in civil life. Mr. PRICE said that the medical profession had done honour to itself and to the country during the war, and he added that he had the more pleasure in saying this because he had prognosticated an evil condition of things in connexion with the Army Medical Corps. Many Members spoke in a similarly eulogistic strain, while there were no dissentient voices to the proposition that the Royal Army Medical Corps had done admirable work.

Mr. ARNOLD-FORSTER and other speakers referred to the number of men who, having been medically examined in this country, were sent out to South Africa and, proving to be physically unfit for active service, had to be admitted into hospital instead of taking the field. We are afraid that there exists some ground for these complaints. But the fault does not lie with the Royal Army Medical Corps. This is a serious evil and largely an avoidable one. The presence of such men obviously entails a great deal of useless expense to the State, to say nothing of their being a source of trouble and embarrassment to all concerned. We have previously alluded to this unfortunate despatch of invalids to the seat of war, and believe it to be attributable to the fact that the Army Medical Staff being almost entirely in South Africa the medical examinations had to be undertaken by civil members of the profession who were not only new to the work, but under the circumstances of the case were probably often compelled to perform it in a hasty and perfunctory way. This may afford an explanation; it cannot, however, be urged as a valid excuse for the occurrence.

Mr. WYNDHAM, in the course of his reply summing up the various points raised in the debate, adopted a frank and encouraging tone. He declared that the House could not pay too high a tribute to the fortitude, courage, and efficiency which the medical officers had displayed in the field The medical schools in supplying candidates had fulfilled their part of the bargain, to which the Government was the other party in allocating military rank The result had been, he hoped, satisfactory to them as it had been to the Army; but the Medical Department did not reap the whole results of such a change in the first or second year Touching the point that had been raised that the present numbers of the Royal Army Medical Corps were not adequate to the size of the Army they might expect that the inducements which had been offered would, in the course of the next few years, give them numbers even more satisfactory than those which had been forthcoming recently It would be impossible to keep up at all times an establishment of the Royal Army Medical Corps which would be adequate to a time when we were mobilising the whole of the Army for an expedition He explained the action taken by the Government in the appointment of hospital surgeons as consultants at the seat of war, and paid a handsome tribute, which was well received in the House, to the valuable services which they had rendered. He also dwelt upon the enormous progress that had been made by the Royal Army Medical Corps in the sanitation of camps and sanitary work generally, as evidenced by the fact that the percentage of sickness in the present expedition had been the lowest shown in the records of this or any other country We feel that when the present war has come to an end and South Africa has become settled the time will have arrived for harvesting all the results of our experience and subjecting them to very deliberate consideration, sifting, and analysis The ultimate outcome will probably be some broad and comprehensive scheme for the welding and unification of all our military forces into a national army in which the reorganisation of all the medical branches of the service must occupy a prominent place The war in South Africa has proved one thing, if it has proved nothing else—the enormous importance of having a really efficient medical service in time of war

---

[1] THE LANCET, March 24th, p. 894

◆

IN THE LANCET of March 17th (p 785), in commenting on the work accomplished by the Medical Defence Union during 1899, we took the opportunity of making some remarks on medical defence in general and on the importance of organisations of this character to every member of the medical profession The report issued by the London and Counties Medical Protection Society further shows the advantages which are enjoyed by practitioners who happen to be members of such a society when unfounded charges of negligent or unskilful treatment are brought against them or when their professional position is assailed by slanderous reports It is needless for us to repeat the observations on the principles of medical defence which we have made in recent articles, but the report of the council of the London and Counties Medical Protection Society draws attention to another branch of work which occupies a large amount of the time and energy ungrudgingly given by the members of the council of that society in pursuance of their duties—namely, the attempts which they have made to assist in suppressing illegal practice The council reported to the General Medical Council several cases of alleged "infamous conduct" on the part of professional men Before reporting such cases the council made most careful inquiry into the justice and validity of the complaints which had been submitted to them Of the cases thus reported some did not go beyond the Penal Cases Committee, although supported by sworn statutory declarations which appeared to prove conduct usually deemed "infamous" in a professional respect, not merely by medical men generally but by the General Medical Council itself. The grounds on which these cases were refused a hearing by the General Medical Council were not explained to the council of the Medical Protection Society and the members of the latter body naturally are aggrieved at such an omission We can certainly sympathise with the feeling which prompted the following passage in the report now under consideration "And your council feel bound to further express their opinion that the existing arrangements of the General Medical Council do not deal adequately with matters of this sort which affect not only the interests of the medical profession but also those of the public at large" The penal powers possessed by the General Medical Council undoubtedly exercise a wholesome influence in maintaining the honour of the medical profession The Penal Cases Committee probably had good reasons for not prosecuting in the cases above referred to, but we should have thought that those reasons might have been explained to the council of a society one of whose functions it is to bring to the notice of the General Medical Council cases which have already been carefully investigated The proceedings of the Penal Cases Committee are of course, strictly confidential and should be carefully guarded, but so also are the meetings of the council of the London and Counties Medical Protection Society This society and others founded for similar purposes are doing excellent work, and it is to be regretted that their efforts on behalf of the profession should be met by the General Medical Council in a half hearted manner To comment on other matters dealt with in this report would be to repeat much that we have previously said on matters concerning medical defence. But we notice the significant fact, to which we have before alluded, that, as a rule, when a member is annoyed by slanderous reports a simple communication from the society to the offenders has been sufficient to exact an ample apology and to terminate the matter in a manner satisfactory to the member concerned

Annotations.

"Ne quid nimis."

COUNTY MEDICAL OFFICERS OF HEALTH

THE education of local authorities by means of affording them the option of exercising or not exercising certain powers is, as far at any rate as public health legislation is concerned, a somewhat tedious process, and, if we may take the Notification Act as a fair example, we learn that after over a decade of option the country is ripe for compulsion The Local Government Act of 1888 placed within the power of county councils the right of electing a medical officer of health, who should devote his whole time to the duties of his office, and it was doubtless thought by the promoters of the Bill that local authorities of the dignity of county councils would speedily avail themselves of their powers in this respect and appoint highly-qualified and experienced medical officers of health as their advisers. But it has to be admitted that the county councils, in what may be termed their public health aspects, have not realised the great expectations entertained as to them. Truly, there are certain counties which have set good examples—such, for instance, as the West Riding of Yorkshire, Lancashire, Essex, Cheshire, Worcestershire, Surrey, Derbyshire, Staffordshire, and Glamorganshire; but with a few additional exceptions the remaining counties which have, in a sense, taken advantage of their powers have done so in an apologetic, economical, and unsatisfactory fashion. In some cases their action assumes the shape of paying a medical officer of health an honorarium for collecting the reports of the local medical officers of health; in others a sort of retaining fee is paid, while any advice or action is paid for separately; and in others, again, the honorarium is intended to cover apparently all the advice which the medical officer of health is capable of giving. As an excellent example of this latter type we may take the East Sussex County Council, which is now advertising for no less a personage than a *consulting* medical officer. The duties of this office are to be multifarious. He is to prepare a digest of, and tabulate, the local medical officers' reports, to attend the meetings of the sanitary committee and any sub-committee thereof, and to advise and report to them on all matters relating to the exercise of the duties and powers of the county council and its sanitary committee under the several Acts through which county councils now obtain their sanitary powers. For all this work and all this expert advice the fortunate gentleman who is selected is to receive an honorarium of 100 guineas and travelling expenses and the appointment is to extend over a period of *one* year. But we must give the sanitary committee of the county council the credit which is due to them. This committee had passed by a large majority a proposal to elect, what we prefer to term, a statutory medical officer of health—i.e., one who in the terms of the Act "shall not hold any other appointment or engage in private practice without express written consent of the council," and the committee proposed a salary of £700 per annum. Clearly the sanitary committee saw the necessities of the situation and it is to be much regretted that the county council did not endorse their recommendation. County councils in their public health aspects are still on their trial, and it is not by appointments such as East Sussex now proposes to make that the confidence of local authorities will be won. A county medical officer of health should be thoroughly intimate, not only with his district, but also, as far as possible, with the local authorities within its limits. Only by a sound knowledge of the circumstances of each district council can he hope to advise the county council properly or to carry due weight in the county. The local medical officers of health will not improbably resent this sort of appointment, especially if, as is not unlikely, an inexperienced officer is appointed. If appointments of this nature are permitted questions will arise as to whether an amending Act should not be introduced into Parliament to render proper appointments compulsory.

THE UNIVERSITY OF LONDON ACT, 1898.

IN addition to the statutes made for the University of London by the Commissioners, of which we recently gave a summary in THE LANCET,[1] a copy of regulations has now been presented to the Houses of Parliament and ordered to be printed. These regulations define the boards of studies, 32 in number, the names of the teachers of the University who shall be recognised at the various teaching institutions, and the members of the respective faculties. The teachers at the London medical schools in anatomy, physiology, chemistry, biology, and physics are only provisionally recognised until such time as the Senate may make arrangements to secure common courses of instruction for internal medical students in such subjects at one or more centres. These lists are sure to attract much attention from the numerous teachers in the educational institutions included under the Act. A separate series of regulations is also included, setting out the terms under which a student of the University may obtain the degree of Bachelor of Science as the results of any research which he submits to the Senate. Such students, if successful, will be placed in a separate division, and will be adjudicated on apparently by the appropriate board or boards of studies dealing with the subject.

JUDICIAL WARNINGS.

WITH the recent vituperative attack upon a judge of the High Court in the *Birmingham Daily Argus* and with the subsequent proceedings against those responsible for it we should be little concerned but for the fact that Mr. Justice Darling, both on the occasion referred to by the *Argus* and on another occasion during the same assize, made reference to the part which may be played by an unscrupulous section of the press with reference to quackery of a particular class. We have already alluded to the case of Wells,[1] with regard to which his lordship cautioned the press not to make too full reports of the proceedings under any mistaken impression that indecent matter published in the form of a report of legal proceedings was entitled to any special privilege. Wells was awarded 12 months' imprisonment in respect of pamphlets and lectures treating of questions of sex and sexual intercourse, and it is always possible that such matter may be reproduced and the excuse made that it is of public interest and the subject of controversy. The other case at Birmingham to which we have referred was a civil trial for breach of promise of marriage in the course of which it was proved that the plaintiff had been seduced by the defendant and on becoming pregnant had been made ill by mixtures which he had caused her to purchase and to take with a view to procure abortion. These mixtures the defendant had been tempted to purchase by advertisements in the local newspapers, one of which, apparently produced in court, he showed to the plaintiff when he urged her to make use of the concoction offered for sale. A bottle of this stuff was shown to his lordship, who called attention to the similarity of the inscription on the bottle to one of the documents in the Frain case which he tried at the Old Bailey. It was one of those specious notices to which we called attention long before the Frain trial to the effect that the mixture, though harmless, must not be taken for any illegal purpose. Mr. Justice Darling further called the attention of the police to his intimation at the Old Bailey that newspapers publishing quacks' advertisements of abortifacients are liable to prosecution and ought to be prosecuted. In both of these recent instances and in his warning uttered at the conclusion of the Frain trial his lordship may have gone beyond the strict scope of the case immediately before him, but we fail to see that he thereby exceeded his duty as a judge of assize. Some newspapers pander to the tastes of their readers by publishing details of trials that can only appeal to the prurient without serving any useful object. Mr. Justice Darling warned these in order that they might not thereafter say that they had erred unwittingly. A still greater number have published, and many still publish, the advertisements of persons who either in fact sell, or fraudulently pretend to sell, dangerous drugs for illegal purposes, while the police make no effort to stamp out the advertisements and the trade which they enable to exist Mr Justice Darling uttered both his recent warnings in Birmingham, the town in which T Ottey, one of the worst of the advertisers to whom we drew attention in our series of articles on the subject, has long traded, while newspapers in the Midlands and elsewhere have circulated his advertisements In these circumstances Mr Justice Darling's utterances appear to us to be neither uncalled-for nor ill timed They had no reference to respectable newspapers, and there was no need for any respectable newspaper to apply them to itself or to feel aggrieved, either in the case dealt with by the *Argus* article or in that of the advertisements of cures for "obstructions"

---

[1] THE LANCET, Feb 24th, 1900, p 553.

[1] THE LANCET, March 24th, 1900, p 859.

A TRIBUTE TO SIR MICHAEL FOSTER

SIR MICHAEL FOSTER'S election to the great council of the nation has been made the occasion of a graceful tribute being paid to him by some of his old Cambridge pupils It was in its inception purely of a private nature and took the form of a letter signed by, amongst others, Francis Darwin, W H Gaskell, L E Shore, H Marshall Ward, A C Haddon, and Walter Heape, and expressed "the loyalty, respect, and cordial friendship' of the signatories They say that they can ill afford to lose either the weight of Sir Michael Foster's name or his guidance at their councils *and they can hardly imagine a greater misfortune than the* breaking of the bond between him and themselves "But, they continue, "we rejoice that an arrangement has been arrived at which will allow your interests still to centre in Cambridge, giving you at the same time the opportunity of working in a wider field, where you may do for England what you have already done for Cambridge and where your services to learning may benefit not only England but the whole English speaking race' Sir Michael Foster has won fame and honours in foreign countries as well as in his own land, but few things, we imagine, will have pleased him more than this simple and spontaneous proof of the esteem and affection in which he is held by those whom he has trained The work of a teacher is always hard and ofttimes disappointing, but there can be no greater pleasure to a teacher than to know that his efforts are appreciated and bring forth such fruit as he would desire

GUARDIANS AND VACCINATION

WHEN last year the Leicester guardians refused to carry out the law by appointing a vaccination officer there were other districts in the Midlands containing a large number of consistent opponents of vaccination which had, like Leicester, returned guardians to office practically pledged to withstand and render nugatory the Vaccination Act In more than one of these cases as well as in that of Leicester legal proceedings were commenced by the Local Government Board with a view to compel the appointment of a vaccination officer, and in the districts where this happened the proceedings against the Leicester guardians, which culminated in their committal for contempt of court and ultimate surrender, were naturally watched with interest In such circumstances as these it was borne in upon the guardians of Wellingborough, among others, that to disregard the order of the court was, as we expressed it at the time, as ineffectual a manner of resisting the operation of an Act of Parliament as to try to stop a steam roller by sitting down before it and making faces Accordingly when the Leicester guardians acknowledged defeat the Wellingborough guardians ceased to court it, complying with the law without further compulsion being exercised upon them In preparing for resistance, however, they had apparently incurred law expenses to the extent of £43 10*s*, and this sum they put down in their account to be paid out of the funds of their district, should it be passed by the auditor to whom the accounts had to be in due course submitted This gentleman very properly refused to do anything but surcharge it to the persons responsible for its expenditure, holding an adjourned audit to allow them to protest should they choose to do so A Mr Abbott appears to have said at the adjourned audit that at the request of his constituents he had given a pledge to do all he could to make the Act a dead letter and to prevent prosecutions for non compliance with it A number of Mr Abbott's colleagues were equally candid in the avowal of their intentions and motives, and the auditor can hardly have felt any hesitation as to the course which it was his *duty to adopt He accordingly surcharged those who* were present when the cheque for the amount under discussion was signed and who had taken part in the affair throughout It will be observed that no pretence was made to assert any obscurity of the law or to claim that the legal expenses had been incurred in order to assert or defend any right genuinely believed to exist, and it may be pointed out that although the auditor disallowed the charge in his own discretion had he failed to do so any ratepayer might have appeared and objected to it *Presumably* other auditors have done the same in similar cases, should they not have done so it is to be hoped that ratepayers will call attention to the burden of fruitless litigation improperly cast upon the rates

"IS INSANITY INCREASING?"

A PAPER was read at the Manchester Statistical Society on March 14th by Dr J M Rhodes, who was for some years the chairman of the Chorlton Board of Guardians and is now the chairman of the Chorlton and Manchester Joint Asylums Committee, with the title, "Is insanity increasing?' Dr Rhodes pointed out that according to the fifty third annual report of the Commissioners in Lunacy the total number of lunatics in England and Wales on Jan 1st, 1899, was 105 086, being an increase in a year of 3114, "the largest annual increase yet recorded' But we are not alone "In France the last decennial return shows that the ratio of certified insane has increased from 247 to 252' and the ratio of persons admitted with *folie alcoholique* has increased in the 10 years by fully 100 per cent Germany also gives the large increase of 6000 in 10 years Denmark has a much lower ratio than other European countries, but it has risen from 137 3 to 165 7 per 100 000 during the same period, the greatest increase being in Copenhagen where the cases are one in 300 against one in 400 for the rest of the country The increase in Belgium is large and steady, and the statistics are remarkable as showing the great preponderance of *unmarried cases 7600 of the total* being single and only 2300 married or widowed In England the married or widowed exceed the single, the numbers being 10 272 married to 7744 single Italy also shows an increase of 24 per cent in four years, and as in Belgium the unmarried exceed the married insane, in the former nearly in the proportion of two to one In the United States during the two decades from 1860 to 1880 the insane increased in number by nearly 400 per cent but the rate of increase in the last decade was not so great From the varying legal enactments dealing with the treatment of lunacy in different countries, however, it is difficult to make safe comparisons From statistics given by Dr Rhodes it would appear that some insanity is part of the price of civilisation, and it seems also that the standard of the civilisation of a country can be gauged by the provision it makes for the insane

In countries where education is low little is done for this class as compared with those where it is high. Until our own time only the violent and dangerous cases were found in the asylums, while now more than 50 per cent. are patients suffering from harmless dementia and melancholia. This fact accounts for a large increase in the number now cared for in our asylums. In Lancashire the accommodation is utterly inadequate to meet the demand, and the same holds good all over the country. Dr. Rhodes considers that "we need a thorough inquiry into the lunacy laws and their administration, and that better provision is urgently needed for the middle classes." In many cases the clerk, the warehouseman, or the skilled workman would be very glad to pay something for a relative as a private patient, but the county asylums are so full that they have only room for pauper patients, so that they must go as paupers or not at all as the charges elsewhere are beyond their means. There is great need for classification, and Dr. Rhodes thinks that some of the existing defects might be met by the "colony" plan of building asylums. The increase in Lancashire is confined to three classes—"working in handicrafts," "domestic," and "miscellaneous"—and the last class alone accounts for an increase of 2138 cases. Dr. Rhodes also thinks the increase is not nearly so great as the figures would indicate. "Public opinion in regard to insanity has changed. The insane are looked upon as requiring humane and scientific treatment by methods which can be better carried out in asylums than in the homes of the patients." During the discussion that followed the paper the chairman of the Manchester Board of Guardians pointed out that the number of the inmates of the asylums was kept up by the prolongation of life from the care and attention which they received. Some of the patients were 80 or 90 years of age.

THE WEST AFRICAN FRONTIER FORCE.

THE general medical history of this force until March 31st, 1899, is given in a report just issued by the Colonial Office. Dr. Wordsworth Poole, the principal medical officer, states that the first detachment of the force landed in Africa in September, 1897, and by the end of March, 1898, new arrivals had made up the two battalions to their full complement. The majority of the places where the force was stationed were on the banks of the river Niger. The medical staff consisted of eight medical officers (civilians), three nursing sisters (civilians), and 14 non-commissioned officers of the Royal Army Medical Corps. From April 1st, 1898, to March 31st, 1899, the average strength of the force was 156, of whom 27 died in Africa and 55 were invalided to England. Of the 55 thus invalided five died either on the passage or very soon after arrival in England. So that 32 deaths may be ascribed to the effects of service, being a death-rate of 20 5 per cent. per annum. The causes of the 27 deaths in Africa were as follows: malarial fever, 12; blackwater fever, 6; abscess of liver, 3; dysentery, 2; killed in action, 2; drowning, 1; and sunstroke, 1. The causes of invaliding to England were as follows: blackwater fever, 20; debility, 14; malaria, 6; dysentery and syphilis, 5 each; epididymitis, abscess of liver, hæmoptysis, rheumatism, and beri-beri, 1 each. The total number of admissions to hospital in Africa for all diseases was 950, which with an average strength of 156 gives an average of six admissions to hospital for each man during the 12 months. A few of these admissions were as follows: malarial fever, 734; blackwater fever, 36; diarrhœa, 37; dysentery, 19; and sunstroke, 4. An extensive trial was made of the use of quinine as a preventive of malaria. More than half the number of Europeans took five grains of quinine every day during the whole period they were in the country. Others took a dose of 15 grains *once a week*. A few *took no* quinine. Careful records were kept for a period of six months of the amount of fever occurring in the members of these three classes. The results, however, of the experiment did not afford the basis of a conclusive opinion.

THE EASTER HOLIDAYS EXTENSION.

A MOVEMENT now on foot for the extension of the Easter holiday is certain to obtain a large amount of public sympathy. The position of the Saturday before Easter is in the case of very many persons nothing less than a grievance. But for it an unbroken period of four days would be available for that change to country air and recreation which every dweller in a great city has found reason to value highly. Unfortunately the total cessation of business for even so short a time is prohibited in some trades by the daily needs of our existence. It is quite otherwise with the work which is carried on in most of the larger warehouses and shops which are not engaged in the provision trades. An increasing number of these latter, we are pleased to find, are disposed to concede the whole of Saturday to their employés. They may well do this, for the amount of business done on this day—or, as it should be better styled, half day—is not great. On the other hand the gain in point of health both to employers and employed which the cessation of work between Thursday and Tuesday implies is considerable.

HEAT-STROKE AND SUN-STROKE.

IN an article which occupies considerably more than half of the *Archives de Médecine Navale* for January Dr. Moussoir, a French naval surgeon of the first class, claims to be the first observer to have established a fundamental distinction between heat-stroke and sun-stroke, and contends further that a correct appreciation of his discovery would result in a large saving of human life. "I bring here," he says in his opening sentence, "the solution of a problem which has never been resolved in a satisfactory manner"; and a little lower down he expresses his conviction that "the originality of the etiological theory, the prophylaxis arising therefrom, and the proposed pharmaceutical treatment justify the publication" of views that would have seen the light three years sooner but that he was compelled by the exigencies of service to spend the greater part of his time in transferring his household gods from one station to another, including Tonkin and Bac-Ninh. Heat-stroke, according to Dr. Moussoir, is a pathological condition produced by the action on the whole surface of the body during a sufficiently prolonged period of a temperature exceeding 104° F., whereas sun-stroke is a pathological condition produced by the action on the cranium during a period, which need not necessarily be long, of sufficiently intense solar radiation. The high temperature which gives rise to heat-stroke may be either moist or dry and may emanate from any source. *Moist heat, as in a* stoke-hole on board ship, brings on heat-stroke by preventing the evaporation of perspiration, while a dry heat, by shrivelling up the skin into a parchment-like substance, prevents the exudation of perspiration, and most probably also produces an analogous condition in the pulmonary alveolar tissue. Heat-stroke causes its ill effects through the superheated blood, which reacts on the nervous centres. It comes on gradually, but may simulate suddenness when the will power by which the subject was sustained is abruptly withdrawn. Stokers are able to endure a damp hot atmosphere in narrow, ill-ventilated spaces because they work naked or nearly so, whereas soldiers on duty in the open air succumb to heat-stroke because the *caloric increases* beneath their thick clothing, which also hinders the *evaporation* of sweat. To prove this three thermometers should be placed—*the first in the shade, the second in the sun*, and the third likewise in the sun but wrapped in a piece of cloth. An experiment frequently repeated by Dr. Moussoir gave results as follows: first thermometer, 82 4°; second, 110 3°; and third, 127 4°. Sun-stroke, or insolation, is not induced by high temperature but by the intense radiation which the sun alone, owing to its enormous volume (1,200,000 times that of the earth), can supply, the chemical rays, the vibrations of which are more rapid and therefore more penetrating than those of their calorific and luminous congeners, being the exciting cause. Fonssagrives and Corre imagined that the sun-stroke of low temperature during clear weather was due to the action of *light on the retina*, but *this* must be an error because, owing to the incautious exposure which is then likely to take place, the affection is very frequently met with while the sky is overcast. The chemical rays emitted by the sun can pierce through white clouds freely, but are almost entirely arrested by black substances and partially so by red. These facts explain the immunity from sun-stroke of negroes and people with swarthy complexions and the diminished liability to it of the ruddy. To produce sun-stroke the rays must impinge upon some part of the brain-case, the effect being transmitted thence to the as yet unlocated heat centre by reflex action. The process precisely resembles what goes on when a perspiring scalp is exposed to a draught and sneezing coryza and other reflex phenomena quickly ensue. Covering the head preserves from sun-stroke, but just as is the case with thick clothing a helmet can only assist in the development of heat-stroke. The mean of a series of observations with suspended thermometers showed that the temperature inside a regulation helmet was 10° C. higher than in the shade of a verandah. In heat-stroke the disease begins by heating the blood, but in sun-stroke this condition of the circulating fluid is secondary; the fact, however, that in both affections the blood becomes superheated serves to explain the resemblance of the symptoms. Sun-stroke or insolation can only occur within the tropics because in that region alone the sun's chemical rays are sufficiently intense to produce the necessary reaction. In support of this statement Dr. Moussoir appends a number of ingenious diagrams dealing with the refraction of solar rays, but these aids to comprehension require to be seen while the accompanying lucid letterpress should be read *in extenso*. So far Dr. Moussoir may, perhaps, be held to have supplied a *primâ facie* case in support of his somewhat ambitious exordium, but with regard to treatment his promises can scarcely be looked upon as fulfilled. Excitation and antipyrin are insisted upon, together with ice, cold affusion, and the rest of the stock remedies as usually recommended. Quinine, however, is discarded utterly, the writer having no belief in its antithermic properties, seeing that in small-pox, scarlet fever, &c., its exhibition fails to reduce the temperature. In paludal fevers the alkaloid acts as a parasiticide, and in sun-stroke there are happily no microbes. Incidentally painting with guaiacol is mentioned, but the effects are said to be prohibitively uncertain. Under its influence hyperthermia is apt to degenerate into hypothermia with cardiac collapse. Among the predisposing causes of heat apoplexy Dr. Moussoir mentions the horizontal position, contending that the heat rays, both direct and refracted from the ground, have thus a much larger surface to act on. This would seem to supply an argument against the Indian practice of taking a siesta during the heat of the day.

ROYAL METEOROLOGICAL SOCIETY: A JUBILEE CELEBRATION.

THE Royal Meteorological Society will attain its jubilee on Tuesday next, April 3rd, having been founded on April 3rd, 1850, and arrangements have been made for keeping the anniversary with due observation. At a commemoration meeting to be held in the Institution of Civil Engineers, Great George-street, Westminster, at 3.30 P.M., the President, Dr. C. Theodore Williams, will deliver an address, and the *delegates from other societies will be received.* A conversazione will follow at the Royal Institute of Painters in Water Colours, Piccadilly, at 8.30 P.M. In addition to the pictures in the galleries there will also be an exhibition of meteorological instruments, models, and photographs, and lantern demonstrations will be given by Colonel H. M. Saunders, Mr. T. C. Porter of Eton, and Mr. W. Marriott. On the following day (Wednesday) there will be, by permission of the Astronomer Royal, an excursion to the Royal Observatory, Greenwich, and the commemoration meeting will close with a dinner at the Westminster Hotel at 7 P.M. As a memento of the jubilee of the society a bronze commemoration medal, bearing on the obverse a portrait of Mr. Luke Howard, F R S, has been struck.

THE MIDWIVES BILL: A MEETING OF PROTEST.

A MEETING of medical and lay constituents of the boroughs and divisions of South-East London and adjacent parts of Kent and Surrey to consider and adopt measures to resist the registration of midwives, and particularly the Bill now before Parliament, will be held at the Cannon-street Hotel, E C., on Wednesday, April 4th, at 4 o'clock P M., when the chair will be taken by Mr. George Brown. The following Members of Parliament for the boroughs and divisions comprised will be invited to meet the Direct Representatives of the profession on the General Medical Council:—Right Hon. C. T. Ritchie (Croydon), Lord Hugh Cecil (Greenwich), Sir J. Blundell Maple, Bart. (Dulwich), Colonel Edwin Hughes (Woolwich), Colonel P. H. Dalbiac (Camberwell, North), Captain Cecil Norton (Newington, West), Mr. A. H. A. Morton (Deptford), Mr. John Penn (Lewisham), Mr. H. W Forster (Kent County, West), Mr. C E. Tritton (Norwood), Mr. H. C. Leigh Bennett (Chertsey), Mr. James Bailey (Walworth), Mr. F. G. Banbury (Peckham), Mr R K. Causton (Southwark, West), Mr. J. C. Macdona (Rotherhithe), Mr. A. Lafone (Bermondsey), and Mr. F L. Cook (Kennington).

UNUSUAL CASES OF INSOMNIA.

PROFESSOR H. OPPENHEIM of Berlin has contributed to the *Berliner Klinische Wochenschrift* (No. 49, 1899) a valuable clinical lecture devoted to some unusual cases of insomnia. Various types of insomnia exist requiring different methods of treatment Thus, to the psychical or ideogenic type belong all cases in which mental worry and overstrain, violent emotions, morbid concepts, hallucinations and delusions, or other pathological mental states are the causes which prevent sleep. The insomnia of many lunatics and of patients suffering from grave hysteria and neurasthenia belongs to this category. Some patients suffer from interruptions of sleep owing to the appearance of certain "phobias" or terrifying and startling ideas which may occur while falling into sleep Closely related to the psychical is that type in which a hyperæsthesia of the senses (hearing, tactile and cutaneous senses) interferes with sleep or renders it difficult. The second category includes types of insomnia due to pain (algogenic type). Apart from bodily pains of various sorts there may be disagreeable or irritating sensory disturbances which serve to promote insomnia—e g, pruritus, thermoparæsthesia, excessive flushings and feelings of heat, and tinnitus aurium. Gastro-intestinal disturbances (colic and enteritis) play an important part and cardiac and respiratory disturbances also act prejudicially in driving away sleep. There is also an insomnia of sexual origin arising from various conditions which may disturb or unduly stimulate the sexual life. At times sleep itself is a cause of troubles which interrupt and break it, thus dreams, night-terrors, and nightmares arise in the course of sleep, and when they have attained a sufficient intensity they produce wakefulness. Professor Oppenheim mentions two interesting cases, in one of which the patient, who was perfectly well in the waking state, was frequently awakened from sleep by the pain and discomfort of severe girdle-pains, while the other patient was subject to attacks of occipital neuralgia only during sleep. There are pains and disagreeable experiences which are intimately connected with sleep just as there are forms of epilepsy which only manifest themselves during sleep (nocturnal epilepsy). A case is also reported of a woman who had recovered from influenza with the following extraordinary result. As long as she was awake the heart's action and the respirations were normal, but as soon as she went to sleep they subsided to so slow and feeble a rate as practically to cease and she was in danger of dying. This state of affairs was so alarming that she had to be constantly watched and kept by artificial means from falling into sleep until by the administration of drugs (bromides and nerve tonics) the condition eventually passed away. Another case is recorded of a married woman, aged 35 years, who one day unexpectedly received bad news. She became excited and agitated by this and her sleep was disturbed by attacks of dyspnœa which came on at intervals of from 15 to 30 minutes all through the night. During these attacks she would start up unconsciously and on more than one occasion she sustained injuries by so doing. She was free from symptoms of hysteria. In about a minute after being thus awakened she would become conscious and would be able to answer questions and she could then go to sleep till interrupted again as before. Bromides were administered to this patient and she eventually recovered. The great importance of treating or averting insomnia and thereby of obviating threatened mental breakdown is urged by Professor Oppenheim as chiefly needed in all cases with hereditary tendencies to mental disease.

OBSERVATIONS ON TUBERCULOUS CATTLE IN CANADA.

A report which has recently been issued by the Canadian Government embodies the details of a number of experiments which have been carried out by Dr. J. G. Adami of the McGill University and Dr. C. F. Martin on cattle recognised to be tuberculous by the tuberculin test. In November, 1897, 10 cows were received at the Government farm at Outremont from Ottawa. They had been tested with tuberculin and had all reacted, although only one displayed any clinical evidences by which the chief veterinary inspector (Professor McEachran) could suspect the disease. The 10 cows were placed each in a separate stall in a byre newly built for the purpose, the best attention possible being given to hygienic and dietetic arrangements. The partitions were of such a height (five feet) that there could be no contact between the animals, and each cow was allowed its own special exercising ground where it could not be approached by the others. In December seven of the subjects were re-tested but only two gave definite reactions. A month later (Jan. 15th, 1898) the whole 10 were again tested and three reacted; two of those which had reacted in December showed no rise of temperature now and the only reacting one of the previous seven was the cow which had exhibited clinical evidences of disease. The cows were not inoculated again until the end of April and the experiment was made with two of them to see whether repeated reactions could be obtained by giving increasingly large doses, as is known to be the case in the human subject. On April 28th double the usual dose was injected without effect; on May 2nd four times the proper amount was given without result. It would thus seem that in this respect tuberculin acts somewhat differently in cattle to the way in which it acts in human beings. Dr. Adami and Dr. Martin consider that very possibly these large injections had some curative effect as these two cows at death showed but a trace of tuberculosis. They draw attention to the opportunity which is presented by the knowledge of no reaction following if the animal has been recently tested for a vendor to get rid of a tuberculous animal as a sound one. This fact is well known to veterinarians in England, and it is customary to allow at least three weeks or a month to elapse before re-applying the test. Probably the most important fact of interest to the medical practitioner was ascertained by the examination of the milk for tubercle bacilli; these were clearly demonstrated in the milk of six of the cows, although the udders were apparently healthy both to external appearances and on subsequent post-mortem examination. The milks were examined at frequent intervals, sometimes with positive, sometimes with negative, results. At times the bacilli were present in considerable numbers and at other times there were very few in the field. Guinea-pigs, rabbits, and calves were fed or inoculated with milk from each of the cows, the results being carefully noted. The chief conclusions arrived at by Dr. Adami and Dr. Martin were:—1. Each of the cows which had reacted to tuberculin exhibited upon post-mortem examination seven months later distinct evidences of tuberculosis, although in no instance were the lesions very extensive. In no case did the most searching examination demonstrate tubercle in the mammary gland. 2. The first injection of tuberculin is capable of detecting the slightest degree of infection in cattle, but the injection seriously affects the development of another reaction within an average period of rather more than a month. A second reaction is often not obtained within 30 days, even by giving double, or four times, the dose of tuberculin. 3. It is possible that repeated doses of tuberculin have a certain curative power. 4. Although the udders were free from tuberculous disease the milk of several contained from time to time tubercle bacilli, the latter being demonstrated beyond dispute by the usual methods of staining and by inoculation experiments. 5. The milk of animals suffering from slight grades of tuberculosis possesses only feeble infective powers, although occasionally without obvious cause the number of bacilli present in it might increase greatly, and in one case the number suddenly became so great that the milk at this period must have been dangerous.

MEDICAL APPOINTMENTS IN EGYPT.

The Quarantine Authority of Egypt is about to appoint after public competition one woman doctor to be attached to the department at Suez at a monthly salary of from 22 to 28 Egyptian pounds. Candidates for the post must submit: (1) the original or else a certified copy of their diploma as doctor; (2) a certificate of sound health; and (3) a formal pledge of their willingness to take up the duties of the post in case of their being nominated to it during the course of the month which follows that of the formal nomination. Candidates should also submit the languages which they know. They are also warned that in case they wish to resign the post they can only do so on giving three months' notice to the President of the Sanitary Council. The examination will close on April 30th, 1900. The quarantine authority is also about to appoint after public competition one director of the second class at a monthly salary of from 22 to 28 Egyptian pounds. Candidates must submit: (1) the original or else a certified copy of their diploma as doctor of medicine and surgery; (2) certificates of their having studied bacteriology and epidemiology; (3) a certificate of sound health; and (4) a formal pledge of their willingness to take up the duties of the post in case of their being nominated to it during the course of the month which follows that of the formal nomination. Candidates must also submit their age and the languages which they know. They are also warned that in case they wish to resign the post they can only do so on giving three months' notice to the President of the Sanitary Council. The examination will close on April 30th, 1900. Applications for either of these appointments should be sent to Dr. O. Armand Ruffer, *Alexandria, Egypt.*

STREET NUISANCES.

WE are glad to see that the London County Council is persevering in its efforts to make London less objectionable. At the weekly meeting held on March 27th a recommendation of the General Purposes Committee was agreed to that a conference should be held with the various local authorities to consider the question of street and traffic regulation. All sorts of points are involved in this decision. The question of traffic alone involves the ever-increasing number of omnibuses which in narrow streets, as, for instance, Bond-street, are gradually getting to be a greater nuisance than convenience. Some check, too, should be placed upon the perpetual disturbance of the streets by gas, telephone, electric lighting, water, and hydraulic power companies from one or the other of which the Strand and adjacent streets have never been free since last July. Something should also be done to stop newspaper hawkers throwing away the innumerable posters which they carry—a practice which makes Piccadilly-circus a perfect rubbish shoot. "Mud Salad Market," as *Punch* long ago called the market owned by the Duke of Bedford, is, we suppose, a necessary evil, but all the same it is out of place in the midst of a great city.

THE MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

THE first annual general meeting of this institution was held on Wednesday last, March 28th, when Dr. O Theodore Williams urged the members to put their shoulders to the wheel as Mr. Hutchinson had done and help to tide the college over a critical position. Dr. Williams, who is treasurer of the College, put the whole difficulty quite tersely when he said that they could not carry on the work with an income of £800 and an expenditure of £2000 a year. In the course of his remarks one of the audience said the State ought to help, to which Dr. Williams replied that from what they knew of the British Government he did not think that they would find any instance in which the Government had so helped, but the members could persuade their friends to give donations. Mr. Hutchinson said that they should remember the Hunterian maxim that organisation depended on life and not life on organisation. The life must come from within, and they all ought to be zealous to work to a grand success. At first they could not be wholly self-supporting and must appeal to the members at large to do what they could. The pecuniary liabilities of the College should not be entirely thrown on the medical profession. The paucity of general practitioners on the Council led Dr. Snape to say that as the members of the College were general practitioners and formed the audiences at the lectures and the students at the classes their support was essential to success, and adequate representation should be accorded to them on the council. Dr. Fletcher Little considered that if the College was to be a practitioners' College, as he hoped it would be, they must be properly represented on the council. Sir William Broadbent, the chairman of the council of the College, said that proper representation of the general practitioners on the council would be granted when that body was re-elected next year. We hope that the financial position of the College will soon be much improved, but we agree with Dr. Williams that salvation will come from self-help, and that no State assistance can be hoped for. This may be regrettable, but it is a fact.

THE SUPPLY OF MEDICAL STUDENTS.

THE General Medical Council has just issued its Medical Students Register, which is the list of medical students registered during the year 1899. There is an increase of 102 in the number registered in the United Kingdom in 1899 as compared with the number registered in the previous year, being 1711 and 1609 respectively. But taking the last two quinquennial periods into the estimate we find that the later, ending in 1899, gives 8441 registrations of medical students and the former 9340. In other words there are 899 fewer registrations in the later quinquennial period than in the former, or an annual average of about 177 less per year. The register contains much interesting information as to the schools and the date of commencement of medical education of the students registered, the division of the kingdom in which the registration takes place, the regulations of the General Medical Council for the examination and registration of medical students and other matters.

THE THREATENED EXCLUSION OF FOREIGN MEDICAL PRACTITIONERS FROM ITALY.

MUCH anxiety exists among foreign practitioners in the kingdom of Italy in respect of legislation said to be contemplated by the Italian Government to prevent all foreign medical men from practising in Italy unless they hold an Italian qualification or the country from which they come grants a reciprocal right to duly qualified Italian practitioners. We showed last week from an examination of the minutes of the Executive Committee of the General Medical Council that it is informed on this subject. But it is one calling for the serious attention of the Council in May. We cannot imagine that the friendly Italian Government will allow itself to act hastily in a matter so deeply affecting not only British medical men but also the British invalids who flock to Italy in thousands every winter. At the very least, they will surely not include in such legislation British practitioners already established in Italy. On our side there must be more decision and promptness or we shall provoke legislation that will be unfortunate and narrow. We must not forget that Italy is only proposing to do very much what we do already—with this difference, that Italians may practise here without any probability of objection on the part of the law or of the General Medical Council.

THOMSEN'S DISEASE (MYOTONIA CONGENITA) IN A BROTHER AND SISTER.

DR. J. S RISIEN RUSSELL demonstrated at a meeting of the Neurological Society of London on March 15th two cases illustrating the heredity of Thomsen's disease, the patients being a Hebrew boy and girl. The children were apparently of natural development, not backward in speech or walking, and free from fits of any description. The boy, aged 15½ years, seemed somewhat poorly developed for his age. His growth appeared to have been natural until he was five years old, when a difficulty in performing voluntary muscular movements began to be noticed. His condition gradually grew worse. It was most marked in the morning and on attempting to get up or to walk the movements of the arms and legs were hampered by stiffness of the muscles. Gradually in the course of the day this stiffness diminished. Walking was always difficult, however, especially after a period of rest. On closing the eyelids tightly the patient could not readily open them again and after closing the hand tightly the extension of the fingers was slow and difficult. The knee-jerks were normal and there was no spasticity. The girl was aged five and a half years and presented similar phenomena but in a less marked degree than did her brother. Her trouble seems to have commenced at the age of four years, and at the date of the demonstration (16 months after) it was more noticeable. In the four months during which she had been under observation the condition had grown worse.

THE PROGRESS OF THE MIDWIVES BILL.

THE Midwives Bill, having passed through the Standing Committee of the House of Commons on Law, now awaits the report stage. Throughout the proceedings of the Standing Committee the promoters of the Bill had affairs their own way despite the vigorous resistance offered by Mr. T. P. O'Connor and Mr. Lloyd George; while, as will be seen from our Parliamentary representative's account, the supporters of legislation evidenced their interest in the measure with as much clearness as the opponents displayed their apathy. In spite of the favourable position which the Bill now enjoys some modifications may be expected in response to the representations of the General Medical Council. The General Medical Council has strongly urged the inclusion of a clause not yet in the Bill requiring that in obstetric cases presenting "symptoms of difficulty, abnormality, danger, or disease on the part of the mother or of the new-born child" the licensed midwife must apply for qualified medical assistance. An amendment to this effect was brought before the Standing Committee by Colonel Milward, but was lost. The Council will, we are sure, use what pressure it can to ensure the addition of such a provision to the Bill before it becomes law. The Government are stated to consider that inasmuch as the rules of the Midwives Board have to be approved by the General Medical Council, the General Medical Council will have full opportunity after the Bill becomes an Act of restricting the practice of the licensed midwife to the limits of proper obstetric nursing. Under the measure which has just passed through the Standing Committee we believe verily that the licensed midwife can by no means be so restricted—a situation that will commend itself favourably to the limited intellect of Mr. Atherley Jones, Q C.—but certainly the legal provisions making attempt to confine the new order of nurses to nursing should be an integral part of the Bill.

THE RESIGNATION OF SIR WILLIAM T. GAIRDNER.

WE announced last week the intention of Sir William Gairdner to intimate to his class in the University of Glasgow his decision to resign his professorship of the Practice of Physic. He did so on Friday, March 23rd, in eloquent terms of dignity and regret befitting the occasion There was something exceedingly touching in the sentiments of Sir William Gairdner expressing the reluctance with which he took such a step while still feeling the keenest interest in the work of the class-room and the ward. "My class-room and my hospital remain now as they have all along been, the greatest of my occupations and the sources of the most profound satisfaction in endeavouring to serve thereby my day and generation." There is no abatement in the force with which Sir William Gairdner follows the development of medicine. It is on the contrary his deep sense of the rate and scale of this development which determines him to give way to one with "at least a younger pair of eyes and perhaps a younger brain as well." He will scarcely admit any age in the brain that should make him resign, but his eyesight is not equal to the task of the enormous amount of reading necessitated by his professorship and the claims of the new science of bacteriology. Sir William Gairdner's final words of acknowledgment to his "generations of pupils" and "succession of helpers in class and ward duty," will be cherished by men all over the world as well as by those gentlemen—Carslaw, Ness, and Watson—who close the great army of assistants and are fortunate enough to find their names associated with the work of such a master and specified in historical words. This is not the time, happily, to count up what Sir William Gairdner has done for the health of the inhabitants of Glasgow. This event of his resignation has an interest wherever medical science and medical character are prized. His *forte* as a teacher has been that he has always been a learner. He will, we hope, long continue to be both, and the profession at large will be glad to place itself *in statu pupillari* whenever he may choose to announce the results of his judgment and his experience.

OUR Birmingham correspondent, in a note in our issue of Jan. 27th, referring to the Anglo-American Assurance Company, introduced the name of Sir William MacCormac. We have been requested to give publicity to an entire repudiation by Sir William MacCormac of any connexion whatever with this company. We are sure that all our readers must have seen that the name of the President of the Royal College of Surgeons of England was unwarrantably used as a decoy by the convict who was canvassing the profession recently on behalf of this swindle.

THE annual meeting of the Factory Girls' Country Holiday Fund will be held on Friday, April 27th, at 3 o'clock, at the Mansion House, by permission of the Right Hon. the Lord Mayor. The Lord Mayor will take the chair, and among those announced to speak are the Bishop of Rochester, the Bishop of Bristol, Mrs. Scharlieb, M.D. Lond., and the Very Rev. Dr. Adler, Chief Rabbi.

DURING the absence abroad of Sir Savile Crossley Viscount Duncannon will undertake some of the duties of the honorary secretaries of the Prince of Wales's Hospital Fund for London. All communications to the Fund should, as before, be addressed to the honorary secretaries, Prince of Wales's Hospital Fund, Bank of England, London, E.C.

THE second Lees and Raper Memorial Lecture will be delivered by Mr. Victor Horsley in St. James's Hall, Piccadilly, W., on Friday, April 27th. The subject is announced as the Effect of Alcohol upon the Human Brain.

PROFESSOR OSLER has telegraphed from Baltimore asking us to announce that he is not a candidate for the Chair of Medicine in Edinburgh University.

THE WAR IN SOUTH AFRICA.

EVEN apart from the fact that nothing succeeds like success we think that a change of tone and of opinion may be traced in the foreign press in regard to the war in South Africa and the way in which it was brought about and has been conducted. With the arrival of fuller and more precise information as to what was the actual condition of affairs at the time when the war broke out it begins to be recognised in this country also that, speaking generally, our generals in South Africa did the best which they could under the circumstances and were, as a matter of fact, compelled to follow the course of action which they pursued. Unfortunately it was incorrectly assumed by the Government of this country—and the assumption was founded upon the views held by many local authorities in South Africa—that the force under Sir George White would be able to deal with any army which the Boers could bring against it. It was not foreseen, as it might have been, that the Boers would invade Natal in force. Urgent political reasons also came into play, advanced posts were held, and the result was that the military authorities and Sir George White had no option but to occupy Ladysmith where the defending force was shut up for some months. Ladysmith was a big store depôt. It should never have been selected for that purpose, for it was a strategically unsuitable position, and in any case it should have been strengthened by defensive works and a proper armament, which it was not, when it was first fixed upon years ago. But neither Sir George White nor Sir Redvers Buller was responsible for this. They had to take things as they found them and make the best of them, which they undoubtedly did. We are glad to hear, by the way, that Sir George White, although still suffering from fever, is better; he has just left Cape-town for England. The siege of Ladysmith will add another page to our national history illustrative of fortitude, endurance, and bravery, but the glory of it has been purchased at the cost of a vast amount of sickness and suffering and also, we are afraid, at the expense of shattered health in many of the survivors.

There is a comparative lull in the news from the theatre of war at the present time. Taking stock of our losses it appears that up to March 24th the British casualties in South Africa in killed, wounded, missing, and prisoners (exclusive of sick) are returned as 1000 officers and 14,403 non-commissioned officers and men. The sick rate in comparison with that of the killed and wounded has so far been exceptionally low. This no doubt is attributable to many causes, such as the healthy nature of the climate, the forethought, care, and preparation which have been exercised, the ample provision that has been made for the requirements of the campaign, and also to the attention that has been paid to camp hygiene. There does not seem to have been any wholesale contamination of water-courses (if we except the case of Ladysmith where the water was probably fouled and gave rise to much of the enteric fever and dysentery that prevailed there) such as occurred in some of our previous campaigns in South Africa. Still, there has been a good deal of enteric fever and dysentery, and these diseases have not by any means been confined to besieged garrisons. It is the nature of such diseases and of other diseases incidental to field service to spread as the campaign goes on. Happily the forces have been a good deal on the march and consequently have been changing their ground, which is about the best thing that could happen under the circumstances, and the invasion of the Transvaal and the march to Pretoria will take the army over tracks of comparatively virgin country. The chief source of anxiety at the moment is as to the relief of Mafeking, which, despite the pluck and the cheerful tone the little garrison have maintained throughout the siege, must be hard pressed and increasingly so. It is reported that the army medical service with General Buller's force has been more than usually active of late and that arrangements have been made for a considerable augmentation to the strength of the stretcher-bearers and dhoolie-bearers of the force; if so, we may shortly anticipate to hear news of a movement. Should General Buller have to advance along the route which now seems probable he will still be destined to encounter a most difficult line of country and one which is, topographically speaking, most favourable to Boer tactics. Be this as it may, his soldiers evidently have confidence in his generalship, for it is refreshing to read or hear of their testimony to his ability as a general and to his soldierly qualities. If his column has to force passes we may still expect some severe fighting and much occupation for its medical staff and sick transport. Lord Roberts and Lord Kitchener are presumably actively engaged in securing a safe base and lines of communication and in making their final arrangements for the march towards Pretoria. The war is not by any means over yet, but the course will, at any rate, soon be clear for attempting, and as we trust successfully, the carrying out of the definite strategical plans of the campaign. Meanwhile there is time for the breach to widen between the two Republics of the Transvaal and Orange Free State and for Lord Roberts's proclamations to become known

One of the great difficulties which the medical service has had to contend with during the present war in a difficult country like South Africa must have been the searching for, and the stripping of the ground of, the wounded after an engagement. The battles have not been on the large scale which has taken place in many big European campaigns or in the American war and consequently there have not been such overwhelming numbers of wounded to be collected and transported to the dressing stations and field hospitals. On such occasions as these large numbers of the wounded have had to remain where they fell for many hours, or possibily even days, before any succour could reach them, *simply because it was impossible to have anything like* the necessary number of stretcher-bearers and vehicles ready to remove them and on account of the time which it takes to do so under the best possible organisation. If anyone will only take the trouble to make a calculation of the number of vehicles and stretcher-bearers and of the time required to transport any given number of wounded men any given distance from the fighting line to the rear he will realise the arithmetical nature of the problem. In the engagements in South Africa the collection of the wounded from the field has generally been well and promptly done, but there must nevertheless have been many cases where the delay in discovering and removing the wounded was considerable and unavoidable. That is one great reason for having ambulance wagons of the lightest kind consistent with safety. The British ambulance wagon is a good one of its kind, but it strikes us as providing for the accomplishment of too much and as being too heavy. An ideal system would perhaps be to carry the hospital to the wounded instead of the wounded to the hospital. That is impossible of realisation; the most that can be done is for the hospital service to put out its feelers behind and in the immediate track of the fighters in the shape of search parties and bearer columns with manual and vehicular transport, after the way in which it is now done. This is a direction in which the various Red Cross societies could be of great aid if properly organised, in addition to the various other directions in connexion with the hospital service in which they do so much admirable work. The great thing to be attained is that the regular and the various volunteer aid societies should work harmoniously together on a well-organised and well-understood system such as, we believe, is the case at the present time. Everything in war should be so designed as to be a help, and not a hindrance, to the regularly constituted branches of the service.

The somewhat sudden death of General Joubert is announced. The cause is variously given, but it is probable, from the many rumours which have from time to time reached England, that he has been ailing since the beginning of the war. We can but echo Sir George White's generous tribute to his character—a tribute rendered before he was aware of his fatal illness—"a soldier and a gentleman and a brave and honourable opponent."

THE QUEEN'S VISIT TO THE WOUNDED AT THE HERBERT HOSPITAL, WOOLWICH.

The Herbert Hospital at Woolwich, which the Queen visited on March 22nd in order to see the wounded from South Africa, was erected in 1866 and was named after Lord Herbert, the then Secretary of State for War. There are 700 beds in the main hospital and the wards are arranged four to a pavilion united by covered ways and open terraces, from designs by Captain Galton, R A Princess Christian and Princess Victoria of Schleswig-Holstein accompanied the Queen. Her Majesty was attended by Colonel the Hon. H. C. Legge and Colonel Davidson and the Countess of Antrim, Miss Emily Loch, and Sir Arthur Bigge were the members of her suite. Major-General J. F. Maurice, C.B, and the staff of the Woolwich command were in attendance on Her Majesty. On arrival at the hospital the principal medical officer, Lieutenant Colonel U. J. Bourke, R A.M.C, was presented to the Queen, as were also the following officers: Lieutenant-Colonel J. J. Lamprey, R.A M C., Civil Surgeons T. Hartington, E S B Eames, C. J. Jackson, and the acting superintendent of nurses, Miss Vaughan. Every man Her Majesty saw and spoke to was presented with a bunch of choice flowers. The Princess Christian and Princess Victoria of Schleswig-Holstein conversed with the wounded and were greatly interested On leaving for Windsor the Queen expressed great pleasure at all she saw and the arrangements made for her visit to the wounded at the Herbert Hospital.

The following telegram has been received.—

"Windsor Castle.

"To Lieutenant-Colonel Ulick Bourke, R A.M.C.

"I am desired by the Queen to express to you Her Majesty's entire satisfaction with all she saw at the Herbert Hospital on Thursday —BIGGE"

SHORT REPORTS OF INTERESTING CASES OF GUNSHOT WOUNDS FROM SOUTH AFRICA NOW IN NETLEY HOSPITAL.

The following cases serve to illustrate further our remarks on the remarkable nature of the wounds caused by the Mauser bullets.[1] Among the wounded of the Highland Brigade at Magersfontein were the following cases.

CASE 1.—Sergeant ——, of the 2nd Royal Highlanders, was wounded three times. One bullet entered one and a quarter inches below and outside the left nipple and passed out at the level of the ninth dorsal vertebra one and a half inches to the left of the vertebral column. He had hæmoptysis for eight days and his injury was followed by pleurisy. A second ball (explosive) or part of a shell brushed the side of his face and the third bullet entered the inner side of the left arm one and a half inches above the inner condyle of the humerus and passed out close to the coracoid process. The arm measures one inch less in circumference than its fellow and there is some loss of power. The patient is quite convalescent.

CASE 2.—Private —— (Royal Highlanders) was wounded by a bullet on the left side of the head over the posterior portion of the frontal convolutions. He was trephined in South Africa. He has now some loss of memory and marked slowness of thought and expression, his speech is very difficult, he has constant epiphora (more marked on the left than on the right side), and some paralysis of the muscles of the face on the right side.

CASE 3.—Private ——, of the Black Watch, was wounded by six bullets, one of which passed through the middle third of the left arm; the second bullet went through the soft parts of the back over the left scapula; the third ball entered by the left acromion process and cut its way out at the apex of the axilla posteriorly; the fourth bullet passed through the left leg and knee-joint (the motion of the joint is hardly impaired); the fifth ball passed through the left foot; and the sixth caused a flesh wound of the right calf. The patient is quite convalescent, but has partial paralysis of the left arm.

CASE 4.—Sergeant ——, of the Highland Light Infantry, was wounded by a ball which passed through the sole of the foot and severed the tendon of the extensor proprius pollicis. He has entirely lost the power of extending the great toe.

CASE 5.—Private ——, of the 1st Battalion Coldstreams, was twice wounded at Magersfontein. The first ball entered in the back over the left scapula, two inches below the spine and near the axillary border; it passed out one and a half inches below and outside the left nipple. He suffered from hæmoptysis and while he was having his wound dressed a second bullet struck him obliquely on the front of the chest over the second left costal cartilage and, passing through the soft parts, emerged one and a half inches above the right nipple; this ball afterwards passed through the lower third of the right arm.

CASE 6.—In the case of Private ——, of the 1st Battalion Suffolk Regiment, the ball struck the left malar bone and passed out at the vertebral border of the left scapula at the level of the spinous process. The ball fractured the malar bone and the lower jaw and there is now partial ankylosis of the inferior maxillary articulation.

CASE 7.—Private ——, of the York and Lancaster Regiment, was shot at Acton Homes on Jan. 20th. The entrance wound is below the outer third of the right clavicle and the exit wound at the apex of the right axilla posteriorly. The symptoms of aneurysm of the axillary artery are now present.

CASE 8.—Lance-Corporal ——, of the 2nd Battalion Wiltshire Regiment, was wounded at Colesberg. The ball entered in the tenth intercostal space in the posterior axillary line and passing through the stomach cut its way out in the middle line just below the xiphoid cartilage. He suffered from hæmatemesis for one day and had malæna for three days. The wounds were quite healed in three weeks, the exit wound being the first to heal up. When he was shot the shock swung him round, but he was able to march 1000 yards after receiving his severe injury when he was forced to lie down, feeling very sick.

CASE 9.—Private ——, of the 2nd Battalion of the Queen's Regiment, was, when lying down, struck by a bullet at Spion Kop. The bullet entered at the front of the right shoulder and emerged in the middle line of the right axilla. The brachial plexus was injured and the patient is now suffering from paralysis and loss of sensation in the hand. Both the median and ulnar nerves are affected, but especially the former.

CASE 10.—In the case of Corporal ——, of the 1st Battalion of the Border Regiment, the ball passed through the nose, the left side of the hard palate, the left tonsil, and out through the neck about six inches below and behind the ear. He was lying down when he was struck and was about 600 yards from the enemy's position at Spion Kop. The entrance wound (the scar of which can be scarcely seen) is about an inch from the tip of the nose, slightly to the right of the middle line.

CASE 11.—Private ——, of the 1st Battalion of the Border Regiment, was wounded by a fragment of shell on the right side of the head; the injury was followed by left hemiplegia which is still marked.

CASE 12.—Private ——, of the Lancashire Fusiliers, while lying down, was struck on the spine of the left scapula at the battle of Spion Kop. The ball has lodged in his body, but does not give rise to pain or inconvenience.

(NOTES FROM SIR WILLIAM MAC CORMAC.)

(Continued from p. 877.)

I arrived in Durban on my return from my second visit to Chieveley on Feb. 13th. On the following day I visited the hospital ship *Maine*. Unfortunately, Lady Randolph Churchill had that morning started off, for Pietermaritzburg, accompanied by Surgeon-Lieutenant-Colonel F. H. Hensman, A.M.S.—the senior medical officer of the ship—for the purpose of meeting her younger son, who was lately wounded near Chieveley. I was therefore unable to meet either her or the principal medical officer in charge, but the second in command (a major of the United States Army Medical Service) very kindly conducted me over the ship. Everything that could be desired for the comfort of the wounded, both from a surgical and a nursing standpoint, is to be found on this vessel. There are a large ward which can accommodate 60 patients, another for 59, and an officers' ward with 17 beds. There are a most excellent operating-room, very complete armamentarium and dispensary, and also a completely fitted x-ray room. Unfortunately, however, the ship itself is not what one could describe as suitable for a hospital. The upper deck is good, and large ports admit sufficient air, but on the lower deck the ports must often be shut. Most of the ventilation has to be carried on by electric fans (eight to every 60 patients), and there is not that sufficient cubic area or sufficient height between decks that might be expected. Lady Randolph Churchill is personally indefatigable in her attentions and kindness to the patients, as are also the entire surgical and nursing staff. Luxuries in the way of food and drink and clothing of every variety abound, practically there is nothing that "Tommy" asks for which he is not able to get, and the ship has received so many gifts in this respect that, I understand, it has become food for thought as to how these things are to be eventually disposed of. As many as 35,000 boxes of biscuits have been presented, among many other like gifts. No word could be too good for the *personnel*, the equipment, and the devoted care bestowed on the patients, but one cannot help regretting so lavish an expenditure on so inferior a hull.

After carefully inspecting the *Maine* I paid a visit to the hospital ship *Nubia*. This was my second visit to this vessel, my first having been in December last, when she was in process of being fitted up at very short notice under the direction of Captain Holland, Royal Indian Marine. This is, indeed, a beautiful vessel of nearly 7000 tons. There are ample room 'tween decks, plenty of upper deck accommodation, comfortable cots in wards, excellent convalescent cabins, good sanitation, and, in fact, after a most careful inspection, I can express nothing but the greatest admiration for the whole arrangements, and I consider that the greatest credit is due to Captain Holland and his assistants for the rapid and effective manner in which they performed the work of fitting up this ship locally at a total cost of £4500. Lieutenant-Colonel Hodder, Army Medical Service (retired), is in medical charge, and the patients enjoy the best of treatment and nursing. Captain Holland informs me that £16,000 were spent at home upon the fittings of the *Maine* and that it became necessary to spend another £1000 upon her locally on her arrival at Durban. The difference between this sum and that spent upon the *Nubia* is very noticeable.

---

[1] THE LANCET, Feb. 17th, p 485.

After inspecting the *Nubia* I and my secretary embarked upon the Union steamship *Galeka*, *en route* for Port Elizabeth, for the purpose of joining Lord Roberts at Modder River.

In connexion with this subject of hospital ships the following details, supplied to me by Captain Holland, R.I.M., are of interest. These ships have been fitted out at Durban, according to size, in from 10 to 15 days. The following vessels were fitted out by the Naval Transport Department. The *Lismore Castle*, 242 patients (21 officers and 221 men), was fitted, under much pressure, in the brief period of four and a half days; cost, £2200. The *Nubia*, 479 patients (42 officers and 437 men), was fitted in 10 days; cost, £4500. The *Avoca*, 378 patients (35 officers and 343 men), was fitted in 12 days; cost, £4000. The *Avoca* sailed for England, full, on Feb. 3rd. The cost of the same number of invalids by a mail steamer would have been approximately £10,000. Vessels such as these are much more suitable for the conveyance of invalids to England than are the mail steamers, the latter being more suitable for the accommodation of convalescents who do not require much medical attendance during the voyage.

On my arrival at Port Elizabeth on Feb. 16th the news of the relief of Kimberley by General French had just reached that place. It caused great enthusiasm in the little town. I determined to push on as rapidly as possible, and through the kindness of the traffic manager of the railway I and my secretary were enabled to start off on the same evening in a special carriage attached to a goods train. We found all the stations along the route occupied by militia detachments, nearly all the available regular troops having proceeded to the front either with General French to Kimberley or with Lord Roberts to the Orange Free State The hospital arrangements of the detachments left behind are merely those of the ordinary regimental unit, consisting of a regimental medical officer and a few hospital tents sufficient to provide for the usual percentage of cases of sickness. We reached Naauwpoort at 6 P.M. on the evening of the 17th. There were very few troops there also, General Kelly Kenny's division having moved with Lord Roberts, and along with them had gone all the bearer companies and field hospitals also We reached De Aar at midnight and pushed on at once to the Orange river, arriving there at 7.30 A.M. on the 18th. The same order of things prevailed here. A few detachments of regulars and some militia battalions only were encamped and the medical arrangements, sufficient for the local needs only, were provided for by a field hospital of the Cape Volunteer Ambulance Corps. The camp was fearfully hot and dusty, utterly devoid of grass, and dust storms prevailed to a most unpleasant extent. As our troops have been encamped in these localities for some months the sanitation is becoming a serious matter, especially as one corps relieves another very often at an hour's notice, making the difficulty of keeping the locality clean thereby much greater. We passed through Belmont and Graspan where the battles of those names were fought. These places are now, of course, on the lines of communication, and there is now nothing left to denote the fact that those fiercely contested encounters were fought there except the presence of the neatly constructed graves. The hospital arrangements all along the line from Orange river to Modder river are entirely of a local character, the idea being to convey all wounded straight through from the front by means of the hospital trains to De Aar and the other places farther down the line.

We reached Modder river about 2 P.M. on Sunday, the 18th, and were met by Colonel E Townsend, C.B., R A M C., the principal medical officer of Lord Methuen's division. The troops at Modder river at present consist of Lord Methuen's original division of 10,000 men with the accompanying proportion of field hospitals and bearer companies. Since Lord Roberts captured Jacobsdal on Feb. 14th there have not arrived any serious cases of wounds at Modder as the wounded are all being accommodated in Jacobsdal. There is no activity at Modder and a few cases of fever and dysentery only remain in hospital, so that my presence there would not be of any particular service. I therefore borrowed an ambulance wagon and, accompanied by Captain F. A. Symons, R A M C., a soldier servant, and all our impedimenta, started for Jacobsdal. We jolted across a very heavy road, forded the Modder river, and then reached a fairly level road which in some parts had even been macadamised in a modified way. About half way along we passed a deserted Free State encampment, consisting of a collection of about 20 bell tents, numbered and bearing the mark of the Free State. The tents must have been deserted in a very rapid and sudden manner. An old weary horse remained as the sole survival, quietly grubbing about amongst the short herbage for food. We completed the journey of 11 miles in three hours and I do not envy the feelings of a seriously wounded man who is compelled to travel far along one of these roads in an ambulance wagon.

On arriving at Jacobsdal we found the little square of the small town absolutely packed with bullock and mule wagons. Lord Roberts and his staff occupied the deserted house of the landdrost or chief magistrate, who had fled, and the little hotel afforded means of food supply to all comers of the commissioned ranks. The rank and file bivouacked in the open square or under the lee of the houses. I was provided with a room in Lord Roberts's house and slept there on the night of our arrival. His lordship started off with all his staff at 4 o'clock A.M. on the morning following my arrival and he persuaded me not to follow him across the open country as my services as consultant could be of no avail at the immediate front, and all the prospective wounded from the march upon Bloemfontein would be despatched to Jacobsdal and Modder river *en route* for the hospital trains. He advised me to remain at these places for a few days and then to proceed to Kimberley.

This town of Jacobsdal was only captured by us four days before my arrival. The sanitary condition is very bad indeed and I fear that disease may break out here before long unless matters can be remedied in this respect. The utmost order prevails in the town, and pickets protect the property of the late inhabitants from pillage or interference of any kind. In the square, among the many other vehicles, rests a collection of the Boer ambulance wagons. These consist of covered conveyances of all possible descriptions, and each flies a large Red Cross flag. These curious vehicles are all provided with mattresses, and although not so serviceable or clean are probably just as comfortable, if not more so, to a wounded man than our own wagons. A wonderful old stage coach and an old landau are two of the most conspicuous ambulance carriages.

The German Red Cross Society are in charge of the hospitals in the town. These hospitals consist of two churches, a school house, and four cottages, all of which fly the Red Cross and German flags. The Transvaal Government accepted the aid of this ambulance society, a similar offer having been declined by our Government. The hospital is under the direction of Dr Kuettner, who is an assistant of Professor von Bruns of Tubingen, and of Dr. Hildebrand, assistant to Professor von Esmarch. The small detached one-storeyed houses are rather ill fitted for the purpose and the walls of several of them are deeply pitted by the impact of our rifle bullets Dr. Kuettner also told me that several of our shells landed unpleasantly close to them. The patients are chiefly Boers, wounded at the battles of Magersfontein, Klip Drift, and Jacobsdal itself. A few of our officers and men were admitted yesterday from the recent engagements in this vicinity, but they will shortly be transferred to Modder river *en route* further down the line These German surgeons and their assistants have apparently been doing good work for the last three months Their medical comfort supply is now running short, particularly as their convoys from their base at Bloemfontein are now cut off by us. Their hospital will therefore in future be supplied with food materials from our medical stores In addition to the surgical hospital there is a church which is being used for medical cases, among which several typhus fever cases are present.

Affairs are on the move beyond this place in the Bloemfontein direction and nobody can say what the next few days may bring forth I append a few of the more important cases in which I interested myself which are at present lying in the hospital at Jacobsdal.

SCHOOL HOUSE.—NO. 1 WARD (16 BEDS).

1. *Injury by rock fragments.*—The patient, a Boer, was wounded at Magersfontein on Dec. 11th, 1899, by fragments of rock which were dislodged by a shell; they hit the patient in the head, causing a compound fracture of the skull To-day (Feb. 19th) a few fragments of bone were removed from the left side of the cranium over the motor area. The dura mater was found to be injured. There were also, on admission, fracture of the sixth, seventh, and eighth ribs and the inferior angle of the scapula, contusion of the left lung with emphysema of the skin and hæmoptysis, and paresis of the

right leg—not the arm. The last named symptom is now improving and the patient is convalescent.

2. *Wound of the abdomen.*—In the case of this patient, a Boer who was wounded on Dec. 11th by a Lee-Metford bullet, the entrance wound was at the ninth rib, three inches from the median line, on the left side, and the wound of exit was at the spine of the ninth dorsal vertebra on the same side about one and a quarter inches from the spinal column. The patient showed no symptoms for about 14 days, when he presented signs of a subphrenic abscess forming beneath the diaphragm. This abscess was drained from behind without resection of the rib and the man is now doing well.

3. *Wound of the abdomen.*—The patient, a Boer, was wounded at Modder river on Feb. 14th by a Lee-Metford bullet. The entrance wound was an inch behind and an inch above the anterior superior spine of the right ilium, the exit wound being an inch internal to the posterior superior iliac spine on the same side. The bullet perforated the sacrum. There were no symptoms except immediately after the receipt of the injury, when there was much pain. The patient is now doing well.

NO. 2 WARD (11 BEDS).

4. *Wound of the femoral artery.*—The patient, a Boer, was wounded on Feb. 8th by a Lee-Metford bullet. There is a wound traversing the right thigh and the femoral artery in the upper part of Hunter's canal has been injured. The limb was at first threatened with gangrene but it is now rapidly recovering. There is no sign of local aneurysm.

5. *Wound of the lung and the pleura.*—The patient, a Boer, was wounded by a Lee-Metford bullet at Magersfontein on Dec. 11th, 1899. The entrance wound was about the middle anterior border of the trapezius on the left side. Empyema of the right pleura supervened. The pleural cavity was opened up and drained and the bullet came out with the pus, being apparently free in the pleural cavity. Resection of the eighth rib in the scapular line was *performed. Hæmoptysis occurred for a few days, but no* symptoms have taken place since beyond those connected with the empyema. The patient is now convalescent.

6 *Incomplete fracture; gunshot perforation of the tibia.*—In this case the patient, a Boer, was wounded on Dec. 11th, 1899. The bullet, which entered the crest of the right tibia at the junction of the upper and middle thirds, found a point of exit posteriorly at the junction of the upper and middle thirds. It traversed the bone without causing complete fracture.

NO. 3 WARD (17 BEDS).

7. *Wound of the mouth and the lung.*—In the case of this patient, a Boer who was wounded by a Lee-Metford bullet on Feb. 14th at Jacobsdal, the entrance wound was at the tip of the tongue in the median line. The bullet came out after passing through the left lung a little below the inferior angle of the left scapula. Much swelling remains in the neck and there is hyperæsthesia in the area of the left radial nerve. There is also present hæmothorax and some hæmoptysis continues.

8 *Wound of the knee*—This was an interesting case of resection of the left knee-joint in a lad, aged 20 years. The wound, which was brought about by a shrapnel bullet at Magersfontein on Dec. 11th, 1899, caused extensive fracture. This is the only knee resection that I have seen. The limb does not appear to be in very good position, but the boy is doing well.

9. *Chest wound.*—The patient was a Boer who was wounded at Jacobsdal on Feb. 14th by a Lee-Metford bullet which caused four wounds in a transverse direction. The wound of entrance was an inch internal to the left nipple, while that of exit was an inch to the right of the right nipple. There were also two other intermediate openings, one of entrance and the other of exit, on each side of the sternum, quite close to this bone, at the nipple level. There was much hæmoptysis, which is still continuing (Feb. 19th), so probably the lung has been damaged.

10. *Wound of the patella*—This was the case of a Boer who was wounded at Jacobsdal on Feb. 14th by a Lee-Metford bullet. The entrance wound was at the centre of the left patella and the exit wound at the posterior aspect of the thigh, about four inches above the level of the articulation. There is at present a great deal of blood in the joint but there is no general disturbance and the wounds are healing.

NO. 1 COTTAGE (10 BEDS).

11. *Wound of the abdomen.*—The patient, a Boer, was wounded at Magersfontein on Dec. 11th, 1899. The entrance wound was an inch below the level of the umbilicus and slightly to the right, the wound of exit being half-way between the crest of the right ilium and the last rib, exactly in the line of the ascending colon. A fæcal abscess formed and this was followed by a fæcal fistula. The patient is steadily improving. The amount of fæcal discharge from the fistula is daily diminishing.

12. *Wound of the right temple.*—In this case, which was that of a Boer who was wounded at Jacobsdal on Feb. 14th by a Lee-Metford bullet, the entrance wound was in the right temporal region, its point of exit being through the right zygoma. The sight has been destroyed in both eyes. The patient is otherwise well.

13. *Wound of the lung.*—The patient, a private of the British Mounted Infantry, was wounded at Jacobsdal on Feb. 14th by a Mauser bullet. The bullet entered through the inner extremity of the right clavicle, which is apparently perforated without complete fracture, and emerged opposite the sixth dorsal spine three inches from the middle line on the right side. A limited amount of hæmoptysis and cough were the immediate result, but nothing else followed, and the patient is now convalescent.

NO. 2 COTTAGE (THREE BEDS).

14 *Wound of the lung and the forearm.*—Private ——, Cheshire Regiment, was wounded at Jacobsdal on Feb. 14th by a Lee-Metford bullet. The entrance wound was at the fourth rib, an inch from the sternum on the right side, while that of exit was in the mid-axillary line on a level with the right nipple. There is also a second wound of the muscles of the left forearm, paralysing the radial nerve. There were cough and dyspnœa, but no hæmoptysis.

15. *Wound of the femoral artery and vein.*—In the case of this patient, a Boer, who was wounded at Jacobsdal on Feb. 14th, a Lee-Metford bullet entered at a spot near the apex of Scarpa's triangle, wounding the femoral artery and vein and traversing the thigh. The artery and vein were both double ligatured *shortly after the receipt* of the injury and divided. Gangrene of the foot, however, has supervened and amputation of the leg below the knee will be performed to-morrow.

16. *Wound of the head and neck*—The patient, a Boer, was wounded at Jacobsdal on Feb. 14th. The entrance wound was at the tip of the nose, slightly to the right side. The bullet traversed the palate at the junction of the hard and soft portions, slightly to the left side, and emerged opposite the sixth cervical spine one and a half inches from the middle line. There is no evidence that any important structure was injured. The patient is now convalescent.

NO 3 COTTAGE (10 BEDS).

17. *Wound of the lung and the arm*—This patient was a Boer who was wounded at Jacobsdal on Feb. 14th. The entrance wound was at the inferior angle of the right scapula, that of exit being in the central line of the sternum two inches from the notch. There is a certain amount of emphysema around the exit wound, but the wound is almost healed and the patient is doing quite well. There is also a flesh wound through the left arm. There was no hæmoptysis or cough The patient is now convalescent.

18. *Wound implicating the abdomen and the thorax*—Colonel —— was wounded at Klip Drift on Feb. 16th. The entrance wound was one inch below the eighth costal cartilage on the right side three and a half inches from the linea alba in the median line. The point of exit was at the posterior border of the sterno-mastoid muscle two inches above the right clavicle. There is a fracture of the clavicle in its outer half, but this may or may not have been caused by the bullet. There is no hæmoptysis or cough, but some dyspnœa, and the patient is generally very hyperæsthetic. The bullet must have traversed the margin of the liver and the diaphragm and lung. On the 20th he had a normal temperature but there was no serious symptom and the patient only complained of the pain of the broken clavicle.

19. *Wound of the pelvis and thigh.*—This was the case of an officer in the Oxfordshire Light Infantry who was wounded at Jacobsdal on Feb. 14th. The entrance wound was one and a half inches below and externally in an oblique direction to the anterior inferior iliac spine on the left side, that of exit being at the inner side of the same thigh through the adductor longus muscle, four inches below the pubes. The vessels have escaped, but the external branch of the anterior crural nerve has been injured, causing loss of sensation.

20. *Wound of the lung.*—Private ——, Duke of Cornwall's Light Infantry (mounted infantry), was wounded by a Mauser bullet. The entrance wound was at the eighth interspace in the posterior axillary line on the left side, the bullet finding exit through the sixth rib, two inches below and external to the left nipple. There was extensive hæmothorax, but no general symptoms otherwise.

NO. 4 COTTAGE (11 BEDS).

21. *Wound of the lung.*—Private —— was wounded by a Mauser bullet at Jacobsdal on Feb. 14th. The entrance wound was at the second intercostal space, an inch to the right of the sternum, and that of exit opposite the inner border of the right scapula and two inches from its inferior angle. There was hæmothorax up to the angle of the right scapula There was no hæmoptysis or cough, but dyspnœa was present. The patient is doing well.

22. *Wound of the lung.*—The patient, Private ——, was wounded at Klip Drift on Feb. 16th by a Mauser bullet which entered opposite the fourth dorsal spine half an inch to the left of the middle line and emerged at the sixth rib in the mid-axillary line There was extensive hæmothorax but no hæmoptysis. Great dyspnœa was present. The temperature on the evening of Feb. 17th was 102° F. The patient is in a critical condition.

23 *Wound of the pelvis.*—Private ——, was wounded at Klip Drift on Feb. 16th by a Mauser bullet. The bullet entered at a point two inches below the crest of the left ilium and two inches behind the anterior superior spine and came out through the centre of the right buttock There was some tympanites. No rise of temperature There are neither fæces nor blood in the urine and no blood from the rectum. *There is no evidence of visceral injury and* the man appears to be rapidly recovering.

24. *Wound of the abdomen* —In the case of Private ——, wounded at Klip Drift on Feb. 16th, the entrance wound was close to the posterior inferior spine of the right ilium, the wound of exit being two and a half inches from the anterior superior spine on the same side in a line joining it and the umbilicus. There were tympanites and pain the temperature was 100° F. There were cough and tenderness. No serious symptoms are so far present (Feb. 20th).

25 *Perforating wound of the thorax and arm* —Lieutenant —— was wounded at Klip Drift by a Mauser bullet which entered at a point an inch to the left of the tenth dorsal spine and emerged in the mid-axillary line at the fifth rib on the right side. The bullet then traversed the upper arm outside the humerus at its middle, causing a simple flesh wound. Hæmoptysis occurred for a couple of hours *only. There was no cough or dyspnœa.* The wounds have healed and the patient is convalescent.

The wounds here noted are mainly by the Lee-Metford bullet and it will be seen that they closely resemble those produced by the Mauser bullet, the difference in weight of the two projectiles being only about three grains, the Lee-Metford being the heavier. It will again be noticed how many apparently most serious abdominal wounds are recovered from—in one of the cases mentioned above after the formation of a fæcal fistula. The chest and lung wounds are quite similar in their consequence to those of the Mauser bullet. I have now seen a very large number of cases of abdominal injury in which recovery has followed an expectant treatment and where without any reasonable doubt the intestines must have been perforated, a few in which the stomach was traversed, and two or three liver injuries. I myself entertain no doubt that in the future a perforating gunshot wound of the abdomen where from the direction taken by the bullet the intestine has almost certainly been traversed is no longer an indication of the necessity of immediate operative interference.

WILLIAM MAC CORMAC.

(FROM OUR SPECIAL CORRESPONDENT AT THE BASE.)

This has been a very busy week with everyone, as the wounded and sick from the various engagements at the front have been coming down in shoals, no less than 31 officers arriving at No. 1 General Hospital by one train. Luckily with a few exceptions the cases have been not of a serious nature; but at the same time the strain on our accommodation has been very great, as close on 100 officers alone have had to be taken in and cared for. On the Natal side it has been quite as bad if not worse, as, in addition to the number of wounded, the sick from Ladysmith have had to be accommodated. From what I can learn the majority of the cases from Ladysmith have been those of enteric fever and dysentery with a few wounded, but it will take some time before the garrison of that unfortunate city recover their normal energy. It is to be fervently hoped that any idea of still continuing Ladysmith as a camp will be strongly vetoed, especially as the sanitary surroundings are very far from satisfactory or up to date. Upon the value of its strategic position I am unable to offer an opinion, but as to its healthiness even in peace time there can be no two opinions, and the sooner it is abandoned as a military camp the better for all. The Boer prisoners have been coming down in trainfuls and are being put up on the cycling ground in Cape Town and on transports in Simon's Bay. They appeared to be a miserable, half-starved lot and seemed heartily glad to be out of harm's way and sure of a comfortable meal and a smoke.

I am sorry to say that two or three undoubted cases of bubonic plague have made their appearance in one of the transports carrying forage, the *Kilburn*, from Rosario. Immediate steps have been taken by the port officers and the ship has been removed to the quarantine ground, and all necessary precautions have been carried out. I do not at all apprehend any serious consequences, but at this time, with the harbour full of shipping, it is most unfortunate that such a *contretemps* has occurred. A great number of civilian surgeons and nursing sisters have been sent round to Natal from here, as the pressure of work there has increased to a considerable extent and their services were badly required.

The Iveagh Hospital, with Sir W. Thomson and Mr. G. Stoker, are, I believe, going up country shortly, and every vessel from England brings us more recruits for the medical service.

Sir William MacCormac and Captain F. A. Symons, R.A.M.C., left last week by the *Norman en route* for England, *viâ* Zanzibar and the Suez Canal. Sir William MacCormac's services were, of course, of the greatest value to us, and his genial manner and courtesy will cause him to be greatly missed by the officers of the Royal Army Medical Corps, with whom he was an especial favourite, not only for his well-known abilities, but for the consideration and kindly feeling which he has always exhibited towards us. A man possessing more tact and knowledge of the world it would be difficult to find, and we all trust that he will reach home safely and in good health and will be ready to aid us in our next campaign.

Several transports have left for England during the week conveying sick and wounded for Netley, and there are still a great number of officers and men waiting for conveyance. It has been the object of the authorities not to overcrowd the steamers, and nothing but *good reports have reached* us as to the accommodation and food on the voyage home. The *Majestic* arrived out last week and will, I hear, go up to Durban and thence home with a full complement of sick and wounded. Princess Christian's hospital train has gone on to Natal, as it was more required there than on this side, where we have at present three well-fitted ambulance trains running between the front and Wynberg.

The providing of a convalescent home for officers has proved to be a great boon, as it enables the hospitals to clear out those of their patients who are but slightly wounded and who are rapidly nursed and fed back to health at Claremont which has had to increase its accommodation to 60 beds during the last four weeks. I may add that there are two yachts in the harbour the owners of which have generously put them at the disposal of convalescents, sparing no expense or trouble to make their guests comfortable. *They are sumptuously* fitted and every comfort is provided, so that the wounded officer's lot is decidedly a happy one as far as Cape Town and its suburbs are concerned.

This evening we hear that the Boers are making a determined stand between Osfontein and Bloemfontein and that a big fight is coming off, so I expect our hands will be full again in a short time.

We have been having rather unusual weather for this season of the year and the rainfall has been greatly in excess of normal seasons, but *taking it all round the climate* cannot be improved upon up to the present, but later we shall not, I expect, be so fortunate, as the vicinity of the Cape during the autumn and winter is not a desirable residence for sick or wounded.

I have not touched on the subject of bullet-wounds this week, as your other correspondents keep you *au courant* with the variety of cases, but they still present the same weird characteristics as regards the courses which the bullets take.

The more one sees of them the more one marvels how these *missiles can inflict such slight injuries during their erratic* progress. After this campaign I am open to believe anything I hear about the courses of Mauser bullets as long as I am not asked to verify their stopping powers when a bone has not been struck or a vital organ reached.

March 8th.

THE HEALTH OF THE NAVY IN 1898.[1]

THE naval medical reports being almost entirely of a statistical nature are not by any means a light and lively form of literature and they lose much of their interest by not being published at an earlier date after the events to which they refer; and to the professional reader their usefulness, as it seems to us, is curtailed by their not embodying far more information of a medical character than they do. The short notes which are intercalated in the text as a sort of running medical commentary in elucidation of the figures are just sufficient to stimulate the reader's desire for more. Her Majesty's fleets go everywhere and naval medical officers have a wide and varied experience and they enjoy opportunities for gathering together a mass of instructive and interesting information such as does not fall to the lot of other men. We want to know more about the diseases and injuries from which our sailors suffer, the nature and causes of them, and the influence which climate, life at sea, and the conditions to which Her Majesty's seamen are exposed have had in their production. Something in the way of brief topographical reports descriptive of the climate, natural history, hygienic conditions, and the endemic or prevalent diseases of some of the stations visited by our naval medical officers would be of considerable and novel interest. These officers must have a good deal to write about which would not only be well worth reading but, bearing as it were an official stamp, would also be a valuable, because reliable, record of observations for future reference.

The little maps illustrative of the stations occupied by Her Majesty's fleet which are *interspersed among the leaves of the* report are, by the way, a useful feature. But we should like to see something more than a statistical report of the health of the navy, published annually, under the auspices of the naval medical bureau and compiled from reports furnished from time to time and from other data in its possession. With regard to the apparent delay in publication to which we have alluded, we recognise that this probably cannot be avoided and it is attributable to the fact that returns have to be drawn up and gathered together from various foreign stations and afterwards analysed, compiled, and compared with one another in the Admiralty at home.

The total force in the service afloat in 1898 was 82,830 officers and men. The report under notice tells us that the returns for the year 1898 may be regarded as on the whole satisfactory. The aggregate number of cases of disease and injury recorded for 1898 furnishes a ratio of 906 09 per 1000, which is an increase of 11·28 per 1000 on that of 1897, but a decrease of 60 04 per 1000 compared with the average of the previous 10 years. The increase as compared with 1897 was principally due to the East Indies station, chiefly in cases of simple continued fever, and also to an epidemic of dengue on board the *Eclipse*. The Mediterranean and the Cape of Good Hope and West Coast of Africa stations show a substantial reduction in the ratio of cases, due on the latter station to a comparative exemption from malarial fevers. The invaliding ratio of the total force was 28 86 per 1000. The death-rate was 4 91, which is slightly less per 1000 than that of 1897 and 1·94 per 1000 below the last ten years' average. This is, the report states, the lowest obtained since 1856, when these reports were first prepared in their present form. The lowest sick-rate was on the North American and West India station, and the highest on the East India station. The total number of deaths in 1898 was 407; of this number 295 were due to disease and 112 to injury. The death-rate from disease was 3·56 per 1000 and from injury 1·35 per 1000. The invaliding rate (28 86 per 1000) was lower than in 1897 but somewhat higher than the average of the last 10 years.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6824 births an 4807 deaths were registered during the week endin March 24th. The annual rate of mortality in these town which had declined from 25·8 to 20·3 per 1000 in the fi preceding weeks, rose again to 21 6 last week. In Londo the rate was 20 6 per 1000, while it averaged 22 2 i the 32 provincial towns. The lowest death-rates in the towns were 10 7 in Burnley, 14·3 in Leicester, 15·0 i Huddersfield, and 15·2 in Blackburn; the highest rat were 28·6 in Plymouth, 29 0 in Halifax, 31·3 in Liverpoo and 36 7 in Wolverhampton. The 4807 deaths in the towns included 472 which were referred to the princip zymotic diseases, against 424 and 423 in the two pr ceding weeks; of these 141 resulted from whoopin cough, 123 from measles, 91 from diphtheria, 45 fro diarrhœa, 38 from "fever" (principally enteric), 3 from scarlet fever, and one from small-pox. Th lowest death-rates from these diseases occurred last wee in Brighton, Norwich, Birkenhead, Sunderland, and Gate head; and the highest rates in Wolverhampton, Salfor Preston, and Sheffield. The greatest mortality from measl occurred in Bristol, Cardiff, Wolverhampton, Oldham Preston, and Halifax; *from scarlet fever in Bradford*; an from whooping-cough in Portsmouth, Wolverhampton, Liver pool, Bolton, and Salford. The mortality from "fever showed no marked excess in any of the 33 towns. The 9 deaths from diphtheria included 36 in London, 19 i Sheffield, eight in Leeds, and four in Leicester. On fatal case of small-pox was registered last week in Hul but not one in any other of the 33 towns. Fiv small-pox patients were under treatment in the Metro politan Asylums Hospitals on Saturday last, March 24th against numbers decreasing from 11 to five at the end of th four preceding weeks, but no new case was admitted durin the week. The number of scarlet fever patients in these hos pitals and in the London Fever Hospital at the end of th week was 1715, against numbers decreasing from 3578 t 1760 on the 18 preceding Saturdays; 170 new cases wer admitted during the week, against 154, 147, and 181 i the three preceding weeks. Influenza was certified as th primary cause of 25 deaths in London. The death referred to diseases of the respiratory organs in London which had been 378 and 391 in the two preceding weeks further rose last week to 456, but were 18 below th corrected average. The causes of 67, or 1·4 per cent., o the deaths in the 33 towns were not certified either by registered medical practitioner or by a coroner. All th causes of death were duly certified in Bristol, Leicester Bradford, Leeds, Newcastle, and in 11 other smaller towns the greatest proportions of uncertified deaths were registere in West Ham, Birmingham, Liverpool, Preston, an Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns which had declined from 31·7 to 22·7 per 1000 in the fou preceding weeks, further declined to 22·2 during the wee ending March 24th, but was 0 6 per 1000 above th mean rate during the same period in the 33 large Englis towns. The rates in the eight Scotch towns ranged from 11·8 in Perth and 14 6 in Leith to 23·7 in Edinburgh an 25·2 in Paisley. The 686 deaths in these towns include 19 which were referred to measles, 18 to diarrhœa, 17 t whooping-cough, six to diphtheria, four to scarlet fever, an four to "fever." In all 68 deaths resulted from thes principal zymotic diseases, against 92 and 63 in th two preceding weeks. These 68 deaths were equal to a annual rate of 2 2 per 1000, which was 0 1 per 1000 abov the mean rate last week from the same diseases in th 33 large English towns. The fatal cases of measles which had been 17 in each of the two preceding weeks rose last week to 19, of which 13 occurred in Glasgow, tw in Dundee, and two in Paisley. The deaths from diarrhœa which had been 25 and 18 in the two preceding weeks, wer again 18 last week, and included eight in Glasgow, five i Edinburgh, and two in Greenock. The fatal cases o whooping-cough, which had been 24 and 16 in the tw preceding weeks, rose again last week to 17, of which 1 occurred in Glasgow, three in Aberdeen, two in Edinburgh and two in Paisley. The deaths referred to diphtheria, which had been five, seven, and four in the three preceding weeks, rose again to six last week, and included three in Glasgow, and two in Greenock. The four fatal cases of scarlet fever showed a slight decline from the number in the preceding week, and were all registered in Glasgow. The deaths referred to different forms of "fever," which had been nine and four in the two preceding weeks, were again four last week, and included three in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had declined from 362 to 189 in the four preceding weeks, further fell last week to 170, but were 19 above the number in the corresponding period of last year. The causes of 32, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

---

[1] Statistical Report of the Health of the Navy for the year 1898. *Printed for Her Majesty's Stationery Office by Eyre and Spottiswoode,* printers to the Queen's Most Excellent Majesty. *Price* 1s 10d.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 36·8 and 31·2 per 1000 in the two preceding weeks, rose again to 35·2 during the week ending March 24th. During the past four weeks the death-rate in the city has averaged 34·4 per 1000, the rate during the same period being 19·3 in London and 22·1 in Edinburgh. The 236 deaths registered in Dublin during the week under notice were 27 in excess of the number in the preceding week, and included six which were referred to the principal zymotic diseases, against numbers declining from 12 to nine in the three preceding weeks; of these four resulted from diarrhœa, one from scarlet fever, one from diphtheria, and not one either from small-pox, from measles, from whooping-cough, or from "fever." These six deaths were equal to an annual rate of 0·9 per 1000, the zymotic death-rate during the same period being 1·8 in London and 1·9 in Edinburgh. The fatal cases of diarrhœa, which had been five, three, and four in the three preceding weeks, were again four last week. The 236 deaths registered in Dublin last week included 42 of infants under one year of age and 65 of persons aged upwards of 60 years; the deaths of infants and of elderly persons exceeded by eight and seven respectively the numbers recorded in the preceding week. Eight inquest cases and nine deaths from violence were registered, and 90, or considerably more than a third, of the deaths occurred in public institutions. The causes of 11, or nearly 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

The following appointments are notified:—Fleet Surgeons. G. Kirker to the *President* for three months' hospital study. Staff Surgeons: Frederick W. Stericker to the *Galatea*; V. G. Thorpe to the *Argonaut*; H. F. D. Stephens to the *Furious*; and W. J. Colborne to the Admiralty Medical Department Surgeons: S. H. Woods to the *Argonaut*; G. R MacMahon to the *Duke of Wellington*; and H. W. G. Green to Plymouth Hospital.

The announcement contained in the *London Gazette* of March 6th, 1900, of the withdrawal of Surgeon Ernest Albert Shaw, is cancelled.

THE IMPERIAL YEOMANRY.

J. Ernest Martin to be Medical Officer, with the temporary rank of Captain.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Knox, retired pay, takes over charge of Cambridge Hospital, Aldershot, and Lieutenant-Colonel J. Martin takes over medical charge of troops at the station hospital, Londonderry.

The undermentioned officers are borne as supernumerary whilst serving with the Royal Army Medical Corps in South Africa:—

YEOMANRY CAVALRY.

Middlesex (Duke of Cambridge's Hussars): Surgeon-Captain C. Stonham.

VOLUNTEER CORPS.

Royal Engineers: 2nd Cheshire (Railway): Surgeon-Lieutenant J. R. Atkinson. 1st Flintshire (Buckley): Surgeon-Major R. T. O'Callaghan. *Rifle:* 2nd Volunteer Battalion the East Lancashire Regiment: Surgeon-Captain A. A. Watson. 4th Volunteer Battalion the East Surrey Regiment: Surgeon-Major E. J. Lawless. 2nd Volunteer Battalion the Royal Sussex Regiment: Surgeon-Lieutenant G. Black. 2nd Volunteer Battalion the South Staffordshire Regiment: Surgeon-Captain J. K. Butter. 3rd Volunteer Battalion the South Staffordshire Regiment: Surgeon-Captain C A. MacMunn. 1st Volunteer Battalion the Durham Light Infantry: Surgeon-Lieutenant A. E. Morison. 1st Sutherland (the Sutherland Highland): Surgeon-Lieutenant J. K. Tomory.

Memorandum.—The undermentioned officer is borne as supernumerary whilst serving with the Volunteer Battery in South Africa:—1st Northumberland Volunteer Artillery (Western Division, Royal Garrison Artillery): Surgeon-Captain J. Wreford.

VOLUNTEER MEDICAL STAFF CORPS.

The London Companies: Surgeon-Lieutenant E. W. Herrington. The Manchester Companies: Surgeon-Lieutenant J. W. Smith.

MILITIA MEDICAL STAFF CORPS.

Herbert Ernest Dalby to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Artillery: 1st Ayrshire and Galloway: The resignation of Surgeon Captain D. Lawrie, which appeared in the *London Gazette* of Jan. 5th, is cancelled; Andrew Young to be Surgeon-Lieutenant. 1st City of London (Eastern Division, Royal Garrison Artillery): Surgeon-Lieutenant A. Allport to be Surgeon Captain. 2nd Glamorganshire: Surgeon-Lieutenant R J. R. C. Simons to be Surgeon-Captain; Ashley Bird to be Surgeon-Lieutenant. *Rifle:* 8th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Lieutenant R. C. Macdonald resigns his commission. 1st Volunteer Battalion the Buffs (East Kent Regiment): Charles Kessick Bowes to be Surgeon-Lieutenant. 3rd (Dumfries) Volunteer Battalion the King's Own Scottish Borderers: Surgeon-Captain W. D'O. Grange to be Surgeon-Major. 3rd Volunteer Battalion the Welsh Regiment: Lieutenant Alfred William Sheen resigns his commission, and is appointed Surgeon-Lieutenant. 2nd Volunteer Battalion the Queen's Own (Royal West Kent Regiment): Surgeon-Captain H. W. Roberts to be Surgeon-Major. 5th Volunteer Battalion the Durham Light Infantry; John Arthur Kendall to be Surgeon-Lieutenant. 18th Middlesex: Surgeon-Lieutenant E. MacW. Bourke to be Surgeon-Captain.

FIELD-MARSHAL SIR DONALD STEWART.

Death has been very busy of late among the ranks of old and distinguished officers. Members of both the army medical services will have heard with great regret of the death of Field-Marshal Sir Donald Stewart at Algiers. The late Sir Donald Stewart had a long and very distinguished career in India where he most deservedly enjoyed a great reputation in his military capacity and one almost equally eminent as an official of strict integrity, sound judgment, and tact. Of his military career in India and his services in the field there is no need to speak, or of the unselfish and generous way in which he stepped aside in favour of Sir Frederick, now Lord, Roberts during the Afghan War before the march of the latter to Kandahar, for these things are well known. Sir Donald Stewart was Commander-in-Chief in India, in which post he was both very popular and highly respected, and at the time of his death he was the Governor of Chelsea Hospital. We may incidentally mention that one of his daughters was married to Surgeon-Major Davies of the Army Medical Department, who died while serving in India, and that this lady subsequently married the eldest son of the late Sir William Jenner, now Sir Walter Jenner, an officer of the 9th Lancers and a member of the Staff College.

TRANSVAAL WAR NOTES.

At a meeting held in Aberdeen on March 22nd, under the presidency of Lady Aberdeen, it was reported that over £877 had been collected in the district for the establishment of a base hospital at Cape Town.

Among the subscriptions received for the Imperial Yeomanry Hospital is one of £2000 collected by Lady Harris.

The West London Hospital has placed at the [illegible] of the War Office a new ward capable of [illegible] Funds are urgently [illegible] bed[illegible]

The City of Rome [illegible]

March 23rd. She brought 232 invalids from South Africa to the Royal Victoria Hospital, Netley. The *Dilwarra* arrived with 18 invalids for Netley on March 26th.

TRANSVAAL WAR CASUALTIES.

Died from Disease.—Major James Minniece, R A.M.C., died from enteric fever at Pietermaritzburg on March 17th. Lieutenant Hall, Volunteer Medical Corps, died at Mooi river on March 20th.

The following gentlemen have joined the Army Medical School, Netley, as surgeons on probation for the Royal Army Medical Corps: A. E. Hamerton, M R C S. Eng., L R C.P. Lond., Leeds; C. H. Straton, M R.C S Eng., L.R.C.P. Lond., St. Mary's Hospital; E. P. Sewell, M.B, B C. Cantab., Cambridge University and St. Bartholomew's Hospital; and T. H. Stevenson, M.B., C.M. Edin., Edinburgh University and Queen's College, Belfast.

Sir James Reid, Bart., K.C.B., has relieved Deputy-Inspector-General H. C. Woods, M.V.O., of the Royal yacht *Victoria and Albert* in medical attendance at Windsor Castle.

Correspondence.

"Audi alteram partem."

"THE DEFECTS OF THE MIDWIVES BILL."

To the Editors of THE LANCET.

SIRS,—On reading my address to the Islington Medical Society in THE LANCET of March 24th on the Defects of the Midwives Bill I find I have not defined with sufficient clearness the view of the General Medical Council as to the suggestion that the midwife in cases of abnormality or danger shall be required to send for a medical practitioner. The Council does strongly insist on this point. But it does not go on—as I do and as the resolutions of the Islington Medical Society do—to urge that the County Council as the local licensing and supervising authority should be required to appoint medical men to whom the midwife can apply in such cases. *The Midwives Committee of the General Medical Council* did make this suggestion in 1898, but the General Medical Council thought it involved a financial point beyond its province and simply passed the following resolution:—

> That the regulations under which licensed midwives are required to practise should include provisions securing that the midwife shall immediately seek qualified medical assistance in every case which presents symptoms of difficulty, abnormality, danger, or disease on the part of the mother or the new-born infant.

I am still of opinion that unless the Bill empowers county councils to appoint and pay medical practitioners to respond to the calls of the new midwife, with powers of recovering cost where practicable, she may often find herself in painful circumstances, or the medical profession will often have to supply gratuitously the defects of her service.

I am, Sirs, yours very truly,
J. G. GLOVER.
March 24th, 1900.

THE ORGANISM (?) OF RHEUMATISM.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 17th there are three papers on Acute Rheumatism of great interest. I therefore take the opportunity of pointing out that in 1891 I described in THE LANCET an organism which I had found present in the blood in patients suffering from acute rheumatism. My observations tend to corroborate the opinion expressed by Dr. A. E. Garrod that "the infection of acute rheumatism lingered on." I have observed in cases under my care that the organism continued to be present in diminished quantity—sometimes for a week or ten days after the pain and fever had subsided—and in those cases have continued the administration of the salicylate until the blood was quite free from the microbe. I have also treated cases of acute rheumatism with drugs other than salicylates and have found that whereas the administration of salicylate of soda has caused a marked diminution of the microbe in the blood examined within a comparatively few hours, the other drugs used have had apparently no effect, and in the same patient after being treated with bicarbonate of potash, antifebrin, antipyrin, &c., without effect, a few doses of salicylate would cause the rapid disappearance from the blood of
the rheumatism microbe. As my previous observa
THE LANCET passed quite unnoticed, and as I think
a very valuable guide in the treatment of acute rhe
by the observation of the blood both as to progn
treatment, I should, under your supervision, be gla
my results to the following test to prove the
ness of the discovery. Will Dr. Garrod or Dr. M
whose names would put the matter beyond suspici
me, say, half-a-dozen cover-glass preparations o
drawn indiscriminately from patients suffering fro
rheumatism (with fever) and also some from
patients? I will undertake to examine the slides
them which are the cover-glass preparations fr
healthy cases and the ones from the rheumati
patients. The slides to be all numbered unknow
in the presence of an independent witness. Being
general practitioner fond of the microscope I have
opportunity of bringing my work before the profess
in this case I consider the results of such genera
that I venture to make them prominent. Of cour
quite aware that it is one thing to find a microbic o
constantly present and another thing to cultivate i
and reproduce the disease; the latter is for obvious
impossible, and the former a very difficult and perh
an impossible matter; but it is quite sufficient for our
to find the organism in the blood increasing and d
pari passu with the disease.

I am, Sirs, yours faithfully,
EDWARD F. C
The Hall, Southwick, Sussex, March 17th, 1900.

A NOTE AND CRITICISM ON OPERA FOR THE REMOVAL OF STONE FROM THE BLADDER.

To the Editors of THE LANCET.

SIRS,—When surgeons publish their cases in the
journals, and especially when in so doing they make
statements as to the merits of one surgical proce
compared with others, they should be very careful
recommending wrong procedures they do grave mis
misleading others. The chief object that should pr
to publish our cases is that of teaching others and
our most recent experience before the world.
admitting that the profession at large owes
to the general body of hospital surgeons who g
results of their experience to their less fort
placed brethren, I fear that sufficient care is not t
prevent the publication occasionally of wrong princi
fear, also, that we refrain too often from the unco
task of refuting wrong principles and wrong teachin
we see them published.

In the Mirror of Hospital Practice at page 1
THE LANCET of Nov. 11th, 1899, is published t
lowing: "A Case of Calculus Vesicæ in a Man
53 years; Suprapubic Lithotomy; Bladder S
Catheter Tied in for 12 Days; Uninterrupted Rec
It appears that this patient was admitted to hosp
Sept. 25th. He was subjected to suprapubic lithot
Oct. 5th, an incision three inches long being made
linea alba. A soft rubber catheter was tied in and lo
for 12 days. The calculus weighed 38 grains. The
was discharged quite well on Oct. 28th, having been
month under treatment. In the paragraph introdu
record of the case the statement is made that the tr
of calculus of the bladder is at the present time in a tr
stage—a statement that I feel sure those who have ha
experience in vesical surgery will not admit. The w
the paper under reference, after recounting that 4
ago the lateral operation was acknowledged to be th
relates how lithotrity came with all its improvement
cially those of Bigelow, and later its extension to c
by Keegan and the manufacture of larger and s
lithotrites which made it possible for the surgeon
with success with any stone of whatever size or m
Then comes the portion of the paper to which I ta
grave exception: "More recently still there has been a
of the high operation of lithotomy. ...... And now th
of wounding the peritoneum, &c, has been almost b
. . . .. it is not improbable that this operation will in man
replace the crushing method; there are many argument
favour, &c." This teaching is as retrograde as it we

be. If a particular surgeon for want of experience in the use of a lithotrite or for want of the needful instruments or other cause is driven to adopt a cutting instead of the crushing method in removing a stone from the bladder in a *simple case* he has committed a sufficient surgical indiscretion without adding to it by publishing the case, and perhaps leading astray some other inexperienced surgeon situated similarly to himself.

If the above case had been subjected to litholapaxy the operation in skilled hands would have occupied a few minutes only—five at the outside. The patient would have been saved the danger, pain, and inconvenience of a wound; he would have avoided the necessity and pain of having a catheter tied in his urethra for 12 days; he would have been up and about and able to walk to his home within probably three days from the operation; he would have been subjected to an operation the mortality from which in cases so simple is almost *nil* instead of one which has a considerable mortality under even the most favourable circumstances; and he would have recovered from his malady with a normal and uninjured bladder instead of having a rigid cicatricial band in it at a part where every fibre should be capable of contraction for the proper physiological function of the organ. These advantages are very real and very important; they are such that they place the operation of litholapaxy for all cases of stone in the bladder where the conditions are suitable first and all cutting operations nowhere.

I now come to another point illustrated by this paper—viz., the relative merits of lateral and suprapubic lithotomy when one of them is necessary. Lateral lithotomy has recently been referred to on more than one occasion as difficult. Surely the difficulty is mythical. Lateral lithotomy is the safer operation of the two if the mortality following it is considered. In the majority of cases when the bladder is sutured after the high operation immediate or first intention union fails to occur, and then the urine trickling over the patient's body irritates the skin and is most inconvenient. The suprapubic method fails completely to drain the bladder as the perineal method does, and this necessity of complete drainage is one of the most important of those exceptional causes which occasionally render a cutting operation preferable to crushing.

Lastly, in lateral lithotomy the incision in the bladder is made in its fixed part and the subsequent cicatrix cannot interfere with its complete contraction for the expulsion of its contents, as a high cicatrix and especially an adhesion, may do. The suprapubic operation has one advantage, and one only, over the perineal—that it enables an inspection to be made of the base of the bladder and would admit of the simultaneous removal of a tumour of the bladder or a projecting lobe of the prostate, but cases like this are rare and would in all probability reveal themselves by special symptoms, careful sounding, and rectal examination.

Mr. T. Vincent Jackson, in THE LANCET of Jan. 6th, 1900, p. 27, after an experience of one case of suprapubic lithotomy, a selected case in a boy, aged eight years, in his remarks criticises "the rather too dogmatic and *doctrinaire* tone adopted by those who so strongly and almost as partisans advocate the modern method of treating stone in the bladder (lithotrity)." I notice these remarks here because I feel that it is possible that they may exercise a baneful influence by encouraging inexperienced surgeons to adopt this method of operating rather than litholapaxy. I can assure Mr. T. Vincent Jackson—and in this I feel sure that I shall be borne out by every surgeon of experience in this line—that it is impossible to be too dogmatic in advocating the advantages of litholapaxy over lithotomy. I hold that to subject a patient with a stone in his bladder, if uncomplicated, to a cutting operation, and particularly to suprapubic lithotomy, is retrograde surgery and might reasonably be condemned in stronger terms.

I am, Sirs, yours faithfully,
J. A. CUNNINGHAM, M.D. R.U.I., Major, I.M.S.,
Medical Officer in Charge, Civil Hospital, Delhi
March 7th, 1900.

⁂ That lithotrity as now practised is the most speedy and the safest operation in nearly every case for the removal of a calculus from the urinary bladder all surgeons will agree, but we gather from our correspondent's letter that he is opposed to the high operation of lithotomy under any circumstances. In this opinion we cannot concur; in a small proportion of cases, especially when the prostate is greatly enlarged, the suprapubic operation offers greater facilities to the surgeon for the removal of the stone than does lithotrity, and especially the surgeon is enabled at the same time to inspect the prostatic tumour and to judge of its suitability for operative treatment. The risks of suprapubic operation are now very much less than they were, and the difficulty of drainage has been fully overcome.—ED. L.

THE CONNEXION BETWEEN FEEDING AND CANCER.

To the Editors of THE LANCET.

SIRS,—Hippocrates, the father of medicine, who died 361 B.C., taught that disease might be treated by medicine, by surgery, and by diet. Medicine has had a fair trial and has been in late years almost supplanted by surgery; but there are not wanting signs that the time is fast approaching when diet will be studied as it should be and then even the surgeon will have comparatively little to do. Hitherto it has been a rare occurrence for a physician to call attention to the question of diet and still rarer for a surgeon to do so; but now both physician and surgeon do not hesitate to enter the ranks of dietetic reformers. The last to join the pioneers of the profession is Sir William Banks who, lecturing before the Medical Society of London on Cancer of the Breast, says that as the result of his researches he concludes that over-feeding is the predisposing cause of cancer; and he attributes the increase of cancer to the more general consumption of butcher's meat, the use of which has increased enormously during the last 30 years. Physicians have long taught that gout was the direct result of over-feeding and if their warning were listened to what a fell disease would be banished from our midst. Some physicians have ventured to assert that over-feeding is also the predisposing cause of all our epidemic diseases, lowering the vitality and making us an easy prey to the various bacteria which give rise to such diseases. Now that a surgeon of such eminence as Sir William Banks, after a life study of cancer, with the accumulated wisdom of close observation, has come to the conclusion that the change from the simple food of our forefathers to the highly concentrated food, more especially the fleshy food of the present day, is the cause of that dreaded disease from which in the majority of cases even the unsparing knife of the surgeon cannot save us, may we not hope that the medical profession will in these latter days turn its attention to diet, and under the guidance of Hippocrates, who has left an excellent treatise on the subject, enter upon a crusade against all foods which are known or can be proved to produce disease in man?

I am, Sirs, yours faithfully,
JOHN HADDON, M.A., M.D. Edin.
Hawick, N.B., March 26th, 1900.

To the Editors of THE LANCET.

SIRS,—Everything that tends to clear up the etiology of cancer must be of profound interest to the medical profession. But I think it may well be asked if the impressions—or would it not be better to say guesses—of even the most eminent observers do not as much hinder as promote our knowledge. Especially is this when, as in the case of Sir William Banks and Sir James Sawyer, an attempt is made to blame the consumption of meat for an increase in the cancer rate; without a single experiment or any statistics tending to show that a meat diet produces cancer, or apparently without any regard to the concurrent alterations in the habits of the people. Assuming the fact that cancer in the male is on the increase, is there not more reason to suppose with Mr. Hutchinson that it is due to increased longevity (to which, it is true, increased nourishment may assist) rather than to the increased use of meat? Upon this hypothesis might not Sir James Sawyer's observation that cancer has increased, especially amongst the masses, be explained—viz., that the masses now more often attain to old (or the cancer) age? I would submit that all the evidence at our disposal suggests that the supposed increase of cancer is due, first, to more accurate diagnosis, or at least certification, and secondly, to increased longevity.

I remain, Sirs, yours faithfully,
W. GILCHRIST BURNIE.
Bradford, March 25th, 1900.

"LEAD POISONING IN THE POTTERY DISTRICTS."

To the Editors of The Lancet.

Sirs,—The article on the above in The Lancet of March 24th, page 879, is somewhat one-sided and inaccurate in one particular (conditions so rarely to be attributed to The Lancet)—inaccurate as the Dr. Armitage—not Armytage—is J. A. Armitage of Wolverhampton and not F. F. Armytage; one-sided as the remarks made by Dr. Lewis Jones only are reported, thus leading your readers to conclude that what he had to say was the most important communication made. From a practical point of view such was not the case, the bulk of his paper being taken up by what anyone acquainted with the rudiments of electricity could learn for himself by reading a good work on medical electricity. Dr. Armitage's paper was made up of clinical material and was a description of the successful treatment of about 40 cases of lead poisoning of varying degrees of severity—one being a case of hemiplegia—and from a standpoint independent of a "current main," the source of the current being Leclanché cells, in contrast to the alternating current as used and recommended by Dr. Lewis Jones, though at a later stage in the treatment he also used the current from an induction coil. Patients were first of all treated by a general bath, both mono- and dipolar methods being used, and for local paralysis local applications with large carbon electrodes. Moreover, the meeting was really called to hear the results of the treatment of the cases under his care, seeing that they were all sent from the Potteries, one very intractable case only having been latterly under Dr. Jones's treatment at St. Bartholomew's Hospital, the result being admitted by Dr. Jones to be unsatisfactory. The discussion turned mainly upon Dr. Armitage's paper, as was to be expected from its clinical character, and as far as could be gathered from the local practitioners present—and who were primarily interested—they are indebted to him for bringing the electric bath treatment before them, and especially for the recital of so many successful cases, encouraging them thereby to put into practice his suggestions—the method being described explicitly and in detail, the appliances in the way of a bath and Leclanché's cells being available to all of them. Of the five, besides the authors of the papers, who took part in the discussion, three only are mentioned, the names of Dr. A. M. McAldowie and Dr. Allan being omitted.

I am, Sirs, yours faithfully,

Longton, March 26th, 1900. C. M. Allan.

THE FORMS AND SIGNIFICANCE OF PROTEIDS IN THE URINE.

To the Editors of The Lancet.

Sirs,—Professor Halliburton, in the remarks with which he concluded the discussion on the Forms and Significance of Proteids in the Urine at the Pathological Society of London on March 20th,[1] referred to a paper which I had read earlier in the evening. With your kind permission I should like to say a word in reply to Professor Halliburton's criticisms of my contribution. I quite fail to see how the pus present in the unfiltered urine of one of my cases could affect the results in the other seven. Albumoses were sought for in most of the urines that I examined but were found in very few and then only in small quantities. With regard to the processes which I employed for separating the proteids from the urine, I admitted in my paper that they were not *absolutely* accurate, but I am unacquainted with any other methods which would give more accurate results and could have been employed on the large scale I required. It was only after numerous preliminary experiments that I decided that Devoto's ammonium sulphate and Hammartein's magnesium sulphate methods, with due precautions, would be the most suitable.

I am, Sirs, yours faithfully,

P. J. Cammidge.

The Medical School, Leeds, March 24th, 1900.

---

[1] The Lancet, March 24th, 1900, p. 853.

NOTES FROM INDIA.

(From our Special Correspondent.)

The Plague in Calcutta.—Mortality Statistics for Bombay.—Plague Statistics for India.—The Protection of Simla.—Four and a half Millions on Famine Relief.—Inoculation against Typhoid Fever.

Calcutta is at last attacked by plague in real earnest. The epidemic has been developing since January and now for the week ending March 3rd 481 cases have been recorded. I understand that during the past few days a still further development has taken place and that about 100 cases a day have been returned. All the theories about subsoil water, malaria, and the character of habitations are now cast to the winds. The rate of general mortality is over 75 per 1000 per annum. The disease is chiefly prevalent in the northern parts of the city, but the most recent reports show that it is beginning to spread to other districts. There is co-existing a certain amount of cholera and to a slight extent small-pox, but it may be said that at the present time the whole of the excess mortality is due to plague. Compared with Bombay, however, the figures of plague and general mortality are comparatively small. Bombay with a population of 821 000 and 2635 deaths last week has a death-rate of over 167 per 1000 per annum; Calcutta with a population of 650,000 and 947 deaths last week has a death-rate of only 75 per 1000 per annum. In Bombay there is also raging an epidemic of small-pox which accounted for 269 deaths last week.

The plague returns for Bombay are absurdly low. There is an excess of deaths above the normal of over 2000, and yet we only find 700 deaths returned as due to plague. During the existing small-pox outbreak there have been over 2000 deaths due to this disease. On the other hand, the cost of plague has probably been during the same period over 20,000 lives. Although it is almost too late in the epidemic to have much effect it is satisfactory to find that over 4000 persons continue to be inoculated weekly, and that the total number who have been inoculated since Sept. 1st last is over 120,000. Compare this with Calcutta, where I am informed that beyond the plague workers there is practically no inoculation carried on at all. It is perhaps fair to add that no inducements seem to be held out in Calcutta for the people to be inoculated. As far as can be judged from previous outbreaks Calcutta has not yet attained the maximum of mortality for its present outbreak, whereas Bombay at the present moment may be said to be passing through those few weeks which *form* the fluctuating summit of high mortality for every outbreak. Statistics in both cities are very faulty, but the following rates of mortality in Bombay are interesting:—

	Per 1000 per annum		Per 1000 per annum.
Low Caste Hindus	383	Eurasians	84
Mohammedans	165	Parsees	44
High Caste Hindus	186	Europeans	32
Native Christians	140	Jews	31
Brahmins	103		

There is not much doubt, judging from these figures, that the rate for low caste Hindus is too high and for Mohammedans too low.

The plague statistics for the whole of India show for the week ending March 3rd 3363 deaths against 3184 in the previous week. It has already been shown how false are the returns for Bombay and how they under-estimate the mortality from plague. The same remarks apply probably to nearly all other places with the possible exception of Calcutta. There the system of recording adopted accounts for very probably the whole of the deaths from plague. In Karachi there has been a rise from 12 deaths to 47. In the Bengal Presidency there were 1936 deaths against 1905. The disease is said to have appeared in Aden and plague nurses have been despatched for service there. All arrivals from that port are said to be quarantined.

The great precautionary arrangements for the protection of Simla against plague which were in force last year are to be re-introduced with the advent of the Government establishments from March 15th. Medical inspection at Kalka will be rigid and road inspection posts will also be re-established. The special health officer is instructed to pay particular attention to the bazaars, to ascertain the cause of every death, and to take all precautions in case of death or sickness from suspicious causes Special arrangements are ordered for the surveillance of officers, clerks, and servants connected with the offices of the Government of India and their families and dependants. For 10 days after arrival at Simla all will be under observation by the local medical staff.

In addition to this increase of plague at nearly every place previously attacked India has the burden of a terrible famine. There has been a recent increase of 120,000 persons on relief and the total at the present time exceeds 4,500,000. The increase has chiefly been in the Bombay Presidency, in the Rajputana State, and in the Central Provinces.

I understand that 27 members of the first detachment of Lumsden's Horse were inoculated against typhoid fever and suffered the necessary inconvenience thereof during the first week of their voyage. From recent reports from South Africa it is a pity that a larger number were not protected, but their destination will fortunately be away from the dangerous quarters of Natal.

March 6th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Country Hospital for Chronic Diseases of Children.

THE first annual meeting of those interested in the above-named institution was held at the Town-hall on March 19th under the presidency of the Lord Mayor. The honorary treasurer submitted the financial statement, showing a credit balance of £124 on the current account and £1122 on the new building fund. The committee were looking out for a suitable site for the proposed new hospital. At present the pro-hospital is situated at West Kirby, 22 beds having been rented in the Children's Convalescent Home. As the present conditions were entirely inadequate to meet the applications for admission the committee looked for increased public support to enable them to erect a building capable of accommodating at least 200 beds. The Children's Country Hospital did not enter into competition with any existing charitable institution. It had functions of its own, such as the prolonged treatment necessary to afford cases a chance of recovery which could not be obtained in the general hospitals owing to the requirements of acute cases. It was not a cripples' home, a home for incurables, or a convalescent hospital. The hospital would become a valuable accessory to the city hospitals, two of which had received nominations to the first free beds from generous donors. Each cot now costs £25 a year, or under 10*s.* a week. A charge of a few shillings a week was made, the hospital supplying the difference. For the totally necessitous, the committee had appealed to the public for £25 a year to enable appropriated beds to be provided absolutely free to deserving cases. This appeal has already borne some fruit.

Formalin in Milk: Prosecution at the Police-court.

At the police-court last week a local dealer was prosecuted for having sold milk to which had been added formalin as a preservative. Mr. Collingwood Williams gave evidence to the effect that he had analysed the sample of new milk and found that it contained formalin. When introduced into milk formalin had the effect of retarding decomposition, and the sample in point remained uncurdled for a day longer than did ordinary milk. Professor Boyce of University College also gave evidence to the effect that the presence of formalin in milk was most injurious to the process of digestion and also to the mucous membrane of the stomach, which he had discovered by experiments on a large scale. The addition of formalin to milk also fostered such organisms as the bacillus enteritidis. The defendant, in admitting the offence, pleaded that the use of this preservative was necessary in the poor quarters where his business was carried on, as the milk was kept in the living apartment, in consequence of which it quickly became sour. The case was adjourned *sine die* upon the defendant undertaking to forego the use of formalin in future.

The Proposed Liverpool Branch of the National Association for the Prevention of Tuberculosis.

A meeting of members of the medical profession and others was held at the Medical Institution on March 21st to discuss a proposal to form a Liverpool branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis. A deputation, including Dr. E. W. Hope, the medical officer of health, and Dr. Nathan Raw, who had been chiefly instrumental in bringing the subject forward in Liverpool, was chosen to approach the Lord Mayor with the request that he should call a town's meeting to inaugurate the scheme.

The New Assistant Medical Officer of Health.

Arthur A. Mussen, M.D. Dub., D.P.H. Cantab., has been appointed assistant medical officer of health in the room of Dr. E. P. Manby, resigned. Dr. Mussen had filled a similar post at Huddersfield for 18 months.

The Foundation of a Colonial Fellowship in the School of Tropical Medicine.

A colonial fellowship of the value of £100 a year for five years has been endowed in connexion with the Liverpool School of Tropical Medicine. The generous benefactor, who wishes to remain anonymous, has stipulated that the fellowship shall only be awarded to a graduate or student of a colonial university desirous of studying bacteriology in the Thompson-Yates laboratory.

March 27th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Student Volunteers.

ON Wednesday, March 7th, a rather unusual occurrence took place in St. George's Hall, Newcastle-on-Tyne. At 3.30 P.M. 45 of the medical students of the Durham University College of Medicine marched in order under the command of Lieutenant Fullerton to St. George's Hall, where they were met by 60 students from the Durham College of Science, the united bodies being enrolled as a separate company in the 3rd Volunteer Battalion Northumberland Fusiliers (the "Fighting Fifth") under the charge of Colonel Downing. This occurrence is very unusual from the fact that the men selected their own officers and were accepted as a complete company by Colonel Downing.

University of Durham College of Medicine: Interesting Presentation to Dr. F. Page.

On Friday, March 23rd, the students of the Newcastle-on-Tyne Royal Infirmary and of the University of Durham College of Medicine entertained Dr. Frederick Page to dinner in the Hotel Métropole, Newcastle, Professor Philipson, the President of the College of Medicine, occupying the chair. About 80 guests were present, including the entire medical staff of the College of Medicine and of the Royal Infirmary and many past students. After the usual loyal and patriotic toasts, Dr. Nathan Raw, in proposing the health of Dr. Page alluded to his retirement from the hospital. Dr. Page, he said, had been not only a teacher but a friend to the students and he ranked as one of the most skilful surgeons in the country and was an ornament to his profession. The presents consisted of a candelabra, six candlesticks, and three fruit dishes, all of silver, and were given to mark the esteem and respect of the subscribers upon the occasion of Dr. Page's retirement from the position of surgical lecturer. The inscription on the testimonial reads as follows: "Presented to Professor Page by the past and present students of the University of Durham College of Medicine on his retirement from the post of Honorary Surgeon to the Royal Infirmary, Newcastle-upon-Tyne, March 23rd, 1900." Dr. Page, who, on rising, was greeted with prolonged applause, made an eloquent reply, regretting the necessity of abandoning work that he loved. The health of Dr. Ranken Lyle was proposed by Mr. Stanley Raw who welcomed him on behalf of the students as the successor of the late Dr. Nesham in the chair of Midwifery and said that Dr. Lyle had already ingratiated himself and won the respect and regard of the Newcastle students as he had previously done at the Rotunda Hospital, Dublin.

March 27th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Church of Scotland Deaconess Hospital.

ON March 21st the fifth annual meeting of friends and contributors to the Church of Scotland Deaconess

(Lady Grisell Baillie Memorial) Hospital was held in the hospital, Mr. W. T. Maxwell of Munches being in the chair. The annual report, which was read by the convener of the hospital board of management, stated that the number of patients treated during the past year was 323, as against 333 during 1893. The average daily number under treatment was 22. The number of patients treated since the opening of the hospital in 1894 was 1453 The accommodation available for patients consisted of 24 beds and four cots for children. The number of visits paid by the district nurses during the year was 3733, the average daily number of visits paid being from 18 to 20. The maternity cases which were attended numbered 33 The total sum received for upkeep during the year amounted to £1577 12*s*. 6*d*., while the total expenditure had been £1409 11*s* 7*d*., leaving a balance in hand of £168 0*s*. 9*d* The average cost per bed had been £41 12*s*. The board had offered four beds to the War Office for invalided or wounded soldiers from South Africa. The convener also alluded to the fact that the physician to the hospital, Dr. Francis Boyd, had been appointed to the staff of the Scottish South African Hospital. Professor Sir William Turner moved the adoption of the report.

The late Dr. R. H. Gunning.

The name of Mr. Robert Halliday Gunning, M.D., LL.D., Edin., whose death took place in London on March 22nd, is one which is tied by many links to Edinburgh. Dr. Gunning became a Licentiate of the Royal College of Surgeons of Edinburgh in 1839 and graduated as Doctor of Medicine in the University of Edinburgh in 1846. He always showed a very great interest in the University and was the founder of the "Gunning Victoria Jubilee Prizes" in the Faculty of Medicine. These Gunning prizes consist of 11 post-graduate prizes of £50 each. In recognition of his public services, the University conferred on him the title of Doctor of Laws.

Maternity Hospital for Dundee.

At a meeting of the directors of the Dundee Royal Infirmary on March 22nd it was intimated that the buildings for the Diseases of Women and Maternity Hospital which had been erected in the Infirmary grounds, were now completed and were practically ready for occupation. As regarded the finances of the hospital the Forfarshire Medical Association had obtained £5000 towards that object from the trustees of a large bequest. Subsequently other £5000 were raised by public subscription and then Mr. J. K. Caird, Dundee, most generously undertook to erect the whole buildings at his own expense; so that the £10,000 previously subscribed is available for endowment purposes. The buildings are believed to have cost from £7500 to £8000. Mr. Caird in handing over the buildings to the care of the infirmary directors intimated that he would give a further donation of £1000 towards the furnishing of the wards of the hospital.

The Edinburgh and East of Scotland South African Hospital.

On March 22nd the staff of the Edinburgh and East of Scotland Hospital for South Africa were inspected in the quadrangle of the old University, Edinburgh, by General Chapman, C.B., commanding the troops in Scotland. The staff left Edinburgh from the Caledonian Station on March 23rd, and received a most hearty send-off both from crowds in the public thoroughfare and from hundreds of people who had been admitted to the railway station by ticket.

The Scottish National Red Cross Hospital.

The first section of the Scottish National Red Cross Hospital, consisting of 100 beds, will be despatched to South Africa about the middle of April, if the Government can provide transport at that date. The surgeon-in-charge is Mr. Henry Olark, senior surgeon to the Glasgow Royal Infirmary, with Dr. J. Luke of the Glasgow Royal Infirmary as second surgeon. The six nursing sisters of the Army Nursing Reserve will be superintended by Miss Shannon, night superintendent at the Western Infirmary. This section of 100 beds will, on the advice of the Director-General of the Army Medical Service, be constructed in the form of tents of the tortoise pattern.

University of Aberdeen.

The Lizars Gold Medal in Anatomy has just been awarded to Miss J. O. Macleod, LL A, Roseneath, Aberdeen, being the first time in the history of the University that this distinction has been won by a lady student. Miss McLeod has also gained the vacant Mather (medical) bursary.

Aberdeen City Hospital.

The town council of Aberdeen have appointed Councillor William Boddie, J.P., as chairman of the City Hospital Committee in succession to Councillor James Fraser who recently died suddenly in one of the baths at the Corporation Baths, Aberdeen sea-beach.

Aberdeen Medical Staff Corps.

There are now 150 of all ranks of the Aberdeen Company Volunteer Medical Staff Corps which is in excess of the authorised establishment—namely, 133. No more recruits are therefore being admitted at present. The corps is now fully equipped for the field. The officer commanding (Surgeon-Captain J. Mackenzie Booth) has requested non-commissioned officers and men to volunteer to join the Royal Army Medical Corps for service in South Africa or for home service.

March 27th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Dublin Public Health Inquiry.

THE committee appointed to inquire into the causes of the high death-rate of Dublin concluded their sittings on March 22nd and proceeded to consider their report. Sir Charles Cameron, the superintendent medical officer of health, volunteered some supplemental evidence on matters already dealt with during the inquiry. Referring to the evidence of Dr. Katharine Maguire he stated that there was no doubt as to the meritorious work in which the ladies of the Alexandra Guild were engaged and he had given instructions to the sanitary officers to assist them as far as possible. In reply to Dr. Moore, the President of the Royal College of Physicians of Ireland, Sir Charles Cameron stated that in his opinion intramural interments in vaults of churches were distinctly objectionable and dangerous to the public health. In some cases he had seen coffins blown up by the gaseous products of decomposition, and he understood that in some instances small openings were made in order to prevent this result He looked upon the system as a barbarous one. Mr. Henry Campbell, town clerk of Dublin, in his evidence condemned the insanitary condition of some of the schools in the city connected with the National Board of Education. He mentioned the case of a school where 500 children attended daily in a building which was damp and cold and in which the roof and walls were wet. The evidence is interesting as it corroborates the statements recently made by Professor Roche in an article in THE LANCET. The investigations of the committee have now come to a conclusion and they have before them a large mass of evidence on which to found their report. It seems to your correspondent noteworthy that although the high and long persistent rate of mortality from typhoid fever was made clear no inquiry was instituted into the method pursued for the disinfection or destroyal of the typhoid fæcal dejecta in the large fever hospitals or in connexion with isolated cases. The evidence as to insanitation, overcrowding, dirt, &c., does not seem to offer a sufficient explanation, for it has been long notorious that enteric fever has prevailed widely and claimed many of its victims, not from the slums, but rather from the wealthy, least-crowded, and best quarters of the city.

Commissioner of Education in Ireland.

His Excellency the Lord Lieutenant has appointed Sir Francis Cruise, consulting physician to the Mater Misericordiæ Hospital, to be one of the Commissioners of Education in Ireland.

Royal College of Surgeons in Ireland.

The Royal College of Surgeons in Ireland occupies a foremost place among the crowd of public bodies in Dublin who wish to offer a suitable welcome to Her Majesty. The college buildings with their handsome frontage of cut stone will present a fine appearance when the present elaborate scheme of decoration and illumination has been completed.

The Gas-Lighting of Dublin.

Under the heading "Change in the Composition of the

Dublin Gas Supply" a rather startling statement has recently appeared in the public papers from Professor Emerson Reynolds, F.R S , of Trinity College, who, in a lecture there, pointed out that an important change had just taken place in the city gas supply, consisting in the addition of a considerable proportion of what is technically called "water-gas" to the ordinary product from coal. Ordinary coal-gas contains about 6 per cent. of the deadly poisonous carbonic oxide to which it owes chiefly its own poisonous effects when respired. Water-gas contains from 30 to 40 per cent. of that poison. Its addition to the ordinary lighting gas of the city raises, therefore, the proportion of carbonic oxide and consequently renders the city gas more than usually poisonous. Professor Reynolds explained in detail how the change was noted and its extent measured. 12 analyses of the city gas were made in the College laboratory between Nov. 25th and Feb. 16th, the mean results of those analyses proving that the average coal-gas contained 6 2 per cent. of carbonic oxide. A subsequent series of analyses shows that the proportion of carbonic oxide increased steadily until it reached 12 6 on March 7th. The analysis of March 12th showed a proportion of 17·9 per cent , but on March 17th it stood at 10 6 per cent. Professor Reynolds concluded by saying that there was no reason for undue alarm or for assuming that the addition of water-gas to coal-gas was not legitimate provided that the mixture maintained by carburetting the standard value of 16 candles. "I think," he said, "however, that the fact of so material a change in the nature of the supply should have been notified to consumers in order that they might be on their guard against escape of the new gas through defective fittings or by imperfect combustion from flaring on unsuitable jets."

The Water-supply and Drainage of Newtownards.

The Local Government Board have written to the Urban Council of Newtownards requesting them to take steps to provide the urban district with a sufficient supply of good, palatable water without further delay, and also to obtain the services of a qualified and experienced engineer for the preparation and carrying out of a new sewerage scheme for the district.

The Union Society of Queen's College, Belfast.

The annual report presented on March 23rd at a business meeting shows that financially there is a slight balance. The total receipts were £296 10*s.* 6*d.*, of which £131 13*s.* 9*d.* were obtained from the billiard-room and £56 11*s.* 9*d.* from tobacco sold in that place. The profits on the sale of tobacco were £8 12*s.* 3*d* There are 159 members now on the roll.

The Close of the Medical Session at Belfast.

The winter medical session for 1899–1900 comes to a close this week (March 31st). The examinations in medicine of the Royal University will begin in Dublin on April 18th and will, it is expected, be completed in time to allow those members of the Belfast medical school who are engaged in them to commence the summer session on May 1st.

March 26th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Paris Water-supply.

AT a meeting of the Municipal Council of Paris held on March 15th several resolutions were passed with a view to increase and improve the quality of the supply of drinking-water to Paris. It was resolved to acquire a tract of land for the purpose of supplying the aqueduct of Loing with an additional intake. It was also resolved that an inquiry should be undertaken as to the existence of springs and underground supplies of water so as to complete the supply of the aqueduct of the Dhuys, and that a stationary analytical department should be organised at the head waters of the Arve and the Vanne or, if this were not feasible, that a flying analytical department should be formed.

Kleptomania in a Medical Man.

A Doctor of Medicine was recently summoned before the Tenth Correctional Chamber of the Tribunal of the Seine on a charge of theft. In the month of February he had on two occasions opened the till of his hairdresser and had each time abstracted 20 francs. On Feb 6th, at the moment of again yielding to temptation, he was arrested and at once taken before the Commissary of Police, to whom he confessed his guilt. He was not taken before the magistrate but was condemned to eight months' imprisonment At the Commissariat of Police he declared that he could not explain the motive for his act. The case is all the more inexplicable as he is very well off.

An Epidemic of Septicæmia among Children at Nurse.

At the meeting of the Hospital Medical Society held on March 9th Dr. Lesage gave an account of a most interesting form of septicæmia which he had observed as affecting children at nurse. It is very acute and its course so rapid that in a few hours the temperature runs up to 40° or 41° C. and death supervenes in a very short space of time. There is intense dyspnœa although auscultation reveals nothing wrong with the respiratory apparatus. The patient is obviously very ill, presenting a pale, anxious appearance, with great dryness of the tongue and lips. The child occasionally give a half stifled cry, is very drowsy, and sometimes has slight diarrhœa. Death rapidly supervenes but no definite lesion is found post mortem. Microscopical examination of the bronchi, however, shows the presence of streptococci. Facts of special interest in the cases noted by Dr. Lesage are the finding of pneumococci in the bronchi and the epidemic nature of the malady. In one hospital 16 cases occurred in five days and 15 of the patients died. The infection appears to be conveyed by nurses. The illness lasts from a few hours to two or three days, and its clinical course is the same as that of the septicæmia described by Hutinel. The epidemic died out for want of patients, and at its termination the wards were disinfected and everything settled down again. Dr. Lesage considers that these facts prove that a nurse-child is very easily affected by the pneumococcus as well as by the streptococcus, and this extreme sensitiveness brings about a general septicæmia before the tissues of the organism have time to erect a defensive barrier and so confine the infection to a local manifestation.

The Examination for Hospital Appointments.

The public examinations of the Assistance Publique seem fated always to be marked by some "incident." An examination was held recently for the nomination of six hospital physicians and was conducted under the new regulations which I have already described[1]—that is to say, there are 12 judges, and after the testing of each candidate every judge writes his opinion upon a piece of paper which is folded up and the opinion is given by the writer without any consultation with his colleagues. At the end of the examination the voting-papers are arranged in a decreasing order and one candidate is selected. In this instance the examination had already begun when one of the judges, Dr. Wurtz, discovered that one of the candidates was his cousin eight times removed. Dr. Wurtz therefore asked the authorities of the Assistance Publique whether owing to this circumstance there was any danger that later the election might be rendered invalid. It was considered that Dr. Wurtz would do better to retire from the jury. This of course left only 11 judges instead of 12 and then the question arose as to whether this did not annul the whole procedure and whether another jury should be elected. The political press took the matter up and clamoured for a new jury, arguing that out of 11 the majority would be six and hence that as there were six places to give away it would be quite easy for six of the judges to work matters so that every one could return his own candidate. They even went so far as to give the names of the six who were sure to be elected. The scandal, however, is very slight, for both the judge and the candidate were quite ignorant up to the time of the examination of any connexion between them and the candidate resigned at the same time as his judge. But the accuracy of the details furnished by the public press proves conclusively that these latter derived their information from other candidates who were jealous or discontented with the position they had attained and so wanted a new jury and a new election so as to get another chance. The incident is regrettable as showing the personal nature of the feeling at these elections. Although the judges forming the jury are drawn by lot, once its composition is known it is easy to forecast results. The relations of a pupil to his master have much more influence upon impartiality than cousinship in the eighth degree. It is quite evident why under these conditions candidates who do not see their teachers chosen by lot on the jury should wish to have the drawing over again. Some time ago certain waggish candidates suggested that the examination should simply be confined to the drawing of lots.

March 27th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

An Army Medical Officer on the War in South Africa.

DR. KRUMMACHER, one of the German army medical officers who were sent to the scene of war in South Africa as medical attachés to the British army, has now returned to Germany and has published his impressions. He highly praises the sanitary arrangements of the British army. The tents carried with the troops proved extremely valuable at Magersfontein, where the soldiers suffered much from the hot days and the cold nights. The British suffered more from the rifle fire of the Boers than from their artillery fire, the Boers being unequalled as marksmen. They used to aim at the officers, who were easily recognisable by the brightness of their uniforms. Afterwards in the course of the war the uniform of the officers was made to resemble that of the men. It was very remarkable that the Boers never fought at night. At sunset they used to stop firing and retired even when they had gained a favourable position. As to the alleged abuse of the Red Cross, of which there were so many complaints in the newspapers, Dr. Krummacher states that he never saw anything of that kind. The ambulance to which he was attached was sometimes fired upon by the Boer artillery, but only when it stood in the neighbourhood of a body of troops, so that it was probably the latter that were aimed at. The British troops once captured a Boer ambulance because the ambulance men were accused of having fired on the British. When this report had been proved to be erroneous the ambulance was at once sent back to the Boers. The medical attachés will submit a detailed report of their observations to the German military authorities.

The Title of "Sanitatsrath."

A remarkable law-suit has lately been before a court at Marburg arising out of the bestowal of the title of "Sanitatsrath" (sanitary councillor) on a medical practitioner in that town. It is the custom to grant this title to nearly every medical man of respectability and good professional standing after he has been engaged in practice for a period of from 20 to 30 years. This title is not connected with any Government appointment, but is a mere personal distinction like so many others in this country, where people are, as a rule, rather fond of titles. The medical man in question was quite pleased with his new dignity, but when the diploma was delivered to him he was mortified on finding that he had to pay a stamp duty of 300 marks (£15) according to the Stamp Laws of 1895. He paid the duty but afterwards brought an action against the Treasury to have this sum restored on the plea that he had not been asked beforehand by the Government whether he desired to have the title or not. He asserted that he had gone to law with the Treasury solely in the interests of the medical profession, as it was in his opinion unjust to charge a medical man for a title whilst the Government accepted the gratuitous services of the medical profession in so many cases. The decision was in the plaintiff's favour, but in view of the fundamental importance of the matter the Treasury has appealed to the High Court where this curious incident will be definitely settled.

The Case of Professor Neisser.

Some experiments on immunisation against syphilis, made by Professor Neisser the well-known dermatologist of Breslau, have recently been the subject of discussion in the Prussian Diet. The facts of the case, which have been misunderstood by the adversaries of scientific research both in Parliament and in the daily press, are briefly as follows: Professor Neisser injected sterilised blood-serum of syphilitic persons into prostitutes and into two children in order to immunise them against the disease. The experiment had no bad sequelæ whatever. Several years afterwards some of the prostitutes suffered from syphilis, which first manifested itself on the genitals, so that the attempted immunisation had proved a failure. That they had been infected by the injection, as was alleged by Professor Neisser's adversaries, was quite impossible owing to the length of time between the giving of the injections and the appearance of the syphilis, together with the fact that none of the patients other than the prostitutes contracted the disease. These facts were gravely misrepresented by different speakers, Professor Neisser being said to have injected syphilitic virus in order to see whether it was contagious or not. Several members of the Diet asked the Minister of Public Instruction if Professor Neisser had been or would be prosecuted for what he had done. The Minister, Dr. Studt, and the Chief of the University Department, Herr Althoff, stated that Professor Neisser had not performed his experiments for frivolous reasons, but for the eminently humane purpose of combating syphilis. They said that he no doubt erred in making experiments on patients without previously asking them whether they consented to the injections or not. The Minister admitted that he might have been prosecuted under the criminal law, but as the acts complained of were committed six years ago there was, under the circumstances, no likelihood of a prosecution. The Government had not yet considered whether it would be advisable to make use of its disciplinary power over him as a professor of a State University. Professor Virchow, as a member of the Prussian Parliament, said in the debate that every new method must necessarily be used as a new method at least once on the human subject after it had been tried on animals. He said that Dr. Edward Jenner, Professor Koch, Professor Behring, and other men of science who had done so much for the prevention of diseases had all made experiments under the same conditions as Professor Neisser. The Minister, Dr. Studt, closed the debate by asking the members of the Diet not to indulge in denunciations of the medical profession in general, which had distinguished itself by its devotion to the interests of the State and ought to serve as an example to other citizens. The leading medical papers protest strongly against the unfriendly manner in which some members of the Prussian Diet spoke on the subject of medical men and medical science. They, however, blame Professor Neisser for having subjected his patients to this treatment without their consent. The matter is not yet finished, but it is very unlikely that the Government will take any steps against Professor Neisser.

March 26th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

The Swiss Army.

ACCORDING to official reports the strength of the Swiss army on Jan. 1st, 1900, was as follows: 1. "Auszug" (men from 20 to 32 years of age), 150,876 men, comprising 113,617 infantry, 4551 cavalry, 20,442 artillery, 5586 engineers, and 4928 in the sanitary corps. 2. "Landwehr" (men from 33 to 45 years of age), 87,364 men, a well-armed and well-trained militia, making with the Auszug a total of 238,240 men. In case of war the youths from 16 to 20 years of age would also be available as some 6000 of their own free-will receive military instruction, generally on Saturday afternoons and Sunday mornings; then part of the "Landsturm" (men over 45 years of age), making a total of 277,007, would also be available and would be of great use for defensive purposes and for keeping up communications. General conscription was introduced many years ago, but only about half of those presenting themselves for medical examination are annually accepted, the percentage being 52·4 in 1898 and 51·8 in 1899, or a number of 16,773 men (1899) The obligatory military service is seven weeks in the first year, six weeks in the second year, and about three weeks every two years up to the age of 32 (Auszug); afterwards in the Landwehr, up to 45 years of age, only a few weeks' service every three or four years. Officers have to do about five months' service before they obtain their commissions. Men excluded from service by the medical authorities have to pay a high military tax consisting of capitation tax, income property tax, tax on expected property—viz., property the men are legally entitled to from parents, grandparents, or other relatives The enforcement of this tax is only possible owing to the fact that the Swiss civil law obliges the citizens to leave their property in certain legally determined parts to relatives in the first and second degree Thus a father can only dispose of one tenth of his property as he chooses, nine *tenths must go to his children* In this way the authorities have control over property in expectation and curious results ensue A man of wealth may find himself, as a grandfather, obliged to pay a heavy military tax for his grandson who happens to be studying law or medicine and on whom a large sum as military tax is levied The alternative for the man is to serve in the military offices as clerk at 1*s* 8*d* a day to pay off such a debt

Cerebral Complications due to Intestinal Infection

Dr T Seitz of Zürich, sums up 15 such cases five of which are recent unpublished cases, permitting of interesting deductions the cases having gone through the most thorough bacteriological investigations No doubt an invasion of the blood and lymphatics by intestinal bacteria now and then takes place and obscure cerebral disease may result In seven out of the 15 cases bacteria of the intestines could be definitely and decidedly proved to be the originators of the cerebral disease The only cause for wonder is that the protective apparatus must work almost perfectly, given the enormous amount of intestinal bacteria otherwise such cases would be far more frequent In fatal cases the post mortem examination fails to confirm the clinical diagnosis of meningitis or encephalitis apparently established beyond doubt and only the most careful bacteriological examination reveals the existence of some few staphylococci streptococci, or bacteria coli, the toxins of these bacteria must therefore play a more important rôle than the bacteria themselves In some cases infantile convulsions and sudden death are *certainly* due to this mode of infection

Zürich, March 24th.

NEW YORK

(FROM OUR OWN CORRESPONDENT)

Medical Instruction in the United States

THE system of medical instruction in the United States has for several years been undergoing a very remarkable change The method of teaching classes by oral lectures has until recently been universally practised No effort was made to classify the students according to the length of time during which they had studied In the same lecture room and listening to the same professor were one-year, two-year, three year, and four year men and as a matter of fact not one in 10 received any real instruction There was a medical college at one period which had but one professor who lectured on the seven branches But in the best schools the system has entirely changed and this change is due to the union of those schools with universities which has led them to adopt the methods of teaching peculiar to those institutions It is true that the medical department of the University of Virginia has classified its students for many years and taught by recitations in small classes, but the number of students has been very small and its example has not influenced the larger metropolitan colleges It has long been recognised by examining boards that candidates from the Virginia College, as a rule excelled those from other colleges, especially in technical knowledge It was not until within the last decade that the larger colleges became thoroughly incorporated into the university systems of government and this new position has led to important changes in the details of management which appear most markedly in the methods of teaching The old lecture system has been entirely abandoned as a scheme of general instruction and is limited to the higher branches which require for their proper elucidation the knowledge and experience of the professor Classes are arranged on the basis of the advance of the students in knowledge into those for one-year, two year, three year, and four year men For each of these grades assistant professors or tutors are provided and class recitations are held the text books being uniform No student can advance from a lower to a higher class who has not attained a given grade of qualification Under the old system the student was rarely questioned on any subject and there was no educational barrier to his advance In the case of most students the first individual contact of the teacher with the taught was at the final examination for graduation Now the student is daily required to demonstrate to the teacher his exact status in his studies and at the termination of fixed periods his markings during the term are the tests to determine whether he can advance to a higher grade The results of this rational method of teaching are most important The graduates from these university medical schools take the highest rank in their profession wherever they locate It is gratifying to notice also that these higher grade colleges which were at first shunned are now becoming more and more popular and their classes are yearly increasing in members The more progressive of these schools have recently established educational qualifications for admission which require graduation from a literary college

The Death of the Author of the "Gold Cure" of Alcoholism.

The death is announced of Dr Keeley, the author of the notorious "gold cure of alcoholism For many years this method of treating inebriety has had an enormous popularity and institutions devoted to the "cure' have multiplied in every State The central office was at the village of Dwight in the State of Illinois which was a veritable Mecca of the victims of delirium tremens The remedies used were kept a profound secret and each patient had to take his dose directly from the physician in attendance The results of inquiries in regard to the true success of the treatment were all negative I at one time investigated cases of reported cure but found none that had not relapsed after they had returned to their old haunts There is no doubt that some did abstain for a long period as was the case with the converts to teetotalism during the crusade of Father Mathew the famous Irish temperance lecturer Though the craze after the 'gold cure has long since passed there are many institutions in the different States which continue as a business enterprise, for immense sums of money have been made by the promoters of the supposed ' cure '

The Farm Colony for the Insane

The question of providing an economical method of caring for the chronic insane has agitated those interested in treatment of this class for many years, but has not until recently taken any other practical form than the introduction of a few trades into existing asylums In two of the States asylums for the chronic insane have been established separate from the asylums for the acute but no useful results have followed because the same methods of care have been continued in the chronic as in the acute Many efforts have been made to introduce the boarding out system of Scotland but the managers have strenuously objected, alleging that the people of this country are not adapted for such duties Several of the States have within the last decade encouraged their asylum managers to experiment with farms and the result has been so encouraging that the subject of establishing farm colonies for the chronic insane is attracting much attention In Michigan a farm colony was established many years ago and the success has been twofold—viz financially the farm has paid richly and a far larger number of chronic insane have recovered than under any former conditions At Utica the experiment is in progress and the latest reports of Superintendent Blumer show a most encouraging success The plan proposed is the creation of an organised community with all its trades farm labour and products being the central feature, because by far the larger number of the population must necessarily be engaged in farm work Should this method of caring for the chronic insane continue to succeed there will be a complete revolution in our institutions for the insane and greatly to their advantage

Indigence in Porto Rico

Major Hoff of the *United States Army* and President of the Porto Rico Board of Charities states in his report that in a population of 956 779 there are over 80 000 persons requiring assistance and that from 400 000 to 600 000 rations are issued weekly Those who can work for their rations are required to do so and these number upwards of 9000 There is an average of 4000 sick The immediate suffering in Porto Rico is due to the severe hurricane which desolated the island destroying not only all the crops and a vast number of dwellings, but maiming and killing large numbers of people

Tenement House Exhibition

New York has lately been entertained with an exhibition of model tenement house plans prepared for competitive examination. It originated with the Charity Organisation Society, the object being to awaken an interest among the wealthy in the efforts of that society to improve the tenements of the poor by constructing a class of better dwellings which will, when properly managed, return a fair income to the owners. The exhibition included models, plans, photographs, maps, charts, and tables of statistics. They were designed to show existing conditions in New York tenement houses, model tenements all over the world, suburban dwellings, lodging-houses, health conditions, poverty conditions, agencies for betterment, and finally the competitive plans for model tenements, parks, and playgrounds. One of the most interesting group of photographs illustrated the evolution of the New York tenement house on the usual 25 feet by 100-feet lot. First was the common dwelling-house occupying 50 per cent. of the lot, four storeys and basement, three rooms with closets on each floor above the parlour floor; next the same building is converted into a tenement house, requiring in the same space two living rooms, six bedrooms, hall and stair way; then appears the same building, but on the rear portion of the lot another has been erected with one living room and three bedrooms, and now 75 per cent. of the lot is occupied, while the number of tenants has been increased at least 33 per cent.; finally, the modern tenement rises to view covering 90 per cent. of the lot with its dark, unventilated sleeping rooms and a population of 100 persons where at first there were but five. There were also illustrations of English model tenements—viz., amongst others dwellings erected by the Peabody Donation Fund, those of the South London Dwellings Company, the Four Per Cent. Dwelling Company, the Guinness Trust, and a group representing Miss Octavia Hill's work, with a reproduction of Sargent's portrait of Miss Hill. For one week the society held a series of meetings at which eminent speakers discussed in public all the phases of the improved tenement house movement. Upwards of 300 plans were submitted to the jury appointed to adjudge awards. The exhibit will be sent to the Paris Exhibition, after which it will find a permanent place in New York.

Illness being an Act of God justifies a Breach of Promise.

A curious case of breach of promise, where the defendant alleged an intercurrent disease for which he was not responsible as his defence, has recently been decided by the Court of Appeals of Virginia. It appears that after the engagement and before the time fixed for the marriage the defendant had without fault of his own developed and was suffering from a grave malady involving the urinary organs, viz., cystitis, with probable inflammation of the urethra, complicated with enlargement of the prostate. He had been advised and believed that sexual indulgence would aggravate the disease and would be likely to shorten his life; that it would be not only a wrong to himself but an injustice to the plaintiff if he married her in his condition of health. The court held that "illness" is an act of God and beyond the power of man to control or prevent, and that if the performance of a contract is rendered impossible by the act of God alone such fact will furnish a valid excuse for its non-performance, and such a stipulation will be understood to be an inherent part of every contract. Marriage is assumed in law to be for mutual comfort, and being satisfied from the evidence that the defendant acted throughout with good faith the unhappy circumstances in which he found himself justified the alleged breach of his contract to marry the plaintiff.

March 18th.

CARDIFF PORT SANITARY AUTHORITY.—The medical officer of health to the Cardiff Port Sanitary Authority (Dr. E Walford) in his annual report for 1899 states that the floating population of the district is estimated at 7000 persons, contained for the most part in the West Bute, East Bute, and Roath Docks, Cardiff, and Penarth Dock and Tidal Harbour. During the year 11 patients were admitted to the Cardiff hospitals for infectious diseases; eight of these were cases of typhoid fever and three proved fatal. 7170 vessels were inspected and of these 1597 were found to be in a defective or insanitary condition. The frozen meat trade of the port is a large industry and the inspection of such meat forms part of the duty of the inspector. In the year 16 cargoes arrived with about 7000 carcasses of beef and 150,000 carcasses of mutton. 2167 head of live cattle and 1318 live sheep were landed from Montreal and Quebec.

Obituary.

ROBERT CORY, M.D. CANTAB., F.R.C.P. LOND.

WE have briefly recorded the death of Dr. Robert Cory, which occurred on March 19th. This followed directly upon an illness of some weeks' duration only, but during the latter part of his life his health was by no means good.

Dr. Cory was a Cumberland man and was born in 1844. He received his medical education at Cambridge, at the ancient College of Pembroke, where he graduated with honours in the Natural Science Tripos of 1868. Three years later he took the degree of Bachelor of Medicine, proceeding in 1879 to the M.D. On leaving Cambridge he entered at St. Thomas's Hospital where, after a successful career as a student and as a member of the junior staff, he became assistant obstetric physician, lecturer on forensic medicine, and physician in charge of the vaccination department. Dr. Cory will be chiefly remembered for his excellent work in the last direction. For 25 years he was engaged in the practice and teaching of vaccination, the lectures which he delivered to his pupils on the subject contain masses of accurate information, while he himself fell a victim to the ardour of his scientific researches.

As far back as 1881 he was associated with Sir George Buchanan in the founding of the Government Animal Vaccine Establishment, and since that date until his death he acted as its director. He was not only a teacher of vaccination but an exceptionally expert operator. The correctness of the latter statement may be gauged from the fact that in the report of the medical officer to the Local Government Board for 1887 he was able to put on record the fact that in the case of over 38,000 primary operations with human or with calf lymph only in one instance had he failed twice at an attempt at vaccination. With the exception of this case, in which he had an opportunity of making a third attempt, he had never met with a case of true "insusceptibility." Since 1887 the number of consecutive primary vaccinations performed at the Government station by Dr. Cory, or under his auspices, has mounted up to a total of 110,728, and still without the occurrence of a single case of insusceptibility.

Dr. Cory's great enthusiasm in all matters connected with vaccination led him, about 30 years ago, to carry out a series of experiments dealing with the possibility of the conveyance of syphilis in the operation of vaccination. Believing that the results of these experiments were likely to be of service to the medical profession he did not hesitate to offer himself on the altar of science, and on four separate occasions deliberately vaccinated himself from the clear lymph, free from obvious contamination with blood, of vaccine vesicles on the arms of children who were undoubtedly suffering at the time from syphilis in active form, as shown by the presence of cutaneous eruption, snuffles, mucous tubercles, and ulcerations. On the first three occasions on which Dr. Cory thus experimented on himself no syphilitic trouble followed the inoculations, but at the fourth attempt the result was only too successful, an exceptionally severe attack of the disease having supervened, the effects of which appeared, unfortunately, to persist to a certain extent for the remainder of his life and not improbably were concerned in bringing about his death at a comparatively early age.

It was mainly in recognition of the heroic self-sacrifice involved in these investigations that the British Medical Association conferred the Stewart Prize on Dr. Cory in 1886. As typical of the natural modesty and retiring nature of the man may be mentioned the fact that on this occasion he refused to attend in person for the presentation of the prize. Among other important researches Dr. Cory carried out a long-continued series of observations on the relation of protective vaccination to the development of the vesicle, reading a paper on this subject before the Epidemiological Society in 1879. 20 years later he published a volume entitled "The Theory and Practice of Vaccination" in which he set out his more matured observations on this and other aspects of the vaccination question. This volume, the separate chapters of which represented a series of lectures which Dr. Cory was wont to deliver to his class at St. Thomas's Hospital, was reviewed in these columns shortly after its issue, but, nevertheless, it may not be unfitting here to call attention more particularly to a series of micro-photographs forming one of the plates with which the volume is embellished. These represent sections of a small-pox vesicle, a vaccine vesicle, and a syphilitic chancre respectively, the portion of tissue from which the latter was cut having been removed from Dr. Cory's own arm at the time of his much-to-be-regretted personal experiment. The figures in this plate (No. 4) form a convincing argument in opposition to the tenets of certain members of the profession who hold that a definite relationship exists between the two diseases, vaccinia and syphilis The careful examination of Dr. Cory's sections will at least show that those who hold this opinion cannot have studied the matter from the histological point of view or they could hardly have failed to appreciate the fact that, as pointed out by Dr. Cory, the microscopic appearances of the skin lesion in one and the other affection are absolutely distinct.

Space does not permit of reference to numerous other points in relation to vaccination investigated by Dr. Cory, but in conclusion it may confidently be affirmed that not only have his example and ready assistance greatly aided the efforts of other workers in this field, but that the results of his own personal labours have been of no little value and assistance, more particularly to the Department he faithfully served for so long a period.

HIS EXCELLENCY ROBERT HALLIDAY GUNNING, M.D., LL.D. EDIN.

ROBERT HALLIDAY GUNNING, who died on March 22nd, aged 81 years, was educated at Edinburgh and became a Licentiate of the Royal College of Surgeons of Edinburgh in the year 1839 and took the degree of Doctor of Medicine in the University in 1846 In the year 1887 the degrees M.A. and LL.D. were conferred on him. Whilst he was at Edinburgh the use of chloroform was first introduced by Sir James Simpson and Gunning was present at the first public administration of the new anæsthetic. The period of his studentship was one of great theological perturbation, for at that time Dr. Chalmers was in the ascendant, and Gunning was one of his early supporters. He continued for the rest of his life to hold strong theological views and he never ceased to care for the welfare of the University and the city of Edinburgh. In the University of Edinburgh he founded the Victoria Jubilee prizes, 11 in number, of the value of £50 each, and he showed his interest in theological and political matters by erecting in St. Giles's Cathedral a brass plate on the site from which Jeanie Geddes is traditionally supposed to have thrown a stool at the priest as a protest against the form of prayer which was being used. More recently he originated the movement which led to the erection of a memorial to the Marquis of Argyle which has been recently put up in the same cathedral.

A great part of Dr. Gunning's life was spent in Brazil where he gained the confidence of the late Emperor, who created him a Grand Dignitary of the Order of the *Rose*. As one of the most distinguished Britons in Brazil Dr. Gunning naturally saw the more interesting of his countrymen who visited the empire, while his country house was practically open to any Englishman who wished to visit him. Dr. Gunning was twice married but leaves no family. During the last few years of his life he was completely blind, an affliction which he bore with exemplary patience. He was an extremely hospitable man, and his death will be felt by a large number of people who always found a welcome at his house, and an eager listener to any news which they might be able to bring, for nearly to the end of his long life he took the keenest pleasure in hearing about all passing events; and although he held strong views he was always ready to hear anything which could be urged against them.

WILLIAM CHAPMAN GRIGG, M.D. EDIN., M.R.C.P. LOND.

THE death occurred on March 12th, in the hospital at Wynberg, South Africa, of Dr. William Chapman Grigg. The cause of death was enteric fever. Dr. Grigg received his education at Birmingham, Bristol, King's College, London, and the University of Edinburgh. He also studied at Vienna. He became a Member of the Royal College of Surgeons of England in 1863 and a Licentiate of the Society of Apothecaries in 1864, graduated as M.D. at the University of Edinburgh in 1870, and in 1872 became a Member of the Royal College of Physicians of London. His practice was chiefly concerned with gynæcological and obstetric work, but he held the post of joint lecturer in forensic medicine at Westminster Hospital Medical School and was also physician to the Victoria Hospital for Children at Chelsea He was for some time obstetric physician to out-patients at Westminster Hospital and also held the posts of physician to in-patients at Queen's Charlotte's Lying-in Hospital and acting physician to the General Lying-in Hospital, York-road, Lambeth.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr J. O de Sande Saccadura Botte, Professor of Pharmacology and Dean of the Medical Faculty of the University of Coimbra.—Dr. Decès, Professor of Clinical Surgery in the Medical School of Rheims —Dr. G. Pacetti, *privat docent* of Neurology in the University of Rome —Dr. Eugen Boeckel, formerly a professor in the French Medical Faculty of Strasburg —Dr. Oscar Widman, Extraordinary Professor of Medical Pathology in Lemberg —Dr. Hoadley, Professor of Orthopædic Surgery in the Chicago College of Physicians and Surgeons —Dr. Hülsmann of Neheim who is believed to be the senior medical man in Germany. He was 92 years of age —Professor Otto Leichtenstern of Cologne whose name is known in connexion with researches on ankylostomiasis and who published a number of papers in association with Ziemssen, Gerhardt, and Nothnagel.—Dr. E. Lorenzo Holmes, Professor of Ophthalmology and Otology in the Rush Medical College, Chicago —Dr. J. Sroczynski, *privat-docent* of Ophthalmology in the University of Cracow.—Dr. A. von Tschurtschenthaler, formerly Professor of General Pathology in Innsbruck.—Professor von Mosengeil of Bonn.—Dr. Leroy, Professor of Medical Pathology in Lille.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in March the following candidates passed in the subjects indicated:—

Surgery —W. T. C. Bennett (Section II), Sheffield; R. R. P. S. Bowker, Middlesex Hospital, H. N. Collier, Guy's Hospital; R. V. Cowey (Section I.) and W. K. S. Hay Coghlan, St. Mary's Hospital; R. C. Rumbelow, Middlesex Hospital, A. Y. St. Leger (Section II.), Cambridge and St Mary's Hospital, and T. Young (Sections I. and II), St Bartholomew's Hospital

Medicine —W D French (Section I), University College Hospital; H Jessop (Section I), Birmingham; W. T. Meagher, Cork; A. C. Oliver (Section II), Charing Cross Hospital, and J. R. Pooler (Section I), Birmingham.

Forensic Medicine —W D French, University College Hospital; H Jessop, Birmingham; W T. Meagher, Cork, J R Pooler, Birmingham, and H. F. Wallington, Manchester.

Midwifery —E I Lamport, Royal Free Hospital, C A. Lower, Guy's Hospital and Bristol, F A. Segreda, Guy's Hospital, and H P. Shanks, University College Hospital

The diploma of the Society was granted to the following candidates, entitling them to Practise Medicine, Surgery, and Midwifery.—W. F. C. Bennett and W K S Hay-Coghlan

DRAINAGE OF PLYMOUTH.—At the meeting of the Plymouth Borough Council held on March 12th it was decided to proceed with the construction of the main sea outfall in connexion with the drainage scheme of Plymouth. The cost was estimated at about £21,000.

THE POSITION OF THE MEDICAL OFFICER OF HEALTH TOWARDS HIS AUTHORITY —At a recent meeting of the Gloucester City Council Dr. J. Campbell stated that his report to the Local Government Board and to the local sanitary authority could not be altered by anybody. As a matter of courtesy he read it to the committee, but all the local authority had to decide was whether they would print it or not. It was subsequently stated that Dr. Campbell accepted suggestions made in committee on his report which was thoroughly considered before being ordered for printing. It was also urged that in the public interest the medical officer was protected from outside influence in the record of his opinions. A proposal to refer the minute back was withdrawn.

ROYAL INSTITUTION.—The Friday evening discourse at the Royal Institution on March 23rd was delivered by Sir Andrew Noble, the subject being Some Modern Explosives. The discourse was an elaborate exposition of the use of explosives in artillery. It was mentioned that cordite, the explosive at present employed, produced a muzzle velocity of the projectile nearly double that obtained with the powder used 40 or 50 years ago.

WEST CORNWALL WOMEN'S HOSPITAL, REDRUTH. —The annual meeting of governors and others interested in this institution was held on March 13th. The medical report stated that 127 women had been admitted during 1899 and 19 children since the opening of the children's ward last July. The financial statement showed that the income amounted to £410 and that a favourable balance of £25 remained.

HEALTH OF LAUNCESTON.—The annual report of the medical officer of health (Dr. C. G. Gibson) for 1899 states that there were 61 births, giving a rate of 14·02 per 1000; the deaths numbered 75, being a rate of 17·26 per 1000. The zymotic death-rate was 0·23 per 1000. Dr. Gibson draws attention to the astonishingly low birth-rate, and adds that a decrease of the population had to be recorded, instead of an increase as in former years. The medical officer of health further states that not a single case of typhoid fever had originated in Launceston since 1893. The new sewage works were now in good working order and giving satisfaction.

PRESENTATIONS TO MEDICAL MEN. — On March 15th Mr. Thomas Hamilton, M.B., C.M. Glasg., on the occasion of his leaving his native town, Dalry, Ayrshire, where he has successfully practised for some years, was presented by his numerous patients and friends, who appreciated his worth and medical skill, with a silver cigarette-case and a purse of sovereigns and a pearl brooch for Mrs. Hamilton.—Before leaving for the front, South Africa, Mr. William Wellington Lake, M.R.C.S. Eng., Surgeon-Lieutenant-Colonel, Militia Medical Staff Corps, was the recipient of a presentation from the officers f the Isolation Hospital, Guildford, and the clerk the Joint Hospital. He has discharged the duties of edical officer at the hospital for some years and e subscribers desired to give him some, though small, ngible token of their esteem and regard. The presentation s made privately, on their behalf, by the superintendent the hospital and consisted of a silver-mounted spirit binet.—On March 20th, at Pagani's Restaurant, Great tland-street, W., a presentation of a gold watch and in and silver cigarette-case was made to Dr. Major enwood, honorary secretary of the Brussels Medical duates' Association, by Dr. Danford Thomas, coroner Central London and Middlesex, in the name of the bers of that association, in recognition of Dr. Green-l's services Dr. Charles Burland, President of the iation, was in the chair, and many other members and ls were present. The inscription on the watch is as s: "Presented to Dr. M. Greenwood by members of .M.G.A., as a token of their high regard and a recognition of valuable services as Hon. Secretary — 1900."—At the annual dinner of the students of the n University College of Medicine, held on March 23rd, Hôtel Métropole, Newcastle, Dr. F. Page was pre- with a testimonial on his retirement from the post of to the Newcastle Infirmary. The testimonial con- f a five-light candelabra and six candlesticks to in Corinthian design, together with three silver lishes.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Lunacy Board in Scotland

the Government dealing with salaries, &c., in connexion acy Board in Scotland is likely to be keenly opposed. on is felt to the proposal to attach a salary or remune- ffice of chairman of the Board, which until now has been ointment.

The Sale of Undersized Fish.

ent has introduced again a Bill to prevent the sale of immature fish. The Bill follows very closely the recommendations the Select Committee which a few years ago inquired into the subject and obtained valuable evidence as to the wanton and wholesale destruction of undersized fish. The advocacy of the measure of Mr. Ritchie, President of the Board of Trade.

HOUSE OF COMMONS.

TUESDAY, MARCH 20TH.

The War Office and Civil Hospitals.

SIR EDGAR VINCENT asked the Under Secretary of State for War when it would be possible to give a decided answer to the offer made on Dec. 21st last by the Royal Devon and Exeter Hospital to take in 20 sick and wounded men of the Devon Regiment on their return from active service.—Mr. WYNDHAM: There has been some misapprehension on this point and I should like, if the House will allow me, to explain it rather fully. It was apprehended that the accommodation of the military hospitals might prove insufficient for the number of invalids arriving from South Africa. A circular was accordingly sent by the War Office to the various town and county hospitals to ascertain what number of beds could, if need should arise, be assigned to military patients. Our intention is to use these beds only as a reserve when the military hospitals are full. In many cases, including the Royal Devon and Exeter Hospital, we were met by the generous offer of a number of free beds. But the military hospitals are not yet full; only about 2000 invalids have so far arrived from South Africa and many of these have already been sent on sick furlough, so that it is impossible to say when or where recourse must be had to civil hospitals. There is, however, no necessity for keeping beds vacant in any civil hospital, since we propose to give 10 days' or a fortnight's notice in every case.

THURSDAY, MARCH 22ND.

The Infliction of Corporal Punishment in Prisons.

Sir CHARLES CAMERON asked the Home Secretary whether there were any and if so what regulations providing for the special medical examination of persons sentenced to flogging as to their fitness to undergo such punishment before it was inflicted; whether the gaol surgeon or any other officer had power to suspend or dispense with such a sentence, if in his opinion the constitution of the person sentenced to flogging was not fit to bear it; and what precautions were taken and in whom was the duty vested to ascertain whether juvenile offenders sentenced to whipping were able to bear it without danger to health.—Sir MATTHEW WHITE RIDLEY: Rule 87 (Local Prisons Rules) directs that corporal punishment shall not be inflicted unless the medical officer has certified that the prisoner is in a fit condition to undergo the punishment. Rule 182 also directs that before a prisoner is subjected to corporal punishment the medical officer shall examine him and certify whether or not he is fit for the punishment. Rule 182 further directs that the instructions of the medical officer for preventing injury to health by corporal punishment shall be obeyed. These rules apply also to juvenile offenders sentenced to whipping when such whipping is carried out by the prison authorities. Whippings administered by the police are subject to similar police regulations. The rules for convict prisons contain similar provisions to those in force in local prisons with respect to convicts ordered to be flogged for prison offences.

The Boots of the Soldiers in South Africa.

Mr. POWELL WILLIAMS, answering a question on this subject addressed to him by General RUSSELL, said: The foreign service hand-sewn, steel-billed boots and the hob-nailed boots received from India and Egypt have proved satisfactory for infantry, but Lord Roberts has complained of the home pattern clump-soled boot. We have sent out in round numbers 103,000 home and 132,000 foreign pattern, and more will be sent as fast as they can be procured. The hand sewn boot trade seems to be an expiring industry, and we are endeavouring to obtain a pattern of machine sewn boot which shall be equally suitable for home or foreign wear.

FRIDAY, MARCH 23RD.

The Petroleum Question.

Mr. CHANNING asked the Home Secretary whether he was aware that the Public Control Committee of the London County Council had stated in their report that the decrease of fatal lamp accidents in London from 34 in 1898 to 23 in 1899 might probably be traced to the increased quantity of high-flash Russian oil now being imported into London and to the decreased use of low flash American oils; and whether he would bring in a Bill to raise the flash-point in accordance with the public opinion thus indicated.—Sir MATTHEW WHITE RIDLEY The report referred to has been brought to my notice, but its contents hardly appear to afford sufficient data to warrant the conclusions suggested in the question. As to legislation, I must repeat that I can give no undertaking.

The High Death rate in Dublin: Suggested Explanation.

Mr. T. M. HEALY asked the President of the Board of Trade if his attention had been called to the published report of Professor E Reynolds, of Trinity College, Dublin, warning the public of his discovery that the Dublin Gas Company, without notice to the citizens or the corporation, had turned 17 per cent. of carbon monoxide into their mains; did the Board of Trade receive any notice of this intermixture of water-gas with coal-gas in Dublin; was he aware that water gas was the most deadly gaseous poison known, was absolutely fatal to animal life, and that its use as an illuminant had been made illegal in many American States, was he aware that leakages from the Dublin mains were constant and that since the introduction of water-gas the death rate amongst the population had risen so enormously that the Lord Lieutenant had appointed a commission to investigate the cause; had he any information to show whether the poison from water-gas was cumulative in the human system; and whether any remedy known to science existed for even cases of partial poisoning, and would the Government take any steps to protect the public from the admixture of this product with ordinary coal-gas.—Mr. RITCHIE: I have not seen the published report to which the hon.

and learned Member refers, but I understand that Professor Reynolds in a lecture at Trinity College recently made some observations as to the increased proportion of carbonic oxide in the gas supplied in Dublin due to the admixture of carburetted water-gas with coal gas. The Board of Trade received no notice of the intention of the gas company to make any alteration in the nature of the gas nor are the company required to give such notice, but they have now informed the Board that the plans of the necessary works were submitted to the corporation and their purpose explained.' I am not aware that the use of water-gas has been made illegal in any American State, but from the report issued last year of a Home Office Departmental Committee which inquired into the question of the supply of water-gas it appears that in the United States carburetted water gas is very largely used and formed in 1896 about 70 per cent. of the total gas-supply. The hon and learned Member will by a perusal of the report obtain much information with reference to this interesting subject which it is impossible to summarise in an answer to his question. The Local Government Board for Ireland inform me that they are not aware whether the high death rate is in any degree attributable to the alleged leakage of gas. The commission appointed by the Lord Lieutenant has directed its inquiries into the general causes of the death rate, and pending the report of the commission that Board can express no definite opinion on the point.

MONDAY, MARCH 26TH.

A Guy's Hospital Case.

MR. **CHANNING** asked the Home Secretary whether his attention had been called to the evidence given at a coroner's inquest at Bermondsey on Friday, March 15th, on an infant named Mabel Blanch, that the child was seen and prescribed for by an unqualified student at Guy's Hospital, and subsequently died; and whether he would make a representation to the authorities of Guy's Hospital that effect should forthwith be given to the rider of the jury that patients should in every case be examined by a qualified medical man and a record kept of the prescriptions.—Sir **MATTHEW WHITE RIDLEY**: I find that the facts are as stated in the question, except that the jury do not appear to have believed that any prescription was given. I am assured by the authorities of Guy's Hospital that it is entirely against the regulations for unqualified students to treat patients on their own responsibility, and that on the day following the child's death the case was brought before them and the student dealt with by them

London Telegraphists and Medical Attendance.

Mr. **M'GHEE** asked the Secretary to the Treasury, as representing the Postmaster General, whether London telegraph clerks were entitled to free medical attendance, and whether the official doctors' officers visit patients who could not leave their homes; and whether the Postmaster-General would take steps to make adequate provision for giving the London telegraphists free medical attendance, in accordance with the statement made in the Parliamentary Return issued on the motion of the member for the Blackfriars Division of Glasgow in 1898.—Mr. **HANBURY**: There are no persons called telegraph clerks in London The London telegraphists whose salaries are not over £160 a year are allowed free medical attendance at their offices or at their homes provided that the homes are within the prescribed limit of three miles from the head office of the district in which they are employed If they reside beyond this limit they are entitled to receive advice and medicine on application at the surgery of the medical officer.

WEDNESDAY, MARCH 28TH.

Corporal Punishment.

At this sitting the House debated a Bill to consolidate the law with regard to corporal punishment and to give Her Majesty's judges and chairmen of Quarter Sessions power to order it in certain cases of violence towards women and children The **HOME SECRETARY** and other prominent Members opposed the Bill as a retrograde step, and the House rejected it by 195 votes to 72

THE MIDWIVES BILL.

PASSAGE THROUGH THE STANDING COMMITTEE.

The Midwives Bill has passed through the Standing Committee of the House of Commons on Law and now awaits the report stage. Its position, therefore, is one of great advantage, and, indeed, the medical profession may reckon on the Bill becoming an Act before the close of the session The proceedings in the Standing Committee occupied two days, and while they were marked by great zeal and activity on the part of the promoters and their friends, the same cannot be said of the critics of the Bill or of those to whom they naturally looked for assistance and encouragement The small space in the rear of the hall allocated to the public was crowded with ladies and gentlemen prominently identified with the movement for this class of legislation and from time to time members of the Committee interested in the passage of the Bill came to them, if not for instructions, at any rate for aid in the conduct of their case. No such aid appeared to be available for the other side On the Committee itself there were few medical members, only Dr Ambrose and Sir George Pilkington The latter attended the first day and moved a number or amendments, but the former put in an appearance on neither occasion. Apart from Sir George Pilkington most of the criticism of the Bill was done by Mr. Lloyd George and Mr. T P O'Connor, who showed a very keen and intelligent appreciation of its tendencies.

PROCEEDINGS IN THE HOUSE.

THURSDAY, MARCH 22ND.

After midnight at this sitting the House went into Committee "to consider of authorising the payment out of moneys to be provided by Parliament of such expenses as the Treasury may certify to have been necessarily incurred by the General Medical Council under any Act of the present session to secure the better training of midwives and to regulate their practice"

Mr. T. M. **HEALY** took exception to the subject being discussed now when the Bill itself had not been considered by the Standing Committee. He thought it was a strong thing to assume that the Standing Committee would pass the Bill and pass it in a shape which would require a money vote for the General Medical Council It would, in his opinion, be much more satisfactory to wait and see what was done with the Bill in the Standing Committee

Sir **JOHN GORST**, who had charge of the business, said this was merely a formal proceeding rendered necessary by the fact of money being required to carry out the Act. The Bill in question was a measure about which there had been a great deal of negotiation and an agreement had been come to that certain small expenditure which would be borne by the General Medical Council should be met by the Government. The private Members who promoted the Bill could not possibly move such a resolution as this, and he as a representative of the Government was moving it in order to carry out the agreement come to. It would be for the House to discuss the proposal in Committee and afterwards on report.

Mr. **HEALY** said that while he did not wish to interfere with any arrangement come to he felt that any action taken now would prejudge the case. In the Standing Committee it might be said that the House had already voted, and voted cheerfully, this money.

Mr. **DALY** expressed the opinion that it would be a bad precedent.

The **CHAIRMAN** asked the hon. Member whether he objected to the resolution being taken.

Mr. **DALY** replied in the affirmative.

According to the rules of the House, it being after midnight and objection being taken, the business stood adjourned.

PROCEEDINGS IN THE STANDING COMMITTEE.

FRIDAY, MARCH 23RD.

The Standing Committee on Law of the House of Commons met to-day, with Mr. **LAWRENCE HARDY** in the chair, and proceeded with the consideration of the Bill

Clause 1 as printed said "this Act may for all purposes be cited as the Midwives Act, 1900. *It shall come into force on the first day of April, 1901*"

Mr T P. **O'CONNOR**, on behalf of Mr. **LLOYD-GEORGE**, moved to leave out "midwives" and insert "midwifery nurses." The members of the Committee, he said, were aware that the main objection of the medical profession, or at any rate of the great majority of that profession, was that this measure would transform the midwife and give her all the privileges of a medical man, and the purpose of this amendment was to make it clear that midwives were nurses and not medical practitioners.

Mr **HEYWOOD JOHNSTONE**, the Member in charge of the Bill, said that if he and his friends were to accept this amendment the whole character of the measure would be altered He would not occupy the time of the Committee with argument, but simply say that the term "midwife" was well understood and that in his opinion the fears of the hon. Members were groundless

Dr. **COMMINS**, supporting the amendment, said that in the public mind there would be confusion as between the medical man qualified after long study to practise midwifery, as well as medicine and surgery, and the midwife certified under this Act. In these circumstances he regarded the amendment as absolutely necessary.

Mr. **HAZELL** submitted that the danger apprehended by the movers of the amendment was sufficiently safeguarded by Section 4, where the Central Midwives Board was directed to make rules regulating, supervising, and restricting within due limits the practice of midwives.

Mr. **LLOYD-GEORGE** said that the Bill in its present shape made a serious alteration in the law The state of the law was that no unqualified practitioner could practise midwifery Even the qualified practitioner could not employ an unqualified doctor, no matter how great the experience of the latter in midwifery cases, to assist him in his work If the qualified practitioner did so he was liable to be dismissed from the profession for infamous conduct in a professional respect. Such cases had occurred in the mining districts of Wales and the medical men concerned had been removed from the Medical Register. According to this Bill they denied to the unqualified doctor, no matter how great his experience, what they allowed to a midwife with two or three months' training That was surely a mistake. Indeed, he thought it an absurdity that midwives should be allowed to act as responsible members of the medical profession, and he considered the committee would do well to confine the operations of these women to midwifery nursing. If this Bill were passed then the women in the mining districts of Wales who were now attended by qualified medical men would be attended by midwives registered and certified under this Bill. He thought that very unfair, and he should like to know whether the fashionable ladies who promoted this Bill would like to have the experiment tried upon them. For himself he objected to the experiment being tried upon the humbler classes of the community.

Sir **GEORGE PILKINGTON** thought it was the duty of Parliament to guard the poorer portion of the community against any possibility of misunderstanding in these matters. He thought, too, that the different classes of nurses should be distinguished.

Mr **VICARY GIBBS** said that this was a Bill dealing with midwives and he could not conceive why they should call the people concerned by any other name than midwives. Manifestly those who moved this amendment attacked the principle of the Bill

Mr **GEORGE HARWOOD** took the view that as they were creating a new class of persons it was perfectly right and logical that they should give them a new name The name "midwife" suggested a person not very capable, whereas these persons were to be properly trained, and he thought in their own interests they should have a name making it clear that they were duly qualified for their work.

Mr. **HEYWOOD JOHNSTONE** denied that the Bill created a new class of persons It simply provided that the existing class known as midwives should have some training and show some evidence of competence before carrying on the profession He thought the report of the Select Committee showed that medical men had nothing whatever to fear from the competition of these women Trained women knew when they needed the assistance of the medical man and would send for him, and by having trained women, and trained women only, much suffering would be spared

Sir George Pilkington said that the medical profession did not for ne moment fear competition. What they did fear was that poor omen would not receive proper skilled attention in their time of ouble.

The amendment was then put to the Committee and rejected by 0 tes to 5.

lause 2 in the Bill was in the following terms, viz.:—

—(1) From and after Jan. 1st, 1902, no woman shall be entitled to or use the name or title of midwife (either alone or in combination any other word or words), or any name, title, addition, or description implying that she is certified under this Act, or is qualified to act as a midwife, unless she be certified under this Act.

(2) Any woman who, after Jan. 1st, 1902, not being certified under this Act, shall take or use the name of midwife or any other such name, title, addition, or description as aforesaid, or shall habitually and for gain attend women in childbirth, shall be liable on summary conviction to a fine not exceeding £5.

(3) No woman shall be certified under this Act until she has complied with the rules and regulations to be laid down in pursuance of the terms of this Act.

(4) No woman certified under this Act shall employ as her substitute, or assistant, an uncertified person.

(5) The certificate under this Act shall not confer upon any woman any right or title to be registered under the Medical Acts or to assume any name, title, or designation implying that she is by law recognised as a medical practitioner, or that she is qualified to grant any medical certificate or any certificate of death or of stillbirth, or to attend cases of abnormal labour, or of disease of, or danger to, the mother or the child.

On the motion of Colonel Milward it was agreed to alter the date from Jan. 1st, 1902, to Jan. 1st, 1903.

Colonel Milward moved to amend the second sub-section so as to read: any woman who, &c., shall take or use the name of midwife or any other such name, title, addition, or description as aforesaid *and* shall habitually and for gain, &c. He said he was not prepared to go so far as to say that no person except a registered midwife should be called in, and the object of his amendment was to prevent the entire wiping out of poor women who in rural districts gave assistance to lying-in women.

Mr. Heywood Johnstone said he had great sympathy with the object of his hon. friend which he understood to be to protect the rights of poorer women practising in villages to attend upon their neighbours at necessary times, and if any amendment could be suggested which would make that absolutely clear it would have from the promoters of the Bill their most anxious and most benevolent consideration. Women engaged at the present time in practice were protected by Clause 3 which dealt with persons in *bonâ-fide* practice and bearing satisfactory character.

Mr. Helder said that it was obvious that the clause in its present form would cut out a large number of persons who at the present moment were doing good work and therefore he should like to see it amended.

Mr. Vicary Gibbs expressed the view that this amendment if passed would knock the bottom out of the Bill. It would destroy what the strongest opponents of the measure recognise as its chief merit. Everybody desired that the poor should be protected from incompetent quacks and whatever might be the wishes of the mover of the amendment the effect of what he proposed would be to leave them at the mercy of these quacks. Therefore he hoped the amendment would not be pressed.

Colonel Milward explained that he considered the Bill too drastic in its present shape, but as the hon. Member in charge of the Bill had kindly said he would accept an amendment to carry out what he had in view——

Mr. Heywood Johnstone: Benevolently consider.

Colonel Milward: Benevolently consider; quite so—he was willing to withdraw the amendment.

Mr. T. P. O'Connor said that his position was not to weaken the qualifications of midwives but to strengthen them. He thought it could be shown that if this amendment were carried an unqualified woman could very often practise midwifery if only she avoided calling herself a midwife, and that surely was a fatal objection to the amendment. Yet at the same time the promoters of the Bill must know that if the measure passed in its present form a large number of women who had done this duty as an act of neighbourliness and sometimes perhaps as a small addition to their means would be excluded. He would ask his hon. friend (Mr. Heywood Johnstone) to consider this and endeavour to meet the case. It was demanded that lying-in women should be attended only by a skilled midwife. If they had battalions of skilled midwives ready to spread themselves through all the villages of the country he could understand the Bill, but such was far from being the case. There must be a very considerable interval before they could have this strength of skilled midwives, and he thought his hon. friend should come forward with some practical proposal and not be content with benevolent consideration.

The amendment was then withdrawn.

Mr. Lloyd-George moved to substitute "authorised" for "qualified" in sub-section 5 of the clause.

Sir George Pilkington said that the word "qualified" was calculated to deceive. It applied to a degree in a medical school and he did not think it should be used in connexion with this Bill at all.

The Committee agreed to the proposed alteration.

Colonel Milward moved to leave out all after the word "still-birth" in sub-section five and to insert "and she shall apply for qualified medical assistance in every case which presents abnormality, danger or disease on the part of the mother or of the new-born child."

Mr. Heywood Johnstone said he was afraid that again he could not accede to the wishes of his hon. friend. If this matter was to be provided for at all it should be provided for in the rules made for the guidance of midwives by the Central Midwives Board. He strongly objected to placing upon one particular class of persons in the kingdom a statutory responsibility to send for medical assistance at this particular juncture. If these women were properly trained, as this Bill sought to ensure, then they would know when to send for medical assistance. But why should they put upon them by statute an obligation which they put upon no one else in the community?

The amendment was withdrawn without further debate.

Mr. Lloyd-George moved to insert at the end of the clause the following words, viz.: 'And if any woman certificated under this Act shall do or purport to do anything which by this sub-section it is declared that her certificate does not confer upon her a right or title to do, she shall be liable on summary conviction to a fine not exceeding £5."

Mr. Arthur Elliot said it appeared somewhat hard that a woman should be penalised in the manner proposed if when trouble suddenly arose she endeavoured to the best of her ability to deal with it.

Mr. Vicary Gibbs said it might be necessary at a moment's notice for a midwife to do something in order to save life which would not be her duty in ordinary circumstances. Did the opponents of the Bill mean that she was to leave her patient to die, though measures for her preservation were quite within her power?

Mr. Lloyd-George said it appeared to him that the speeches to which the Committee had just listened indicated what was the real object of the promoters of the Bill. It was intended to set up a perfectly new profession. The Bill proposed to register women who were really nurses and it was obvious that the promoters contemplate that these women should be a separate profession which was not recognised nominally by the Bill. That went to the very root of his objection to the Bill and he thought the promoters had given away their case. He would press the matter now and if he were defeated he would press it again in the House of Commons.

Mr. Parker Smith thought the hon. Member hardly realised the meaning of his amendment. The amendment proposed that if a woman did anything which her certificate did not empower her to do she should be liable to a penalty. She might go to a confinement which was expected to be normal. It turned out to be abnormal and she sent for a doctor. Before the doctor arrived it became absolutely necessary that she should do something and if she did anything she became liable to this penalty. This happened if she were an authorised person. But if she were an unauthorised and uncertificated person she was liable to no such penalty and might do what she liked.

Mr. Lloyd-George said that the point was whether the woman represented that her certificate authorised her to do the thing. If she represented that she was authorised to do the thing when such was contrary to the fact then he certainly thought she should be punished.

Mr. Atherley-Jones said this amendment was obviously intended to make as difficult as possible the benefits aimed at under this Bill. It was an amendment framed in the interests of the medical profession and he hoped the Committee would not accept it.

Mr. Lloyd-George asked whether the promoters of the Bill would accept an amendment which simply covered false representation.

Mr. Vicary Gibbs intimated that he for one would accept such an amendment.

Mr. T. P. O'Connor said he felt there was great force in the case presented by Mr. Parker Smith, but while that was so he thought there was a matter here which the promoters of the Bill ought to consider. The objection of the opponents of the measure was that these midwives were not to be midwives and nurses, but medical practitioners with all the rights of medical practitioners. It was quite true that a woman was not, under her certificate, authorised to attend a case of abnormal labour or of disease of, or danger to, the mother or the child, but the illustration given by Mr. Parker Smith showed that though she was not authorised the woman might do it. Where, then, was the protection? There ought surely to be some safeguard. At the very least it ought to be put upon the midwife to prove that there was danger to mother or child when she interfered. If the promoters did not put in some proviso then they proved the whole case of the opponents that these midwives were not merely doing ordinary midwife and nursing work, but were assuming all the privileges and duties of medical practitioners.

The Solicitor-General (Sir Robert Finlay) said that while he understood what the mover of the amendment meant he did not think that the words he had proposed brought out his meaning and he suggested that in the meantime the amendment should be withdrawn, leaving the matter to be dealt with in the House on the Report stage of the Bill.

Mr. T. P. O'Connor thought the Committee should have a declaration from the promoters of the Bill as to what they were prepared to do in this connexion.

Mr. Heywood Johnstone said that his view was that the Committee was now in a position to take a division upon the amendment unless it were withdrawn. The amendment referred to a woman certificated under the Act and Clause 4 provided for the making of rules "regulating, supervising, and restricting within due limits the practice of midwives." A rule made under this clause would, he thought, amply meet all the difficulties and anxieties raised by hon. Members.

Mr. Parker Smith said he certainly objected to a midwife holding out that she was capable of dealing with abnormal cases. He should like to know whether under the general law a woman dealing with dangerous cases would be in the same position whether licensed or unlicensed, assuming she could not plead emergency and assuming she had had ample notice and did not send for a doctor. He should like to ask the Solicitor-General whether it was necessary to have a special penalty for such a case.

The Solicitor-General replied that he did not think the existing law would deal with this case unless provision were made for it. This matter, however, might be provided for in a rule for the practice of midwives. A rule in stringent terms might be framed providing that any registered midwife who held herself out as qualified to do that which she was not authorised to do, might have her certificate withdrawn. Perhaps the promoters of the Bill would consider the point.

At the request of Mr. Lloyd-George the amendment was withdrawn.

The Committee then proceeded to the consideration of Clause 3, the terms of which were as follows, viz.:—

3. Any woman who, within two years from the date of this Act coming into operation, claims to be certified under this Act shall be so certified provided she holds a certificate in midwifery from the Royal College of Physicians of Ireland or from the Obstetrical Society of London, or such other certificate as may be approved by the Central Midwives Board, or produces evidence satisfactory to the Board that at the passing of this Act she has been in *bonâ-fide* practice as a midwife and that she bears a good character.

Sir George Pilkington moved to insert after "provided" the words "that she bears a good character and that."

Mr. Heywood Johnstone hoped the hon. Member would not press this amendment because it really cast a slur upon the two bodies whose certificates under the Bill were to be accepted as sufficient for the qualification of existing midwives

The amendment was not pressed

Sir George Pilkington moved to leave out the reference to the Royal College of Physicians of Ireland and the Obstetrical Society of London and make the clause simply run: Provided she holds a certificate in midwifery approved by the Central Midwives Board &c

Mr Heywood Johnstone said that the certificate of the Obstetrical Society would cease to exist after the passing of this legislation Since 1872 the society had been engaged in the voluntary work of examining women who wished some certificate or qualification and he thought it would be a somewhat ungracious thing to withhold recognition of this work

The amendment was rejected without a division

The Committee then took up Clause 4 viz —

4 On the passing of this Act the President of the General Medical Council shall take steps to secure the formation of a Central Midwives Board which shall consist of—

(1) Four registered medical practitioners, one to be appointed by the Royal College of Physicians of London, one by the Royal College of Surgeons of England, one by the Society of Apothecaries and one by the Incorporated Midwives Institute,

(2) Two persons (one of whom shall be a woman) to be appointed for terms of three years by the Lord President of the Council; and

(3) One person to be appointed for a term of three years by the Association of County Councils.

After two years from the date of this Act coming into operation the members appointed under subsection (1) shall retire but shall be eligible for re-appointment annually Any vacancy occurring by resignation or death shall be filled up in the case of a member appointed under subsections (1) and (3) by the body which appointed him and in the case of a member appointed under subsection (2) by the Lord President of the Council

The duties of the Board shall be as follows:—

I To frame rules subject to the approval of the General Medical Council

(a) regulating the issue of certificates and the conditions of admission to the roll,

(b) regulating the course of training and the conduct of examinations

(c) regulating the admission to the roll of women already in practice as midwives at the passing of this Act,

(d) regulating, supervising and restricting within due limits the practice of midwives,

(e) deciding the conditions under which midwives may be suspended from practice;

II To appoint examiners,

III To decide upon the places where, and the times when examinations shall be held;

IV To publish annually a roll of midwives who have been duly certified under the Act

V To decide upon the removal from the roll of the name of any midwife for disobeying the rules and regulations from time to time laid down under this Act by the Central Midwives Board or for other misconduct, and also to decide upon the restoration to the roll of the name of any midwife so removed;

VI To issue certificates

And generally to do any other act or duty which may be necessary for the due and proper carrying out of the provisions of this Act

On the motion of Sir George Pilkington it was agreed to strike out the words the President of in the first sentence of the clause

Sir George Pilkington moved to make the first subsection read "Four registered medical practitioners to be appointed by the General Medical Council as follows one practising in the London and South Eastern Registration Divisions, one practising in the South Western West Midland or Welsh Registration Divisions one practising in the Eastern North Midland or South Midland Registration Divisions and one practising in the Yorkshire or Northern Registration Divisions, as from time to time defined by the Registrar General Sir George Pilkington explained that the object of his amendment was to secure for the Central Midwives Board thoroughly representative general practitioners rather than men who occupy distinguished positions as consultants and specialists believing as he did that the former were the better fitted for the work to be done

Mr Heywood Johnstone said he saw nothing in this amendment which would favour the rank and file of the medical profession

The amendment was withdrawn without further discussion

Mr Atherley Jones moved the omission of the words subject to the approval of the General Medical Council No doubt he said there was great opposition to this measure by a considerable number of practising medical men and the reason for that opposition was founded upon the idea that by establishing under the sanction of Parliament a class of certificated midwives the humbler classes of the community would avail themselves of these registered midwives in preference to the ordinary medical practitioner and therefore the object of a very large section of medical men was to try to impose as many restrictions and difficulties——

Several Members No No

Mr Atherley Jones I have had many communications with medical men in many parts of the country—to try to impose as many restrictions and difficulties as possible in the way The Bill provided for the formation of a Central Midwives Board and the constitution of that Board provided that there should be four registered medical practitioners two persons who would probably be medical men appointed by the Lord President of the Council, and one person who might be a medical man appointed by the Association of County Councils It seemed to him that such a body ought to be perfectly fitted for the purpose of framing rules without the assistance of the General Medical Council, and he could not see why there should be a sort of *imperium in imperio* in such a matter It had been pointed out to him that by making these rules subject to the General Medical Council they might have possibly vexatious and at any rate restrictive rules and regulations which would tend much to discourage the employment of midwives There could not be the slightest doubt that to the working classes of this country it was a great boon to be able to get that cheap and effective medical assistance which was provided by a midwife in contradistinction to a medical man

Mr Heywood Johnstone said that the promoters could not accept this amendment All throughout it had been a condition that any rules should be made subject to the approval of the General Medical Council After the assistance the promoters had received from the General Medical Council they could not in honour throw them over in the manner proposed

Sir George Pilkington said he felt sure that the General Medical Council would be able to give excellent advice to the proposed board He greatly regretted that the hon Member (Mr Atherley Jones) had found it necessary to impute to the medical profession so low a motive in this matter as to oust the midwife The medical profession were only anxious that poor women should have skilled attendance the value of which their education and training in medicine, surgery and midwifery enabled them to appreciate

Mr Atherley Jones said that after what had fallen from the Member in charge of the Bill he would not press the amendment

The amendment was accordingly withdrawn

Mr Lloyd-George moved to insert in the subsection dealing with removal from the roll these words "And so that for the purposes of this Act the omission to summon a registered medical practitioner in a case of abnormal labour shall be deemed to be misconduct"

The hon Member said that his object in moving this amendment was to have it made clear that it was the duty of midwives to send for a medical man in abnormal cases and that if they failed to do so it was at their own peril

Mr Heywood Johnstone said it appeared to him that it would be an unfortunate thing to fix a statutory responsibility upon midwives which could he believed, very easily be fixed by rule The rules to be framed would naturally specify the occasions upon which the midwife was to send for medical assistance

Mr Lloyd-George said that in this matter he was rather inclined to agree with the hon Member and he would withdraw his amendment

Sir George Pilkington moved to insert the following additional subsection, viz: "VII At the discretion of the Board to inspect or cause to be inspected from time to time any premises wherein any woman receives or proposes to receive as a midwife a pregnant or lying in woman, and if such premises shall, in the opinion of the board be fit for the reception of a pregnant or lying in woman the Board shall issue a certificate to that effect upon payment by the midwife of such fee as may be fixed by the Board, and shall enter such premises upon a register to be kept by the Board

Mr Parker Smith said he scarcely saw how this would fit in with the other functions of the Board

Colonel Milward suggested that the power might be given to the local supervising authority

Sir Francis Powell, supporting this suggestion said he did not see how the Central Board in London could discharge this duty

Mr Warr appealed to the promoters of the Bill to give this important matter their serious consideration

Mr Heywood Johnstone replied that the matter would most certainly be considered by them and they would be happy to receive any suggestions

The Solicitor General said it might be well to consult the Local Government Board

Meantime the amendment was withdrawn

Clause 5 was passed by the Committee in the following amended form viz:—

5 There shall be payable by every woman presenting herself for examination or certificate such fee as the Central Midwives Board may with the approval of the General Medical Council from time to time determine, such fee not to exceed the sum of one guinea All such fees paid by existing midwives and by candidates for examination shall be paid to the Central Midwives Board The said Board shall devote such fees to the payment of expenses connected with the examination and certificate and to the general expenses of the Board The Board shall as soon as practicable after the 31st day of December in each year publish a financial statement made up to that date and certified by a chartered accountant as correct showing the receipts and expenditure including liabilities, of the Board during the year The Board may apportion between the councils of the several counties and county boroughs any balance against the Board shown in the financial statement in proportion to the number of midwives licensed during the year to practise in those areas respectively, and may recover from the councils the sum so apportioned

Mr Lloyd George moved to add to the clause the words "The general expenses of the Board shall include the payment to the members thereof of remuneration for their services and reasonable travelling expenses upon such a scale as may be approved by the Treasury"

The Solicitor General intimated that the Treasury objected to this addition.

Mr Lloyd-George said that at present there was no machinery at all in the Bill to fix the expenses.

Mr Heywood Johnstone said the intention of the promoters was that the Board should be an unpaid board The promoters had taken the matter carefully into consideration They were told that it would be more acceptable to the profession if they had an opportunity of doing honourable and valuable service of this sort without any possibility of its being thrown in their teeth that they desired to be paid for it

The amendment was rejected by 20 votes to 4

Clause 6 giving power to county councils to contribute towards making good any deficiency in the funds of the Board was postponed

Clauses 7 and 8, dealing respectively with the midwives roll and the appointment of a secretary to the Board were passed without debate

The Committee then proceeded to the consideration of Clause 9 which ran as follows in the Bill as printed, viz:—

9 Every county council or council of a county borough throughout England and Wales shall, on the date of this Act coming into operation constitute the local supervising authority over midwives within the area of the said county or county borough. It shall be the duty of the local supervising authority—

1 To issue licences.

2. To exercise general supervision over all midwives practising within the prescribed area in accordance with the rules to be laid down under the provisions of this Act

3. To investigate charges of malpractice negligence or misconduct on the part of any midwife practising within the district and should

a *primâ facie* case be established to report the same to the Central Midwives Board.

4. To suspend any midwife from practice, in accordance with the rules to be laid down by the Central Midwives Board and approved of by the General Medical Council, if such suspension appears necessary to prevent the spread of infection.

5. To report at once to the said Board the name of any midwife practising in the district convicted of a misdemeanour or felony.

6. During the month of January of each year to supply the secretary of the Central Midwives Board with the names and addresses of all midwives practising in the district and to keep a current copy of the midwives roll accessible at all reasonable times for public inspection.

7. To report at once to the Central Midwives Board the death of any midwife or any change in the name or address of any midwife in the district so that the necessary alteration may be made in the roll.

Mr. Lloyd George moved to strike out of the first sentence the word "constitute" and insert "appoint a committee of not fewer than three registered medical practitioners, not teachers or examiners of midwives, as." He thought it was obvious that for this purpose they should have a medical committee.

Mr. Atherley-Jones said this amendment clearly demonstrated what he had said, that there was an attempt on the part of a few members of this Committee to so restrict the operation of the Act as to make midwives unable to really serve a useful purpose. This amendment was designed to put the midwives under the control of a rival body of persons in the same county. He said so advisedly. He had received numerous representations by medical men that the result of passing this Bill would be to cause midwives to be employed in preference to medical men. He hoped that the promoters of the Bill would resist this amendment. He really felt, in spite of what had been said by Sir George Pilkington, that he (Mr. Atherley-Jones) was amply justified in the observations he made as to the considerations which operated in this matter.

Colonel Milward said he should be prepared to support a proposal that one member of the authority should be a medical man.

Mr. Parker Smith thought they might leave the matter to the discretion of the county council.

Sir George Pilkington said he felt sure the county council would not leave out of account medical representation.

Mr. Heywood Johnstone thought they could trust to the good sense and practical working of the county council. He could not associate himself with the somewhat ungenerous remarks of the hon. Member (Mr. Atherley-Jones) about the conduct of the medical profession. While honestly putting forward their views the medical profession had given the promoters of the Bill the greatest possible assistance.

Mr. Vicary Gibbs said he had conversed with many medical men on the subject and he had not found amongst them any hostility to the Bill. As for himself, he was supporting the Bill because he thought it was in the interests of the very poor and not with the slightest feeling of hostility to the medical profession.

Several Members expressed difficulty about the meaning of the word "*constitute*" in the clause.

The Chairman suggested that it would facilitate debate if he put from the chair the question that "constitute" stand part of the clause.

This question was put and the Committee decided that the word should be removed from the clause.

The Solicitor-General suggested that the best way of meeting the opinion of the Committee would be to say that the county council should be the authority and to insert words to the effect that the county council might appoint a committee not necessarily consisting of members of the county council.

This suggestion commended itself to the Committee and was adopted, Mr. Lloyd-George's amendment being withdrawn.

A proposal by Colonel Milward for the framing of a scale of charges for midwives was not passed.

The Committee then adjourned until Tuesday.

Proceedings in the House.

Friday, March 23rd.

At ten minutes before midnight the House again went into committee on the resolution for making good to the General Medical Council any expenses necessarily incurred under the proposed legislation. Mr. Daly expressed objection to the resolution being passed and in Parliamentary phrase "talked it out"—that is to say, continued speaking until midnight, when by the rules of the House the debate stood adjourned.

Proceedings in the Standing Committee.

Tuesday, March 27th.

The Standing Committee held another meeting to-day, with Mr. Lawrence Hardy in the chair, and completed the consideration of the Bill. There was some delay at the start owing to the absence of the necessary quorum, but once the 20 members had been got together the proceedings only occupied three-quarters of an hour.

On Clause 9 dealing with the local supervision of midwives

Mr. Heywood Johnstone explained that as the clause stood it proposed that it shall be the duty of the local supervising authority during the month of January of each year to supply the Secretary of the Central Midwives Board with the names and addresses of all midwives practising in the district. He moved to alter the clause so as to provide that the licence shall be taken out in the month of January each year and that the names and addresses shall be sent in during the following month—namely, February.

The clause was amended in this sense.

Mr. Warr moved to insert words providing that "it shall be lawful for the local supervising authority to make from time to time any such order as to them seems fit for prescribing and regulating the remuneration of midwives practising in the district."

Sir Frederick Godson said he thought the remuneration of midwives should be left to the operation of the laws of supply and demand and not fixed by the local supervising authority.

Mr. Bonsor spoke of the proposal as a retrograde step, as almost going back to the days when the price of bread was regulated by some constituted authority. He felt sure that in the towns competition would practically settle the scale of charges, while in country villages there would always be someone who would see that the people were not overcharged.

Sir Frederick Godson said that only on Saturday he was speaking to one of the medical men in his district who was a very strong supporter of the Bill generally, but who was certain that in the opinion of the medical profession in the district such a clause as this would do more harm than good.

Mr. Vicary Gibbs condemned the proposal as an extension of a mischievous principle.

Colonel Milward thought it was absolutely necessary that in the small villages poor women should have some protection against extortionate charges.

Mr. Hazell hoped the amendment would not be pressed. He feared that in the case of a supervising authority whose opinion was that this work should be done, not by midwives but by medical men, the charges would be made so high that poor people would not be able to pay for midwives.

The amendment was rejected by 19 votes to two.

Mr. Heywood Johnstone moved to insert "the local supervising authority may delegate, with or without any restrictions or conditions as they may think fit, any powers or duties conferred or imposed upon them by or in pursuance of this Act, to a committee appointed by them and consisting either wholly or partly of members of the council, and the provisions of sub-sections one and two of section 82 of the Local Government Act, 1888, shall apply to every committee appointed under this section and to every council appointing the same."

The hon. Member explained that this provision was taken from the Parish Councils Act of 1894. He had not specified any particular class of physicians or otherwise from whom the coöpted members might be drawn. He thought they could very safely leave that to the good judgment and discretion of the county councils who knew what material they had available for the work. The provisions mentioned in the latter part of the amendment had reference to machinery, the necessary quorum, place of meeting, chairman, and other details.

Mr. Parker Smith asked whether the provision would enable women to serve upon the committee.

The Solicitor-General (Sir Robert Finlay) said the point might be argued and therefore it would be better to put in express words.

The Committee agreed to insert "provided that women shall be eligible to serve upon such committees" and with this addition the amendment was adopted.

Colonel Milward suggested that some limit should be placed on the size of the committees.

Mr. Heywood Johnstone said he would not object to some limitation.

Sir Francis Powell thought it would be better to leave the limit to the discretion of the council.

The Committee endorsed this view.

Clause 10 proposed that a county council may delegate with or without any restrictions or conditions as they may think fit any powers or duties conferred or imposed upon them by or in pursuance of the Act to any district council within the area of the county.

On the motion of Mr. Heywood Johnstone it was agreed to add: "And the powers and duties so delegated may be exercised by a committee appointed by such district council and consisting either wholly or partly of members of the district council." And on the motion of the Solicitor-General to further add: "Any expenses incurred by a district council in the execution of any powers or duties so delegated shall, to an amount not exceeding such sum as may be prescribed by the county council, be repaid to such district council as a debt by the county council. Any excess above the sum so prescribed shall be borne by the district council as part of their ordinary expenses. The provisions of this section shall apply to the administrative county of London in like manner as if each metropolitan borough were a county district and the borough council were the district council of that district."

In Clause 11, dealing with the midwives' licence, amendments were made to provide that the licence shall run until the end of January, *giving the woman the whole month in which to take out the new* licence.

Clause 12, which provides penalties, was altered, and instead of making the offence of an unlicensed woman attending a patient a misdemeanour it was made a summary offence.

On the notice paper the following amendment stood opposite the *name of Sir George Pilkington, viz.*: "Any woman, whether certified or licensed under this Act or not, who after the first day of January, 1902, shall receive as a midwife, a pregnant or lying-in woman in premises which shall not have been certified by the Board as fit for the reception of such a woman under the provisions of this Act shall be guilty of a misdemeanour, and on conviction on indictment shall be liable at the discretion of the court to a fine not exceeding £10, or to imprisonment for any term not exceeding two months with or without hard labour, or to both fine and imprisonment, or, on summary conviction to a fine not exceeding £10."

Sir George Pilkington was not present and accordingly the amendment was passed over.

Clause 13, providing a penalty for wilful falsification of the roll, was agreed to without discussion, and Clause 14, which deals with the prosecution of offences, was amended in regard to certain details. The wording of Clause 15, giving an appeal to the Privy Council in case of disagreement between the General Medical Council and the Central Midwives Board, was also slightly amended, while Clause 16, "Nothing in this Act respecting midwives shall apply to legally qualified medical practitioners," was agreed to without debate.

On Clause 17, limiting the operation of the Act to England and providing that the General Medical Council shall act by the English Branch Council, which for all the purposes of the Act shall occupy the place of the General Medical Council,

Mr. Tennant advocated the extension of this legislation to Scotland and said the promoters should either amend the present Bill with this object or introduce a separate measure for Scotland.

Mr. Parker Smith, speaking in the same sense, said that this legislation was quite as much if not more needed in Scotland than in England.

Mr. Heywood Johnstone said that he thought Scotland would be better dealt with in another Bill. He only hoped that those who given such loyal help and assistance to this Bill would give the same to a Scottish Bill. It was really very much a question of machinery and they had not thought it desirable in this Bill to try to set up the machinery which they believed would be necessary for Scotland and which, to some extent at all events, would differ from the machinery for England. He therefore could not hold out any hopes of dealing with Scotland on the report stage of this Bill, though he desired very much to see a Bill on this subject dealing both with Scotland and Ireland and also the Isle of Man

The clause was then agreed to.

On the definition clause

Mr HEYWOOD JOHNSTONE moved to alter the definition of the term "midwife" so as to read "a woman who undertakes for reward to attend women in childbirth where no registered medical practitioner is engaged or employed" The effect of the amendment, he said, would be broadly to define women who attended child birth into two classes—those who attended under the superintendence and regulation of a registered medical practitioner and those who attended without such superintendence and regulation The women whose training they wished to ensure and whose practice to regulate were the latter This definition would make it perfectly clear that they did not intend to interfere in any way with the monthly nurse who was engaged with a doctor to attend to a lying in woman

The amendment was agreed to by the Committee.

The next notice on the paper was an amendment in the name of Sir George Pilkington to make the definition read "The term 'midwife' means a woman who undertakes for gain and in accordance with the provisions of this Act to attend women in natural labour but not in cases which present difficulty, abnormality, danger, or disease on the part of the mother or the new born child"

Mr VICARY GIBBS said he had promised to move this amendment but he had not promised to present arguments in its favour Indeed, he believed this amendment would wreck the Bill and make it absolutely worthless

The CHAIRMAN ruled that the amendment was out of order after what had been accepted by the Committee

Clause 13 was then agreed to

The Committee reverted to Clause 6, which was in the following terms viz :—

1 A county council shall be empowered to pay out of the county funds as general expenses incurred by them in the execution of their duties under the Local Government Act, 1888, any sum from time to time required to make good a deficiency in the funds of the Central Midwives Board

2 Such expenses as the Treasury may certify to have been necessarily incurred by the General Medical Council in the execution of this Act shall be defrayed out of moneys provided by Parliament

The CHAIRMAN said that the only part of this clause which came before the Committee was the first sub-section, the financial resolution with regard to the second sub-section not having been passed by the House

On the motion of the SOLICITOR-GENERAL the first sub-section was struck out of the Bill

A clause in these terms, "Any expenses under this Act payable by the council of a county or county borough shall be defrayed out of the county fund or out of the borough fund or borough rate, as the case may be," was on the motion of the SOLICITOR-GENERAL, inserted in the Bill.

Three other new clauses were on the notice paper, but none of them were moved and the Bill was ordered for report to the House of Commons

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

AINSWORTH H P, L.R.C.P. Lond., M R.C.S, has been appointed Medical Officer for the Fourth Sanitary District of the North Witchford Union, vice G P O'Connor, resigned

BARON, H N, L.R.C.P Lond, M R C S, has been appointed Medical Officer for the Orford Sanitary District of the Plomesgate Union vice F S Flint, deceased

BEVERIDGE, A. T G, M B, C M Aberd, has been re-appointed Medical Officer, Aberdeen General Dispensary

BOND, FRANCIS THOMAS M D Lond, M R.C S, F R S Edin., has been re appointed Medical Officer of Health for the Cirencester Rural District Council

BRADBURNE, ARTHUR A., L.R.C.P & S Edin., L.F P.S Glasg., late House Surgeon at Teignmouth Hospital, has accepted an appointment under the War Office at Connaught Hospital, Aldershot

BROADBENT, GEO, L.R C P, L.R C S Edin, L.F P S Glasg, has been appointed Medical Officer for the Maltby Sanitary District of the Rotherham Union, vice W H Crossley, deceased.

CLARKE, ARTHUR EDWARD, M.B Lond, M.R C S, L.R.C P, has been appointed House Physician to Guy's Hospital, London

COOPER, C E. M B., B C Cantab., has been appointed Certifying Surgeon under the Factory Acts, for the Urban District of Ivybridge, the Civil Parish of Ugborough in Totnes Rural District, and the Civil Parishes of Cornwood, Harford, and Ermington, in Plympton St Mary Rural District.

DALGARNO, J J Y, M.B., C M Aberd., has been re-appointed Medical Officer, Aberdeen General Dispensary

DAVIES, AUBREY H, B A. Cantab., M R.C S, L.R C P, has been appointed Assistant House Surgeon to Guy's Hospital, London

DRAGE, L., M D Oxon, B Ch, M R C S, has been re-appointed Medical Officer of Health Hatfield Rural District.

DRUMMOND, J, M.D Glasg, has been appointed Medical Officer for the Westoe Sanitary District of the South Shields Union

DURBRIDGE, H M R.C S, L R.C P, has been appointed Assistant House Surgeon to Guy's Hospital, London

EDKINS, J S, M B Cantab has been appointed a Joint Lecturer in Physiology at St. Bartholomew's Hospital Medical School London

EVANS T, M R C S, has been appointed Senior Assistant Medical Officer for the Workhouse, Parish of St. Pancras, London.

EVELYN, W. A, M D Cantab, L.R.C P Lond., M R C S, has been appointed Honorary Physician to the York County Hospital

FINDLAY, WM, M D Aberd, has been re-appointed Medical Officer, General Dispensary, Aberdeen

FIRTH C, M D Lond F R.C S Eng, has been appointed Medical Officer for the Children's Homes of the Gravesend and Milton Union

GAITSKELL, H A, M A, M B, B C Cantab, has been appointed House Surgeon to Guy's Hospital, London

GOSTLING, G W, M.B Lond., has been appointed Honorary Surgeon to the York County Hospital

GRIFFITHS, C A., F R.C S Eng, L.R C P. Lond., has been appointed Honorary Assistant Surgeon to the Cardiff Infirmary.

HALL, C R, L R C P Edin, M R C S, has been re-appointed Medical Officer for the Third Sanitary District, Hatfield Union

HAMILTON-KENNY, F, M R C S, L.S A., has been appointed Medical Superintendent to the Gympie Hospital, Queensland, vice Wm Stewart Geddie, resigned

HANDS, A, L.R C P Lond, M.R C S, has been re appointed Medical Officer of Health by the Wednesfield District Council

HENDERSON, A, M B, C M Aberd., has been re-appointed Medical Officer, Aberdeen General Dispensary

HILTON, C T, B S Lond., has been appointed Assistant House Surgeon in the Surgery at Guy's Hospital, London

HOPKIN, R, L R C P Lond., M R.C S, has been appointed Medical Officer for the Second Sanitary District of the Llandovery Union

HORN, A. E, L R C P Lond, M R C S, has been re-appointed Medical Officer by the Chelsea Board of Guardians

HURLEY, J, L R C P., L.R.C S Edin, L.F P S Glasg, has been re-appointed Medical Officer for the Magor Sanitary District of the Newport Union, Mon

JONES D W, L.R.C P, L R C.S Edin, L.F P S Glasg, has been appointed Medical Officer for the Rotherham Sanitary District of the Rotherham Union, vice J Branson resigned

KNOTT WM M D Edin, has been appointed Vaccination Officer for Middlesbrough

LAMONT J, M B, C M Glasg, has been appointed Medical Officer for the Workhouse, Poplar Union, vice T R. Bowkett, resigned.

LAWSON, T C, M R C S, has been appointed Medical Officer for the Longtown Sanitary District of the Dore Union, vice L. L Thaine, resigned.

LITTLE, ALEX M., M B Ch. M Edin., has been appointed Junior House Surgeon to the Dispensary Hospital Bury, Lancs

MACNAMARA, A. P, M B, B Ch Dub., has been appointed Medical Officer for the Shrivenham Sanitary District of the Faringdon Union, vice G E L Nixon, deceased

MCMURRAY, J M D Irel, M Ch., has been appointed Medical Officer for the Kirkdale Branch Workhouse, parish of Liverpool

MARRIOTT C, M R C S, L.R C P, has been appointed Assistant House Surgeon to Guy's Hospital, London

MATHEWS, J S, L.R C P, L.R.C S Edin, has been re-appointed Medical Officer of Health by the Machynlleth Rural District Council

MICHELL, R W, M B B S Cantab., F R.C S Eng, has been appointed for duty with the troops on active service in South Africa

NEILD, NEWMAN, M B, Ch.B Vict. L.R.C P, M R.C S, has been appointed Registrar to the Royal Hospital for Women and Children, Bristol

NORTHCOTT, JOHN FORD B.A Cantab, M R.C S, L.R C P, has been appointed Assistant House Physician to Guy's Hospital, London

OSBORN A G, M B Lond., has been appointed Assistant House Surgeon to Guy's Hospital, London.

PEARSON, H A L R C P Lond., L.R.C P, L.R.C S Edin has been appointed Medical Officer for the Fifth Sanitary District of the Royston Union, vice F A Davey, resigned

PIRIE W R M B, C M Aberd. has been re-appointed Medical Officer, Aberdeen General Dispensary

RANSOME A S, M B, B C, D P H Cantab has been re-appointed Medical Officer by the Southgate Urban District Council

RHYS W L, L.R C P Lond, M.R.C S, has been appointed Medical Officer for the Aberdare Town Sanitary District of the Merthyr Tydfil Union vice D Davies resigned

ROBERTS, ARTHUR M, F R.C S Edin has been appointed Aural Surgeon to the Royal Berkshire Hospital, Reading

SALMOND, J L., M.B, C.M. Aberd., has been re-appointed Medical Officer, Aberdeen General Dispensary

SHUTTLEBOTHAM, FRANK, M A., M B., B C Cantab., has been appointed Assistant House Surgeon in the Surgery at Guy's Hospital, London

STEWART, WALTER G, M B., B.S Lond., has been appointed Assistant House Physician to Guy's Hospital, London

Symonds, Horatio P., F.R.C.S. Edin., M.R.C.S., has appointed Consulting Surgeon to the Warneford Asylum, Oxford.

Sympson, E. Mansel, M.A., M.D., B.C. Cantab., M.R.C.S., has been appointed Medical Officer to Her Majesty's Prison, Lincoln, vice the late George Mitchison.

Taylor, J. G., B.A. Cantab., M.R.C.S., L.R.C.P., has been appointed House Physician to Guy's Hospital, London.

Tees, J., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Woolwich Sanitary District of the Woolwich Union, vice C. J. Fuller, resigned.

Vincent, Ralph, M.B., B.S. Durh., M.R.C.P. Lond., has been appointed Assistant Resident Medical Officer to Queen Charlotte's Lying-in Hospital, Marylebone-road, London.

Wilkin, Lancelot, M.A. Cantab., M.R.C.S., L.R.C.P., has been appointed House Surgeon to Guy's Hospital, London.

Wolfe, J. F., M.B., C.M. Edin., has been appointed Medical Officer of Health for the Heavitree Urban Sanitary District, vice R. J. Andrews, resigned.

Woodford, E. H., M.D. Aberd., M.R.C.S., has been re-appointed Medical Officer of Health by the Ventnor District Council.

Worger, Thomas Hewlett, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for Radstock, Somerset.

Wreford, John, M.B. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon-Captain to the Volunteer Artillery Battery for South Africa.

Young, M., M.D. Edin., D.P.H. Vict., has been appointed Medical Officer of Health for the Borough of Stockport.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

Bath Royal United Hospital.—Resident Medical Officer for three years. Salary £100 per annum, with board, lodging and washing.

Bootle Borough Hospital, Liverpool.—Junior Resident House Surgeon. Salary £60, with board, washing, and lodging.

Canning Town Medical Mission Dispensary, 520, Barking-road, E.—Assistant Medical Officer (qualified woman). Board and lodging provided.

Cardiff Infirmary.—Assistant House Physician for six months. *Salary at the rate of £50 per annum*, with board, washing, and apartments. Also Resident Medical Officer for three years. Salary £100 per annum, with board, washing, and furnished apartments.

County Asylum, Shrewsbury.—Junior Assistant Medical Officer. Salary £130, rising annually by £10 a year to £150, with board, lodging, and washing. No liquors.

Cumberland and Westmorland Asylum, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £100 a year, with board and residence.

Devon County Asylum, Exminster.—Third Assistant Medical Officer. Salary £120, rising to £150, with board, lodgings, &c.

Down (County) District Asylum, Downpatrick.—Assistant Medical Officer, unmarried. Salary £100 per annum, with furnished apartments, board, washing, and attendance.

Dumfries and Galloway Royal Infirmary, Dumfries.—House Surgeon. Salary £50 per annum, with board and washing. Also Assistant House Surgeon. Board and washing provided.

Evelina Hospital for Sick Children, Southwark, S.E.—Clinical Assistant in the Out-patient Department.

General and Eye Hospital, Swansea.—House Surgeon for twelve months. Salary £50 per annum, with board, apartments, washing, and attendance.

Glasgow District Asylum and Mental Hospital, Gartloch.—Medical Officer (Junior Assistant or Locum Tenens). Remuneration as may be arranged. Apply to the Clerk, Glasgow District Lunacy Board, 38, Cochrane-street, Glasgow.

Govan District Asylum, Crookston, near Paisley, N.B.—Junior Assistant Medical Officer. Salary £120 a year, with rooms, board, laundry, and attendance.

Harris Parish Council, for the Southern Division of Harris.—Medical Officer. Salary £90. Apply to Mr. Thomas Wilson, Solicitor, Lochmaddy, Clerk.

Hereford General Infirmary.—Junior House Surgeon for six months, unmarried. Salary £17 10s., with furnished rooms, board, washing, gas, and attendance.

Hospital and Dispensary, Newark-upon-Trent.—House Surgeon, unmarried. Salary £80 per annum, with board and lodging in the Hospital.

Hospital for Consumption and Diseases of the Chest, Brompton.—Resident House Physicians for six months. Honorarium £25.

Hull Royal Infirmary.—Honorary Assistant Surgeon for five years.

Hulme Dispensary, Dale-street, Stretford-road, Manchester.—House Surgeon. Salary £150 per annum, with apartments, attendance, coal, and gas.

Leeds Public Dispensary.—Junior Resident Medical Officer. Salary £85 per annum.

Liverpool Stanley Hospital.—Senior House Surgeon. Salary £80, with board, residence, and washing.—Also Honorary Physician.

London Temperance Hospital, N.W.—Physician to out-patients. Honorarium 50 guineas per annum.

Loughborough and District General Hospital and Dispensary, Loughborough.—Resident House Surgeon. Salary £100 per annum, with furnished rooms, attendance, and board.

Manchester Southern and Maternity Hospital.—Resident House Surgeon. Honorarium at the rate of £50 per annum, and board.

New Zealand Public Lunatic Asylums.—Two Assistant Medical Officers, unmarried. Salary £250, with board, lodging, and washing. Apply to the Agent-General for New Zealand, 13, Victoria-street, London, S.W.

Paddington Green Children's Hospital, London.—House Physician and House Surgeon for six months. Salary at the rate of 50 guineas a year, with board and residence.

Paddington Infirmary.—Resident Clinical Assistant and Second Assistant to the Medical Superintendent for six months. Board, residence, and washing provided, and an honorarium at the rate of £50 per annum, conditionally. Apply to Dr. M. F. Squire at the Infirmary, 285, Harrow-road, W.

Poplar Hospital for Accidents, Poplar.—Assistant House Surgeon for six months. Salary at the rate of £65 per annum, with board and residence.

Royal Albert Hospital, Devonport.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum. Board, lodging, and washing.

Royal Halifax Infirmary.—Third House Surgeon, unmarried. Salary £50 per annum, with residence, board, and washing.

Royal Hospital for Sick Children, Glasgow.—House Surgeon. Salary £50, with board and laundry.

Royal National Hospital for Consumption, Ventnor.—Clinical Assistant. Board, residence, and laundry provided. Apply to the Resident Medical Officer.

Salop Infirmary, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum.

Seamen's Hospital Society (*Dreadnought*), Greenwich, S.E.—House Physician for *Dreadnought* Hospital, Greenwich. Salary £75 per annum, with board and residence.

School Board for London Evening Continuation Schools.—Medical Superintendent for one year. Salary £100. Apply to the Schools Committee, Victoria Embankment, W.C.

Stockport Infirmary.—Assistant House and Visiting Surgeon. Salary £70 per annum, with board, washing, and residence.

St. Saviour's Union, Surrey.—Second Assistant Medical Officer at the Infirmary, East Dulwich-grove, S.E. Salary at the rate of £100 per annum, with residential allowances, subject to statutory deductions. Apply to the Clerk, Offices, John-street West, Blackfriars-road.

Taunton and Somerset Hospital, Taunton.—Assistant House Surgeon for six months. Salary at the rate of £30 per annum, with board, lodging, and laundry.

Teignmouth Hospital, South Devon.—House Surgeon. Salary £50 a year, with board, lodging, and washing. £6 per annum allowed in lieu of stimulants.

The Chief Inspector of Factories gives notice of vacancies as Certifying Surgeons under the Factory Acts at Charing, in the County of Kent, and at Cymmer and Rhondda Fach, in the County of Glamorgan.

Vestry of Clerkenwell, London.—Medical Officer of the parish, *pro tem.* Salary £250 per annum. Apply to the Vestry Clerk, Town Hall, Clerkenwell.

Weston-super-Mare Hospital.—House Surgeon, unmarried. Salary £80 per annum, with board and residence in the hospital.

Wolverhampton and Staffordshire General Hospital, Wolverhampton.—Assistant House Physician for six months. Honorarium at the rate of £50 per annum, and board, lodging, and washing.

Worcester General Infirmary.—Assistant House Surgeon for two years, unmarried. Salary £70 per annum, with board, residence, and washing.

York County Hospital.—House Surgeon. Salary £80 per annum, with board, residence, and washing.

Births, Marriages, and Deaths.

BIRTHS.

Best.—On March 18th, at Waltham-cross, Herts, the wife of F. H. de Greaves Best, M.R.C.S., L.R.C.P., of a son.

Collins.—On March 21st, at Ulverston, Lancashire, the wife of A. W. Collins, M.B., D.P.H., of a daughter.

Eccles.—On March 24th, at Harley-street, W., the wife of W. McAdam Eccles, M.S. Lond., F.R.C.S. Eng., of a daughter.

Glasson.—On March 25th, at Cardigan House, Chadwell Heath, Essex, the wife of C. J. Glasson, M.D., of a son.

Howitt.—On March 26th, at Ebor House, Grove-park, Chiswick, the wife of G. G. Howitt, M.D., of a son.

Sutcliff.—On March 19th, at Great Torrington, Devon, the wife of Harvey Sutcliff, M.B., M.R.C.S., of a daughter.

Sylvester.—On March 23rd, at Leiston, Suffolk, the wife of Herbert Mayris Sylvester, M.R.C.S., L.R.C.P. Lond., of a daughter.

Tyson.—On March 23rd, at Lowestoft, the wife of Wilson Tyson, M.A., M.B., B.C. Cantab., of a daughter.

Whitcombe.—On March 26th, at 164, Earl's Court-road, Kensington, the wife of P. P. Whitcombe, M.B. Lond., of a son.

DEATHS.

Bayley.—On March 23rd, at Priory Cottage, Northampton, Cecil Bayley, L.R.C.S., L.R.C.P. Edin., aged 31 years.

Fyfe. On March 26th, at Ealing, Andrew Fyfe, M.D., F.R.C.S. Edin., aged 72 years.

Gunning.—On March 22nd, at Addison-crescent, Kensington, Robert Halliday Gunning, M.D., LL.D., aged 81 years.

King.—On March 16th, at Whitstable, Kent, Henry Stavely King, M.D. Lond., M.A. Cantab, aged 68 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages and Deaths

Notes, Short Comments, and Answers to Correspondents.

THE REGISTERED QUACK

THE ordinary quack undertakes to treat diseases about which he knows absolutely nothing But at all events he has not been admitted into a brotherhood of men membership of which entails great responsibilities and the presumption of possessing an amount of knowledge which has been keenly tested When a qualified and registered medical man does go wrong—and fortunately such instances are rare—he goes very wrong indeed He has nerve and he has knowledge. For this reason we desire to call the attention of the medical profession, to say nothing of the General Medical Council, to an advertisement of the most shameless character which appears in the *Queensland Times* for Jan 25th, 1900 The advertisement in question is on page 6 and occupies the top half of the left hand column. We reproduce it as it stands, with the exception of the embellishment of "Dr." Tarrant's portrait.

Dr. Tarrant,

F.R C.S E., L.R C P E, L M.R C P.E., ALSO
L R C S I,

FOR sixteen years Hon Surgeon to the Sydney Hospital—Registered by the GOVERNMENT Medical Board—has during his recent world wide travels discovered a

New Method of Healing,

which acts like Magic in removing Foul Breath Indigestion, Palpitation, Blushing, Shortness of Breath, Impaired Memory, Weak, Sore, Sunken, or Dark Circled Eyes, Sallow or Pimply Skin, Dulness of Intellect, Piles, Constipation or Relaxation of the Bowels, Bad Taste, Wind, Desire for Solitude or Drink, Bashfulness, Weak Back, Bad Feet, Oozing of Saliva from the Mouth during Sleep, Neuralgia, Hacking Cough, Giddiness, Fear of Insanity or Suicide, Inclination to throw yourself down when over water, Inability to keep your Thoughts off Impure Subjects Dreams, Twitching of the Eye lids, Numbness or Prickly Sensations, Timidity, Fear of Impending Danger, &c.

Dr TARRANT makes *absolutely no charge* for Advice—but £1 is required to cure almost any complaint, including Skin Diseases, Liver Troubles, Gravel, Scrofula, Throat, Eye, or Ear Complaints, Fistula, Piles, Paralysis, Sciatica, Rheumatism, Constipation, Hip Disease, Dropsy, Worms, Epilepsy (Fits), Bright's Disease, Influenza, Lung Troubles, Coughs, Neuralgia, Varicocele, &c

You should, to avoid delay, enclose £1 in First Letter If Dr TARRANT decides that he cannot cure you, *the pound will be returned to you.*

All communications should be addressed to

DR. HARMAN TARRANT,
151, ELIZABETH STREET, SYDNEY,

Or, if preferred, H T, Box 1204, G P O, Sydney.—

If you desire full information re All Complaints, or if it is your intention to Marry send 6d in Stamps for Dr TARRANT'S Exhaustive Work. This beautiful volume will be found to contain 125 prescriptions for self-cure, many appropriate illustrations, and is entitled

"Independence of the Healthy."

(Please mention "Queensland Times" when writing)

Now we have no hesitation in saying that this advertisement is one of the most pestilential we have seen and the worst part of the matter is that "Dr" Harman Tarrant's name appears in the Medical Register for 1899 as Tarrant, Harman John, Sydney, New South Wales, 1867, Oct. 21st, E, Lic R Coll Surg Irel, 1867, Lic. R Coll. Phys Edin 1867, Fell. R. Coll Surg Edin, 1837 Mr Tarrant's name should at once be removed from the Medical Register and we trust that the bodies which gave him his diplomas will also take some notice of his behaviour

Mr Tarrant's effusion also appears in the *Sunday Times* of Sydney of Feb. 11th, 1900, in company with a number of other advertisements of the same kidney One of these is headed: "Dr Gibbons, M A., L.R C P E, L.R C S E, L.M R C E, ETC" "Dr" Gibbons describes himself as being trebly qualified and registered in London and the colonies as a physician and surgeon He also says that he has made a life-long study of private diseases Unlike Tarrant, Gibbons does not say anything about no charge for advice but modestly intimates that £1 is sufficient to send *Gibbons does not* give his initials so we are unable to confirm his statement that he is registered as a physician and surgeon in London In the Medical Register for 1899 there is no Gibbons in the Colonial List, but on page 632 there are seven gentlemen bearing the name of Gibbons Only two of these, however, register an Edinburgh degree or diploma and they are respectively an M D and an M B of the University of Edinburgh. Obviously neither of these gentlemen is the person upon whom we are animadverting Perhaps the General Medical Council will take note of Gibbons's assumption

THE PARIS MUNICIPALITY AND THE SPREAD OF INFECTION

To the Editors of THE LANCET

SIRS,—On Friday, March 16th, a by law was passed by the Paris Municipal Council against spitting in public places, including, as I understand, the streets of the city From an æsthetic point of view their action is beyond cavil. Their intention, however, as judged by the speech of M Fortin, who moved the resolution, was the suppression of contagium To me it seems the converse will result for the following reasons *Sunlight* and *fresh air have a powerful bactericidal* action, so much so that the tubercle bacillus is destroyed when exposed to both in from eight to 12 hours I believe I am correct in stating so is also the Klebs Löffler and, in fact, the majority of micro organisms Again, dilution, such as would of necessity exist in open places, attenuates contagium Persons who suffer from chest and throat affections must expectorate What, then, will be the result? They will spit into their handkerchiefs, those will go into the soiled clothes basket swarming with micro-organisms, which, *in the heated air of the house, will rapidly desiccate* We have, as a consequence, a concentrated contagium in a confined space

I am, Sirs, yours faithfully,

Ballincollig, March 22nd, 1900 JAMES J HARDING, D P H, &c

To the Editors of THE LANCET.

SIRS,—The recent enactment of the Paris Municipal Council against street-spitting should at least awaken consideration of the subject by our own London County Council I should imagine in the case of a similar prohibition (as obtains in the *United States and Paris) being* adopted the district of Spitalfields should be exempt and the attention of the officers of the Sal(i)vation Army called to the matter How the London County Council can ever hope to expect-a rate should they be compelled to pass a by law against spitting in the streets seems a puzzle to me.

I am, Sirs, yours faithfully,

Cheltenham, March 26th, 1900, ALEXANDER DUKE.

SURGERY IN FICTION.

TRUTH, it is often said, and *rightly so, is stranger than fiction* The astounding cases of recovery after injury to what are commonly supposed to be vital portions of the economy which have been reported from time to time in our columns in the graphic letters supplied to us from the front by Sir William MacCormac are sufficiently remarkable, but even they must pale before the quotation from a popular novel which is given in the following letter *from* a correspondent —

To the Editors of THE LANCET.

SIRS,—The astonishing skill and profound knowledge of the "doctor" of fiction are well known. As you have occasionally amused your readers with extracts illustrating the above I think the following from a work by a well known novelist may interest you The hero is accidentally run through the "chest' by a foil the button of which had become detached The "medical practitioner of the district' is on the spot and pronounces the wound as dangerous but not necessarily fatal. Later, however, "he will by no means commit himself to a definite opinion' as to *prognosis* and *delivers the following* opinion:—"Without a doubt it was a critical case. Though the cœliac axis had been missed by a miracle the vasa vasorum blood vessel had suffered lesion The left sub-clavian artery had been torn through, yet from its known power of contraction he trusted that the interior lining would be closed, when further loss of blood would cease Of course unfavourable symptoms might supervene at any moment—at any moment Quiet—that is absolute rest—was indispensable With no exciting visits, and—yes—with the closest attention and *good nursing*, a distinctly favourable termination might be—ahem—hoped for" You will be glad to hear, however, that despite the above formidable injuries in the course of a week the popular practitioner alluded to had the honour of informing the anxious inhabitants of the surrounding district that the injury having, as he had the honour to diagnose, "providentially not occurred to the trunk artery the middle coat of the smaller blood vessel had, from its elastic and contractile nature, after being torn by the partially blunted end of the foil, caused a closure In point *of fact*, the injury had yielded to treatment. He would definitely pledge himself, in fact, that the patient was bordering upon convalescence. In a week or two he would be ready to support a removal, &c., when doubtless his youth, temperate habits and excellent constitution would combine to produce a complete recovery' The above is apparently written in all seriousness and the author is, as I have said, one who has achieved *for* himself a considerable reputation

I am, Sirs, yours faithfully,

W. G A.

CONFLICTING MEDICAL EVIDENCE: A VERY PROPER VERDICT.

AN inquest was held on March 20th concerning the cause of the death of a man named William Tabern Up to Nov 14th, 1899, Tabern had worked at the White Cross Collieries On that day his back and leg were hurt by a stone falling upon them He did not go to work again and stayed for a month in bed Dr E P Twyford said that from Feb 27th to March 5th 1900, he had seen Tabern daily. He had made a post-mortem examination and had found excessive degeneration of the arteries of the brain. Mr. P. J. O'Keeffe was present at the post-mortem examination. Dr. Twyford gave it as his opinion that the man died from natural causes—i.e., disease of the brain. Mr. O'Keeffe said that in his opinion death was caused by an accident. Tabern had worried a great deal after his accident lest he should not be able to get work again after his recovery. He would have lived longer if the accident had not occurred. A majority of the jury returned a verdict that the deceased died from the accident. The coroner, however, said that he must have a unanimous verdict. The inquiry was adjourned. At the resumption on March 21st further medical evidence was given by Mr. Turner, Dr. Twyford's assistant, and Dr. Robert Jackson. Both were of opinion that death was due to degeneration of the cerebral arteries and that the accident had in no way hastened death. Mr. O'Keeffe repeated that he considered that the injury was the indirect cause of the man's death. The jury eventually returned an open verdict, stating that they were unable to say whether the degenerative changes in the brain were the result of the accident or not. The coroner said that he quite agreed with the verdict.

"UNUSUAL ENDING OF A CASE OF EMPYEMA."

To the Editors of THE LANCET.

SIRS,—The following case may prove of interest in relation to Dr. Cropper's case published in THE LANCET of March 17th. In December, 1896, a friend of mine in Salford had a case of pneumonia in a girl, aged 19 years. The doctor died shortly after, and a gentleman who acted as "locum" till the widow could make arrangements asked me to go with him to see the above patient. We found the whole of the left side dull, also an emphysematous area of about two and a half inches in diameter, so far as I recollect, above the left breast. She was coughing up fœtid pus and was vomiting it also, but the quantity vomited was much greater than that expectorated. A few days after I removed a portion of rib and drained. The girl made a good though rather tedious recovery, with much less deformity than we had expected. Was the vomited pus first coughed up and swallowed or was there an opening from the pleura into the stomach or the œsophagus? I think the quantity vomited favours the latter view. I should be glad of the opinions of others on this case.

I am, Sirs, yours faithfully,

Great Moor, Stockport, March 22nd, 1900. W. R. MANDER.

*** Perforation into the œsophagus is probably what occurred.—ED. L.

SUCCESSFUL ACTION BY A MEDICAL MAN.

AN action was recently tried in the Tunbridge Wells County Court wherein Mr. W. Stamford, M.R.C.S. Eng., sued Mr. Hammond, a local builder, for the sum of £31 8s. 6*d.* for medical attendance. Mr. Stamford gave evidence that he had attended defendant for a long time. Mr. Robb, a solicitor, who appeared for Mr. Hammond, argued that the charges were excessive and that defendant was only a working bricklayer. Dr. J. E. Ranking, the senior physician at the Tunbridge Wells Hospital, said he knew the case of Mr. Hammond well. It was a serious and prolonged case and the fees were justifiable. Defendant was ordered to pay the amount claimed and costs, on which we congratulate Mr. Stamford.

A QUESTION OF SALARY.

To the Editors of THE LANCET.

SIRS,—A practitioner for whom I acted as locum tenens paid me at the rate of £3 3s. per week, stating that he had agreed upon those terms with the chemists from whom he got my name. I told him that my fee was £4 4s. per week. On subsequent inquiry from the chemists I found that no mention had been made of terms. Am I entitled to the balance of my fee and, if so, what steps should I take to recover it? I have already written to the principal stating my claim.

I am, Sirs, yours faithfully,

March 20th, 1900. C.M., M.B.

*** If "C.M., M.B." agreed to give his services for £3 3s. per week he must abide by his bargain. But if the principal obtained those services for £1 1s. a week less than he could otherwise have obtained them for by making an inaccurate statement, we think the principal should not keep "C.M., M.B." to the bargain, but should pay him on the higher scale.—ED. L.

"THE ROYAL NAVY MEDICAL DEPARTMENT."

To the Editors of THE LANCET.

SIRS,—My attention has been called to a letter in THE LANCET of March 24th, where on p. 899 a correspondent refers to the inspection by the General Medical Council of certain university examinations for the M.B. degree. He is exercised to find that the Medical Department of the Admiralty signalises in the Navy List the holders of degrees and withholds any other qualifications held by non-graduates. He seeks to belittle the value of the M.B. degree by reference to a report of the Visitor and Inspectors of the Medical Council on two of the universities, part of which he quotes. The date of that report is 1885. Since that time—viz., in 1892—these universities, together with all others in the three kingdoms, have been again visited and inspected by the Medical Council and in common fairness your correspondent should have quoted from these, the last, reports. A reference to vol. xxx., 1893, of the Council's Minutes will satisfy him, and all others concerned, that the examinations he refers to were found to be sufficient and satisfactory. It forms no part of the duty of the General Medical Council to indicate whether any examination held by universities or corporations is superior or inferior to another. Its statutory duty is merely to declare whether these examinations are "sufficient" within the meaning of the Medical Act. I will venture lastly to state my belief that the Medical Department of the Admiralty well understands its own business.

I am, Sirs, yours faithfully,

DYCE DUCKWORTH,

Chairman of the Examination Committee

March 26th, 1900. of the General Medical Council.

DRUGS WHICH COLOUR THE URINE.

To the Editors of THE LANCET.

SIRS,—I should feel obliged if you could tell me through THE LANCET what are the different drugs which colour urine, also the names of any books giving information on the subject.

I am, Sirs, your faithfully,

March 23rd, 1900. STUDENT.

*** Rhubarb and santonin colour the urine yellow, but if the urine be very alkaline santonin colours it red. Carbolic acid, impure salicylates, and creasote give a blackish-green colour and methylene blue colours the urine blue, senna gives it a brown colour, and hæmatoxylin a reddish tinge. Information may be found in various books upon clinical diagnosis.—ED. L.

TO MEDICAL FREEMASONS.

To the Editors of THE LANCET.

SIRS,—May I, through your columns, ask my Masonic brethren—more especially old King's men—for any votes they can possibly spare or obtain on behalf of the little son of the late F. W. Skrimshire (an obituary notice of whom appeared in THE LANCET of Dec. 2nd, 1899) who is a candidate for the Boys' School at the coming April election, and, I believe, the only one from our profession. They will be most gratefully received either by the widow, Mrs. Skrimshire, 2, Southampton-terrace, Farnborough, Hants, or by

Yours faithfully,

GEO. JNO. EADY.

Juglans Lodge, Enfield, Middlesex, March 27th, 1900.

"A SAD AND URGENT CASE."

To the Editors of THE LANCET.

SIRS,—The following are the subscriptions received since the last notified and which now close the list, the total amount subscribed in response to Dr. Macnaughton Jones's appeal being £110 5s. 6*d.* I enclose a copy of receipt from the solicitor who has kindly undertaken the further disbursement of the fund in weekly payments.

I remain, Sirs, faithfully yours,

WILLIAM H. BOURKE, M.D. Brux.

South Kensington, March 28th, 1900.

	£	*s.*	*d.*		£	*s.*	*d.*
Miss Corrie	1	1	0	Sir Thomas Smith, Bart., F.R.C.S.	5	0	0
Mr. P. J. Freyer	1	1	0	Mrs. Tomkins	0	10	0
Mr. W. Roughton	1	0	0	Mrs. Jones	0	5	0
Mr. A. Cosgrave	1	1	0				

[COPY.]

Carlton Chambers, 8, Regent-street, S.W., Feb. 26th, 1900.

SAD AND URGENT CASE.

Received from Dr. W. H. Bourke, the Treasurer of this Fund, the sum of eighty-two pounds nineteen shillings and tenpence, being the balance in his hands (after certain urgent payments), to be applied by me as arranged for the benefit of the recipient and his family. HERBERT R. BLISS, Solicitor.

ENGLISH PRACTITIONERS IN SPAIN.

A CORRESPONDENT would be glad to know what restrictions, if any, govern the practice in Spain of medical men holding English qualifications.

◆

Surgeon.—The debt ought to be recovered by legal process in the county court. The circumstances are such that if they are properly supported by evidence the debtor will obtain no sympathy from the judge. We do not think any criminal proceedings are indicated, and are very doubtful if such could be taken; but of course our correspondent will only act under legal advice.

W. S.—We agree with much of our correspondent's letter, but we cannot advocate the giving of heroic doses of dangerous drugs. The dosage of the Pharmacopœia is based upon the experience of many medical men carefully verified and collated, and the medical man who administers a dose four times as large as the official one takes upon himself a dangerous responsibility.

Medicus.—We are not aware that the paper is supplied through us. Our correspondent should consult his newsagent. We have not the information asked for concerning the *Biographer*, but we advise "Medicus" not to give the information asked for and not to send money.

Inquirer.—The purchase price is usually calculated upon gross receipts.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 29th, 1900

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall.	Solar Radia in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Mar 23	29·76	E		47	46	42	41	43	Overcast
24	29·87	N E		58	43	37	38	39	Overcast
25	29·81	N E		65	44	36	36	38	Cloudy
26	29·68	N		77	43	34	35	36	Overcast
27	29·66	N E		79	45	34	35	37	Overcast
28	29·53	W	0·15	75	45	35	38	39	Raining
29	29·90	N		76	45	32	35	37	Fine

During the week marked copies of the following newspapers have been received *Leinster Express, Blackburn Daily Telegraph, Sun (London), Sanitary Record, Western Morning News, Caterer (London), Craven Herald, Weekly Messenger (Paris), Oldbury Weekly News, Burnley Gazette, Sheffield Daily Telegraph, Hereford Times, Glasgow Herald, Norfolk Weekly Standard, Market Harborough Mail, Birmingham Daily Post, Wiltshire Chronicle, Times of India, Pioneer Mail, Citizen, Scotsman, Builder, Architect, Staffordshire Advertiser, Yorkshire Post, Derbyshire Courier, Halifax Courier, Bristol Mercury, Newcastle Daily Chronicle, Leeds Mercury, Brighton Gazette, Manchester Guardian, North Middlesex Chronicle, Shields Morning Mail, Shanghai Mercury, Dorset County Chronicle, Aberystwyth Observer, Hertfordshire Mercury, Mining Journal, Local Government Chronicle, Surrey Comet, Reading Mercury, City Press, Surrey Advertiser, Sunday Times (Sydney N.S.W.), Local Government Journal, Weekly Free Press and Aberdeen Herald, Portadown News, Ilford Guardian, Southern Times (Weymouth), Cambridge Chronicle, North Wales Times, Liverpool Daily Post, Stroud News, &c., &c.*

Medical Diary for the ensuing Week.

OPERATIONS

METROPOLITAN HOSPITALS

MONDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (4th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (5th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (7th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES

MONDAY (2nd).—MEDICAL SOCIETY OF LONDON.—9 P.M. Sir W. M. Banks: The Present Position of the Parasitic and Infective Theories of Cancer; Operative Proceedings for the Cure of Mammary Cancer; the Author's Statistics. Lantern Demonstration to illustrate the first subject. (Lettsomian Lecture).

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40, Leicester-square).—7 P.M. Council Meeting. 8 P.M. Paper:—Mr. G. J. Goldie: X rays in the Practice of Dentistry. Casual Communications:—Mr. H. Baldwin: A Case of Necrosis.—Mr. H. G. Read: A New Saliva Tube.

TUESDAY (3rd).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—Dr. S. Martin and Prof. Sherrington will open a discussion on the Changes of the Blood in Disease, and the following gentlemen will read papers or join in the discussion:—Dr. A. Wright, Dr. H. Hawkins, Dr. W. Hunter, Dr. R. Bradford, Dr. Drysdale, Dr. Bryant, Dr. Garrod and Dr. Whitfield.

WEDNESDAY (4th).—OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by the President, Dr. W. Duncan, Dr. Cullingworth, Dr. Stabb, Dr. Addinsell, Dr. Macnaughton-Jones, Dr. C. H. Roberts, Dr. Tate and Dr. A. W. W. Lea. Papers:—Dr. J. M. M. Kerr: Three Cases of Incarceration of the Retro-displaced Gravid Uterus and one of Extra-uterine Pregnancy simulating that condition.—The President (Mr. A. Doran): A Case of Extra-uterine Gestation in which Fœtal Death occurred at the Eighth Month after Spurious Labour: Abdominal Section two months later.

THURSDAY (5th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road).—Discussion on Purulent Nasal Discharges and their Treatment (opened by Mr. E. Roughton). Dr. D. Grant, Dr. W. Hill, Dr. H. Tilley and others will take part.

FRIDAY (6th).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith, W.).—Papers:—Mr. I. Dunn: Purulent Ophthalmia and its Treatment.—Dr. H. Snow: Three Cases illustrating the Clinical Behaviour of Gall-stones.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases will be shown by Sir Felix Semon, Dr. Beale, Dr. StClair Thomson, Dr. W. Williams, Dr. Tilley, Dr. D. Grant, Mr. C. Symonds, Mr. Lake and Mr. Waggett.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—8.30 P.M. Paper:—Mr. E. Willett: The Administration of Anæsthetics to Young Children.

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.).—8.45 P.M. Discussion on the Midwives Registration Bill (introduced by Dr. F. S. Toogood).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. F. Payne: Consultation. (Skin.)

TUESDAY (3rd).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. W. B. Cheadle: Some Cirrhoses of the Liver. (Lumleian Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. S. J. Sharkey: Consultation. (Medical.)

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. E. Ray Lankester: The Structure and Classification of Fishes.

WEDNESDAY (4th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. G. Heron: Consultation. (Medical.)

THURSDAY (5th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. W. B. Cheadle: Some Cirrhoses of the Liver. (Lumleian Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—3 P.M. Dr. Harrison Low: Class. Practical Application of Roentgen Rays. Demonstration V. 4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

FRIDAY (6th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. R. Lake: Consultation. (Ear and Throat.)

ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Prof. Dewar: Solid Hydrogen.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed exclusively "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

Communications, Letters, &c., have been received from—

A.—Dr. C. M. Allan, Longton; Messrs. Allen and Hanburys, Lond.; Dr. Adamson, Hetton-le-Hole; A. D. H.

B.—Mr. C. A. G. Browne, Lond.; Brin's Oxygen Co., Lond.; Mr. A. Benthall, Lond.; Lieutenant-Colonel S. H. Browne, I.M.S., Lahore, India; Mr. G. A. W. Barber, Lond.; *Bath Journal*, Proprietors of; Mr. W. Brown, Cheltenham; Bovril, Ltd., Lond.; Mr. L. A. Bidwell, Lond.; Mr. H. Belcher, West Bridgford; Messrs. Baiss Bros and Co., Lond.; Messrs. Barstow and Millar, Edinburgh; Dr. J. Bride, Wilmslow; T. B. Browne, Ltd., Lond.; Messrs. Bates, Hendy, and Co., Lond.; Bath Royal United Hospital, Secretary of; Mr. C. Birchall, Liverpool; Mr. L Browne Lond.; Dr. Clark Bell New York City; Dr. R. D. Batten, Lond.; Mr. F. A. Bloxam, Lond.

C.—Señor D. N. Cañete, Jerez de la *Frontera, Spain*; Mr. L. N. Choudhuri, Balaghat; Cancer Society, Lond., Secretary of; Colonial Office, Lond.; Charity Organisation Society, Lond.; Messrs Cuxson, Gerrard, and Co., Oldbury; County Asylum, Shrewsbury, Medical Superintendent of; Cambridge Summer School of Medicine, Hon. Secretary of; Cardiff Infirmary, Secretary of; Messrs. Crowley and Bolger, Dublin; Cumberland and Westmorland Asylum, Carlisle; Casseler Gummiwaarenfabrik, Germany; County Hospital, York, Secretary of; Chester General Infirmary, Secretary of; C. W.

D.—Captain H. E. Drake-Brockman, I.M.S.; Mr. L. J. Dods, Lond; Dumfries and Galloway Royal Infirmary, Treasurer of; Dunstable's Food Co., Lond.

E.—Dr. G. J. Eady, Lond.; Dr. W. Edmunds, Lond.; Mr. Edridge-Green, Lond.

F.—Dr. G. Foy, Dublin; Mr. E. H. Freeland, Lond.; Messrs. Fairchild Bros. and Foster, Lond.; Flower House, Catford, Medical Superintendent of.

G.—Dr. E. V. Gostling, Stowmarket; Mr. J. Gray, Lond.; Messrs. J. Griffin and Son, Lond.; G. de V. B.; Messrs. R. W. Greeff and Co., Lond; Mr. R. Graham, Pitlair; Dr. K. Grube, Lond.; Mr. P. T. Goodman, Lond.; Mr. E. F. Grun, Southwich; Mr. C. H Garland, Lond.; Glasgow Royal Infirmary, Superintendent of; G. W. O.

H.—Dr. J. Basil Hall, Bradford; Mr. J. Hopkins, Lond.; Hereford General Infirmary, Secretary of; Messrs. Holt, Risque, and Robson, Manchester; Mr. F. C. W. Hounsell, Lustleigh; Dr. A. E. Henderson, Nagpur, India; Dr. Horton-Smith, Lond.; Hospital for Sick Children, Lond., Secretary of; Huddersfield, Medical Officer of Health of; Dr. J. P. Henry, Lond.; Messrs. J. H. Holmes and Co., Lond.; Mr. J. L. A. Hope, Addlestone; Miss A. K. Harding, Lond.

I.—Messrs Idris and Co., Lond.

J.—Miss H. M. Johnson, Liverpool; Mr. R. Johnson, Hollesley Bay; Jeyes' Sanitary Compounds Co., Lond.; J. S.

K.—Dr. C. F. Knight, Portobello; Mr. B. Kuhn, Lond.; Mr. J. Kirby, Winchester.

L.—Dr. P. P. R. Lyle, Newcastle; London Press Exchange; Liverpool Stanley Hospital, Secretary of; Mr. S. C. Lawrence, Earls Barton; Messrs. Leather and Veale, Leeds; Leeds Public Dispensary, Secretary of; Loughborough General Hospital, Secretary of; Mr. T. Laffan, Cashel; Messrs. Lee and Martin, Birmingham; Dr. R. H. Lucy, Plymouth; Dr. H. K. Leake, Dallas, U.S.A.

M.—Dr. C. Martin, Edgbaston; Dr. Mackay, Devizes; Mellin's Food, Ltd., Lond.; Mr. J. McMurtrie, Glasgow; Messrs. Macmillan and Co., Lond.; Messrs. J. Maclehose and Sons, Glasgow, Medicus, Great Yarmouth; *Midland Counties Herald*, Birmingham; Mr. S. W. MacIlwaine, Redhill; Manchester Medical Agency; Manchester Southern Hospital, Hon. Secretary of; Dr. Macnaughton-Jones, Lond.; Dr. J. E. Miller, Londonderry.

N.—Northern Medical Association, Glasgow; Newark-on-Trent Hospital, Secretary of; Neyroud's Advertising Agency, Lond.; North London Hospital for Consumption, Secretary of.

O.—Messrs. Orridge and Co., Lond.; Observer, Bournemouth; Professor Osler, Baltimore; Mr. T. Orchard, Lond.

P.—Mr. H. G. Plimmer, Lond.; Mr. Y. J. Pentland, Edinburgh; Dr. F. J. Poynton, Lond.; Dr. Pye-Smith, Lond.; Mr. H. W. Pound, Lond.; Plumbers' Company, Lond.; Messrs. Parke, Davis, and Co., Lond.; Mr. John Poland, Lond.; Paddington Infirmary, Harrow-road, Secretary of.

R.—Mr. E. W. Richmond, Ilfracombe; Royal Halifax Infirmary, Secretary of; Rover Cycle Co., Coventry; Mr. E. J. Reid, Lond.; Mr. H. O. Reilly, Manchester; Royal Albert Hospital, Devonport, Secretary of; Mr. R. G. Roe, Sligo; Mr. A. W. Mayo Robson, Leeds; Messrs. Reynell and Son, Lond.; Messrs. Robertson and Scott, Edinburgh; Dr. R. R. Rentoul, Liverpool.

S.—Dr. E. M. Simpson, Lincoln; Mr. A. Street, Lond., Sanitary Inspectors' Examination Board, Hon. Secretary of; Dr. Sisley, Lond.; Dr. E. Stabb, Lond.; Messrs. Spiers and Pond, Lond.; Mr. F. B. Smith, Port Talbot; Messrs. G. Street and Co., Lond.; Messrs. W. H. Smith and Son, Manchester; Messrs. H. C. Scales and Co. Lond.; Society of Apothecaries, Lond., Secretary of; Dr. O. G. Stein, Bournemouth; Dr. A. E Sansom, Lond.; Messrs. Smith, Elder, and Co., Lond.; Mr. C. Sandfield, Folkestone; *St. Louis (U.S.A.) Medical Gazette*.

T.—Dr. E. F. Trevelyan, Leeds; Mr. J. Thin, Edinburgh; Messrs. W. Teacher and Son, Glasgow; Township of Manchester, Clerk of; Taunton and Somerset Hospital, Accountant of; Taunton Union, Clerk of; Temperance Male Nurses and Masseurs' Co-operation, Lond., Secretary of; T. S.

U.—University College, Dundee, Dean of.

V.—Mr. J. W. Vickers, Lond.; Vinolia Co., Lond.

W.—Lord Wantage, Lond.; Dr. L. Waldstein, Lond.; Weston-super-Mare Hospital, Hon. Secretary of; Wolverhampton General Hospital, Secretary of; Worcester General Infirmary, Secretary of; Messrs. Watkins and Osmond, Lond.; Wigmore Nurses' Institute, Lond., Lady Superintendent of; Brigade-Surgeon W. B. Wallis, Colchester; Mr. L. F. West, Morley; West Bromwich District Hospital, Secretary of; Mr. A. B. Wheeler, Manchester; Dr. A. S. Wells, Thebus Camp, Cape Colony; Miss M. A. Wyatt,

Letters, each with enclosure, are also acknowledged from—

A.—Mr. R. R. Anderson, Fern Hill; Dr. R. Aderji, Porbander, India; Mr. H. Appleton, The *Lizard*; A. D.; A. P.; A. A.; A. C.; A. L.; A. J. B.; A. T. H.; A. W.; Mr. Addison, Lond.

B.—Mr. G. A. Brown, Tredegar; Mr. T. Brayton, Hindley; Mr. H. S. Basden Stanford le Hope; Mr. J. T. Brickwell, Watford; B. M. B.; General B. Boyd, St. Leonards on Sea; Burton-on-Trent Infirmary, Hon. Secretary of; Sir T. Lauder Brunton, Lond.; Mr. H. Brocklehurst, Liverpool; Mr. R. S. Betts, Bournemouth.

C.—Dr. W. S. Carroll, Hafod; Mr. T. Culleton, Lond.; Messrs. Samson Clarke, and Co., Lond.; Mr. E. P. Court, Margate; C. J.; *C. J. S.*; *County Borough of* Stockport, Treasurer of; Dr. J. Cater, South Tottenham; Messrs T. Cook and Son, Lond.; C. H. H.; C. W. H.; C. B. R.; Mr. W. Crooke, Egremont; Mr. W. H. Crosse, Lond.; C. B. M.; Messrs. Crossley and Co., Lond.; Dr. C. W. Chapman, Lond; *Canadian Practitioner*, Toronto, Editor of; Canning Town Medical Mission Dispensary, Secretary of.

D.—Dr. E. Downes, Eastbourne; Messrs. G. L. Daube and Co., Frankfurt-a-Main; Mr. G. E. Douglas, Lond; Mr. E. L. D. Dewdney, Dunster.

E.—Dr. W. M. Eccles, Lond.; E. H. W.

F.—Mr. D. B. Foley, Wombwell; F. J. McA.; F. A. C.; F. J. G.; Mr. J. J. Fanning, Roscrea, Ireland.

G.—Mr. O. W. Gange, Tuxford; Graduate, Edinburgh; G. F.; Dr. Gordon, Halstead; Mr. J. Graham, Sheffield.

H.—Mr. M. J. Houghton, Ilford; Dr. D. Huskie, Moffat; Mr. T. Holland, Lond.; H. P.; H. B. A.; H. J. G.

I.—Mr. R. Irvine, Lond.

J.—Mr. E. O. Jones, Amlwch; Dr. W. Jamison, Landore; J. B.; Dr. W. O. Johnson, Broughton; J. F. H.; J. L J.; J. C. M. K.; J. K. G.; J. T. Y.; J. P. H.; J. G., Manchester; Mr. Y. M. Jones-Humphreys, Cemmaes; Jenner Institute for Calf Lymph, Lond.

K.—Surgeon A. E. Kelsey, R N., H.M.S. *Europa*, Plymouth; Kangaroo, Lond.; Mr. R. O B. Kerin, Lond.

L.—Mr. G. H. Longton, Barford; Lamborn, Battle; Liverpool Infirmary for Children, Secretary of; Mons. H. Le Soudier, Paris; Launceston General Hospital, Tasmania, Secretary of.

M.—Mr. W. A. Mushé, Lond.; Dr. G. A. Mason, Lond.; M. P.; Mr. J. Marshall, *Pontnewydd*; Manchester Medical Agency, Secretary of; M. B. L.; Messrs. J. T. Milliken and Co., St. Louis, U.S A.; Mrs. M.

N.—Mrs. A. Norman, Beaminster; Newton place (23) Glasgow; Newport-road (93), Cardiff; N. C.

O.—Dr. P. T. O'Sullivan, Cork.

P.—Plasmon Syndicate, Lond.; Mr. G. T. Portlock, Lond.; P. L.; P. A. H.; Dr. E. J. Parry, Ponty Cymmer; Practitioner, Newcastle-on-Tyne.

R.—Surgeon C. H. Robinson, R.N., Singapore; Mr. A. L. R zelaar, Lond.; Dr. W. A. Reid, Wellington, New Zealand. Rebman, Ltd., Lond.; Dr. L. Roberts, Caersws; Ripon Victoria Nursing Institute, Secretary of; Dr. A. H. Robinson, Low Moor; Rochford Union, Southend on-Sea, Clerk of.

S.—Mr. J. P. Stilwell, Yately; Dr. H. Sainsbury, Lond; Messrs. A. F. Sharp and Co., Glasgow; Mr. W. R. Shaw, Lond.; Suffolk General Hospital, Bury St. Edmunds, Secretary of; Dr. R. Sturgis-White, Cradley; Messrs. E. Shaw and Co., Manchester; St. Johns, Hove; Dr. J. Smyth, Naas, Ireland

T.—Mr. J. Tibbets, Fenton; Mr. J. J. Tate, Bideford; Dr. A. H. Thomas, Boroughbridge; Messrs. Tillett and Yeoman, Lond.; T., Bewdley; Teignmouth Hospital, Secretary of; Torquay Medical Society, Hon. Secretary of.

U.—Mr. J. V. Usher Somers, Richmond.

W.—Mr. R. Walker, Aberdeen; Mr. G. J. Widdowson, Sherburn-in-Elmet; Westbrook, Lond.; W. E. S.; W. A. S.; W. C. F.; Messrs. H. Wilson and Son, Lond.; *Worcester Herald*, Secretary of; Mr. H. E. de C. Wheeler, Sandymount; Worth's Food Syndicate, Cheltenham; Miss Woodward, Lond.; Rev. J. Wells, Pollokshields; Messrs. Wilcox and Co., Lond.

Y.—Dr. W. M. Yeoman, Stokesley.

EVERY FRIDAY. THE LANCET. PRICE SEVENPENCE.

SUBSCRIPTION. POST FREE.

FOR THE UNITED KINGDOM.	£ s. d.	TO THE COLONIES AND ABROAD.	£ s. d.
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.
Terms for Position Pages and Serial Insertions on application.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière, Asnières, Paris.